Environment NGOs Response to the WA Government's

Kimberley

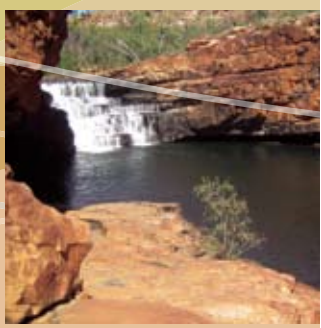
SCIENCE SYNTHESIS / SCIENCE AND CONSERVATION STRATEGY

JUNE 2009









Presented by:

THE PEW ENVIRONMENT GROUP

THE WILDERNESS SOCIETY

WWF

Save the Nature of the Kimberley environs KIMBERLEY INC

AUSTRALIAN CONSERVATION FOUNDATION

CONSERVATION COUNCIL OF WESTERN AUSTRALIA INC.

CONTENTS

For more information about the Kimberley, visit:

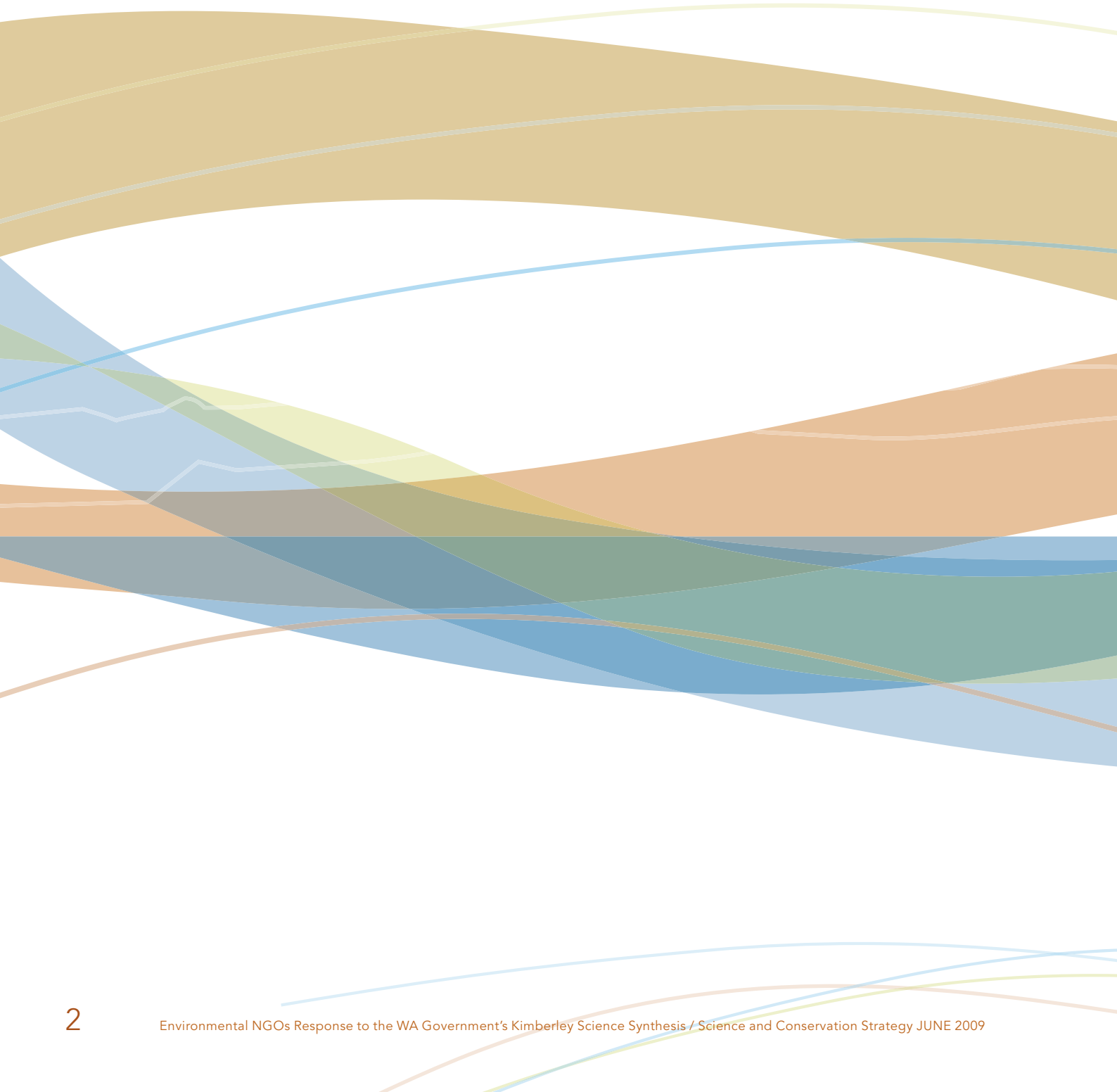
www.environskimberley.org.au
www.wilderness.org.au/kimberley
www.conservationwa.asn.au
wwf.org.au/ourwork/oceans/kimberley/
www.acfonline.org.au
www.wildaustralia.org

Photographic Images
The authors gratefully acknowledge the many contributors of photographic images contained within this report.

Josh Coates
Sue Liddicoat
Tim Nicol
Paul Gamblin, WWF
Rod Hartvigsen, Murranji Photography

Design: iannellodesign.com.au

Printed on Cyclus recycled stock. Cyclus papers are 100% recycled, made entirely from 100% post consumer waste.



01 Introduction and Summary

THE BARNETT GOVERNMENT'S KIMBERLEY ELECTION COMMITMENT:

A Liberal Government will commit up to $9m to develop an integrated Kimberley Science and Conservation Strategy to ensure the region's natural and cultural values are protected as the region fulfils its economic potential.

This strategy will:

- Identify high value cultural and natural areas for priority protection;
- Develop marine, coastal and terrestrial conservation and management plans;
- Give a voice to and work with local industry groups, pastoralists and landowners in the development and implementation of conservation plans;
- Engage the scientific community to ensure the rigour of conservation plans;
- Identify natural threats to the environment, including cane toads, and recommend action plans;
- Study whale migratory and breeding patterns and work with Traditional Owners, Indigenous communities, conservation groups and industry to protect whale migratory routes and breeding areas ;
- Maximise the region's ability to draw on Federal funding for conservation initiatives, including marine and coastal programs, Indigenous Protected Areas grants and ranger groups;
- Identify opportunities to work with private conservation groups in the acquisition and protection of land areas of high conservation value;
- Engage local government authorities to reduce duplication and ensure consistency of approach across the region;
- Engage Traditional Owners and Indigenous communities in the planning process and identify opportunities to involve them in ongoing conservation work;
- Work with industry to ensure that new developments meet world's best practice in sustainable development consistent with the region's natural and cultural values;
- Promote ecologically responsible development to provide greater employment opportunities for Indigenous and non-indigenous people in eco-tourism, mining, petroleum and agriculture.

Source: Liberal Plan for Environmental Sustainability and Water Management,
Liberal Party WA Policy Document, September 2008.

INTRODUCTION:

The participating organisations in this submission acknowledge and welcome the State Government's election commitment to allocate $9million for the development of an integrated Kimberley Science and Conservation Strategy to ensure the region's natural and cultural values are protected.

We also welcome the personal commitment given by the Premier of Western Australia the Honourable Colin Barnett to protect one of the largest and most intact natural areas left in the world.

The development of a comprehensive conservation strategy for the Kimberley is long overdue and necessary to protect this iconic region for future generations to come. This submission argues that without this plan delivering a new, comprehensive, integrated, landscape scale approach to conservation planning, the current cumulative and looming future threats which impact upon the region will continue to grow unabated and lead to irreversible and widespread environmental degradation – with all the consequent social and economic impacts and costs.

The Kimberley region is of global importance. The ecological and scientific values of one of the least impacted and largest naturally functioning ecosystems left on the planet are comparable only with areas such as the Great Barrier Reef and the Amazon. Its stunning seas, myriad islands, coral reefs, mangroves, rainforests, savanna woodlands and rivers are home to an astonishing variety of wildlife including Humpback whales, five species of turtles, Dugong, newly discovered Snubfin dolphins, rare Gouldian finch and the Northern quoll. The Indigenous cultural values of the Kimberley are outstanding, with the Traditional Owners' ancient connections to their country continuing strongly through to the present day. The State Government's Kimberley Science Synthesis (2009) clearly demonstrates the known world-class values of this unique landscape, while recognising that there are still major knowledge gaps in our understanding of the region.

These gaps in information, however, must not prevent responsible governments – whether State or Federal – from immediately implementing substantive conservation actions in the Kimberley. The State Government's Science and Conservation strategy for the Kimberley must avoid the temptation to focus largely on further research. This submission argues that it is both necessary to further invest in biodiversity research of the region and to pursue new conservation measures which protect this unique landscape, within an overarching conservation and compatible development plan. This strategy will require a genuine commitment by the State Government to invest now and into the future in sustaining the protection of the Kimberley.

A landscape-scale conservation plan is needed because the Kimberley is facing profound, pervasive and cumulative threats, due to the combination of climate change, uncontrolled wildfires, invasive weeds, feral animals, unmanaged tourism, overgrazing, illegal fishing and overfishing, poor water/river management and pressure for ad hoc industrialisation and development. This submission contends the Science Synthesis, while providing a wealth of useful information, underestimates the scope of these threats and the implications for the region. These threats put at risk not only the environment and Indigenous culture, but the whole social and economic fabric of the Kimberley and its people.

Environmental management in the Kimberley desperately needs a new approach – one that listens to and learns from nature, science and Indigenous culture. This 'big picture' approach will be based on connectivity – between species, habitat, climate and people – and how these change over time. Viewing the region in this way is vital if we are to build a positive future for Western Australia's environment and people.

Importantly, the Indigenous people of the Kimberley must be centrally involved and shape the plan for the Kimberley's future. A sustainable future for the Kimberley's environment is inextricably linked to a sustainable and prosperous future for Traditional Owners and managers of this incredible landscape. The signatories to this submission respect the Indigenous rights of Traditional Owners, including their right to speak for country and their right to free, prior and informed consent in relation to proposals affecting their country, as affirmed in the United Nations Declaration on the Rights of Indigenous Peoples (United Nations Department of Economic and Social Affairs, 2007). Most of the Kimberley is under native title claim, with at least 45% already determined in Traditional Owners' favour, requiring Government and others to ensure planning does not occur independently of Traditional Owners and that they are a central part of the planning process (National Native Title Tribunal, 2009).

An omission from the Synthesis is reference to the body of traditional ecological knowledge owned by Indigenous people across the Kimberley and continuing to be used to manage and protect country, often alongside western scientific research. Indeed it is crucial that the Indigenous people of the Kimberley take a lead role in the implementation of any conservation plan via, for example, Indigenous ranger programs, Indigenous owned and managed and/or co-managed conservation areas and the input of traditional knowledge.

The signatories to this submission strongly support compatible economic development of the region. This submission recognises the crucial role of compatible economic development in providing long-term employment to local communities and to bridge the gap between Indigenous and non-Indigenous Western Australians in the Kimberley. Unfortunately to date, the local community has witnessed an unplanned, ad hoc approach to economic development, driven primarily by proponents with little long- term benefit to local communities. The Kimberley needs a clear and integrated plan for the future, which provides for compatible economic development, ensures the exceptional natural and cultural values of the region are protected and provides long term social-economic benefits to the region's Traditional Owners and wider communities.

This submission argues that the protection of the Kimberley's natural and cultural values is essential to ensure the sustainable economic, social and environmental future of the region. The long term value of a naturally functioning and healthy environment in the Kimberley – which already underpins most of the economic activity of the region - will far outweigh the short term gain from value of any inappropriate and ad hoc industrial development and the cost of inaction in addressing the pervasive threats to the region. The opportunity cost of not integrating conservation management on a Kimberley-wide scale is too large to allow a 'business as usual' approach. The initiation of this Kimberley Science and Conservation Strategy represents a long overdue opportunity to leave a positive and lasting legacy for the environmental, social and economic future of Western Australia.

There are real and practical examples where economic opportunities can be developed and promoted which are also compatible with the protection of the natural environment. For example, statistics released by the State Government this year indicate there are currently 30 Indigenous tourism ventures operating in the Kimberley, employing 520 local Indigenous workers (WA Legislative Council Hansard, 2009). Elsewhere, the protected Great Barrier Reef brings $6.9 billion to the Australian economy each year from sustainable industry such as tourism and fisheries (DEWHA, 2009). The Kimberley must be allowed to reach its comparable economic potential from sustainable industry and be protected from degradation of its valuable natural and cultural assets.

Recent publications (e.g. The Nature of Northern Australia report, 2007; A Cultural and Conservation Economy for Northern Australia, 2008) have examined the types of development that are likely to be compatible with protecting natural and cultural values in the North. In addition, local people are already involved in processes to determine socially, culturally and ecologically compatible enterprises (e.g. Kimberley Appropriate Economies Roundtable, 2006) and these are integral processes to be supported and included in future approaches. It is expected that a comprehensive conservation plan would clearly spell out what types of development are appropriate and where and rule out incompatible activities from some or all parts of the Kimberley.

We have a real opportunity and responsibility now to make sure we get it right - and avoid repeating the environmental mistakes made elsewhere in Australia. We look to the Western Australian Government to show leadership on the Kimberley in partnership with Traditional Owners and the wider community.

Recommendations

This submission provides a clear way forward to the development of a new way of 'doing business' in the Kimberley. To achieve comprehensive conservation management and ecologically sustainable economic development this submission focuses on seven key strategies.

Foremost of these is the recommendation that rather than mirroring the ad hoc development process that has occurred historically the State Government produces a comprehensive conservation and compatible development plan. This submission contends this is the only way to efficiently and thoroughly protect the values of the region, address the pervasive and emerging threats to both the Kimberley natural environment and long-term community wellbeing and to pave the way for optimal outcomes in the future.

To achieve this goal will require:

- strong scientific and traditional ecological knowledge (TEK) input;
- participation in collaborative, multi-stakeholder landscape-scale conservation and compatible development projects;
- partnerships with Indigenous landowners based on recognition of their Native Title and informed consent rights;
- policy development and legislative change;
- the expansion of the conservation estate in collaboration with Traditional Owners and other landholders; and
- significant investment.

The recommendations are:

Conservation and Compatible Development Planning

1) That the State Government develop and implement a comprehensive conservation and compatible development plan for the Kimberley, which is based on a broadscale regional planning process and integrates conservation protection and management, Indigenous rights and interests and long term compatible economic development.

2) The plan should be based on whole-of-land/seascape principles using the best available scientific, traditional and local knowledge. It should identify and protect the natural and cultural values of the region and clearly identify compatible economic development opportunities for the region, especially in, for example, the 'culture and conservation' economy.

3) The plan must be backed by both adequate ongoing resourcing for development and implementation and by statutory authority, including improved integration of current laws, plans and government agencies/departments activities.

4) The plan will need to inform, reform, create and amend current management for a range of activities such as tourism, aquaculture, mining and fisheries and incorporate a classification of compatible [and incompatible] land and sea uses/activities. This will include the development of a binding code of conduct for tourism that addresses environmental and cultural impacts and access to Indigenous lands and waters.

5) Declare a moratorium on approval of new major developments until such time as the comprehensive plan is completed and implemented.

Traditional Owners and Management

6) That the State Government develop and implement as a matter of urgency, a policy and legislative framework for Indigenous ownership, leaseback, management and co-management of conservation areas in the Kimberley, developed in partnership with Traditional Owners.

7) The State Government support the establishment of new Indigenous Protected Areas (IPAs) in the Kimberley, including nominated sea country and also provide support to existing IPAs through on-ground expertise, resources and access to existing programs as negotiated with each individual IPA.

8) That State agencies explore knowledge partnerships with Indigenous groups and organisations for a richer understanding of country and two-way capacity building, with a policy or agreement reached with Traditional Owners to define their role in future research studies, premised on informed consent and protection of IP rights.

9) The State Government work with the Commonwealth Government to actively support the expansion of the Indigenous Ranger Programs in the Kimberley and link this with development of the region's emerging 'culture and conservation' economy, including support for Indigenous land management outside of formal protected areas.

On Ground Conservation Management

10) That the State Government significantly increases funding above current 2009-10 levels for conservation management in the Kimberley, including:

- Continued detailed vegetation mapping of the Kimberley as a basis for future management work for fire and other issues; and
- Targeted fauna and flora benchmark surveys and ongoing monitoring to assess change in species distributions, especially for species known to be declining. This should be undertaken in collaboration with Traditional Owners and Indigenous Rangers combining western scientific and traditional ecological knowledge

11) The State Government develop a noxious weed plan (including a rapid response network via Indigenous Rangers and community groups) for the Kimberley, based on strong region-wide approaches to rapidly detect and eradicate or isolate new highly noxious weed such as Mimosa, Gamba grass and Mission grass, which may be transported into the region.

12) The State Government develop and fund programs to eradicate unmanaged wild cattle, donkey, horses, pigs and camels from outside pastoral leases.

13) The State Government expand research for biological control of cane toads and in the meantime continue support for campaigns to hold back the cane toad western front line through manual removal methods and fencing. Urgent action is also required to implement contingency strategies for protection of high biodiversity hotspots and endangered species from the impacts of cane toads.

14) The State Government undertake a comprehensive baseline assessment of existing and potential natural carbon storage capacity and values in the Kimberley. This information should be used to inform a) the development of a Natural Carbon Management Plan for the Kimberley and b) management policies and programs that seek to maintain and build upon the area's natural carbon stores, while also maximising opportunities arising from the emergence of a carbon economy for financial support of sustainable land management practices across different land tenures.

15) The State Government implement a policy for pastoral lands whereby lease renewal is regularly and independently assessed and made contingent upon sound ecologically sustainable management and must avoid any detrimental impact on Native Title rights without the free, prior and informed consent of Traditional Owners. This policy should be applied as existing pastoral leases expire.

16) The State Government move to allow total destocking of pastoral leases where grazing is not the primary activity of the leaseholder.

Marine Protection

17) That the State Government establish a comprehensive marine protected areas (MPAs) network in the Kimberley. This should be based on international best practice for MPA design and implementation to protect all areas of high conservation value and the broad scale ecological health of the Kimberley marine environment as well as protecting the rights and culture of its Traditional Owners.

18) The State Government maintain and expand support for long term research and monitoring (including via Indigenous and other community based programs) to assess the status of key marine species (eg. turtles, sharks, coastal dolphins, dugongs) at regional scales including distribution, abundance, movement patterns and genetic structure of populations in priority areas. Such a commitment would include developing and implementing a Wildlife Conservation Plan for key marine species that are currently not protected under the *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999* – eg the Snubfin Dolphin and Dugong.

19) The State Government develops and funds both broad spatial scale data collection and risk assessments and regional spatial risk assessments, to provide a mechanism for assessing the direct and cumulative impact of future and current activities on ecosystems and flagship species. The outcomes should be fed into protected area planning to help implement spatial management protection measures.

20) Planning and legislation at the State level should be amended to require a strategic environmental assessment of all future proposals for coastal developments which considers the cumulative impacts of such developments on key species and ecosystems and the Kimberley coast as a whole.

Terrestrial Protection

21) That protected areas in the Kimberley be increased to a science based target. This target should be achieved by working with the broader community and aimed at ensuring a conservation reserve system which comprehensively, adequately and representatively protects the full spectrum of ecosystems, ecological processes and species in well resourced and well-managed Indigenous Protected Areas, private conservation reserves, National Parks and other conservation reserves.

22) Declaration of new conservation reserves or other protected areas, or changes to existing conservation reserves should occur only with the free, prior and informed consent of Traditional Owners and should include negotiations for the most appropriate management approaches for each area.

23) Strategic expansion of protected areas be an integral element of a whole-of-Kimberley conservation and compatible development plan.

Rivers Protection and Management

24) That the State Government develop and implement a Kimberley Living Rivers Management Strategy to protect and manage the natural river, surface and groundwater flows and catchment health of the Fitzroy and all other rivers in the Kimberley, backed by enhanced statutory protection through the proposed Water Resources Management Act.

25) Ensure Native Title and associated Indigenous customary rights to rivers and water are recognised and protected in government legislation and associated regulations.

26) The State Government increase funding for research, planning and management of river systems, including:

- Water planning and environmental flows research programs carried out by government agencies and bodies such as Tropical Rivers and Coastal Knowledge (TRaCK) and the Centre for Fish and Fisheries Research (Murdoch Uni.); and
- Protection of key aquatic habitats and in-stream fauna, such as Freshwater Sawfish habitat in the lower Fitzroy River.

27) The State Government implement a ban on: dams in the Kimberley; inter-basin transfer of water; large-scale native vegetation clearing and large-scale extraction of groundwater or surface water resources.

Heritage Assessment

28) The State Government support the current National Heritage assessment of the north/west Kimberley and implement outcomes for protection of natural and cultural heritage, including World Heritage assessment, in accordance with the wishes of Traditional Owners under a process of free, prior and informed consent.

29) The National Heritage assessment and listing process be seen as a complementary process integrated with the development of a comprehensive Kimberley conservation and compatible development plan.

References:

Department of Environment and Conservation - Masini R, Sim C, and Simpson C (Marine) and McKenzie N, Start T, Burbidge A, Kenneally K and Burrows N (2009), *A synthesis of scientific knowledge to support conservation management in the Kimberley Region of Western Australia*, Department of Environment and Conservation, Perth.

Department of Environment, Water, Heritage and the Arts (2009), *Environmental Protection and Biodiversity Act 1999*. http://www.environment.gov.au/epbc/index.html

Hill R, Golson K, Lowe P A, Mann M K, Hayes, S and Blackwood JE (Editors) (2006), *Kimberley Appropriate Economies Rountable Forum Proceedings*. Convened 11-13 October 2005, Fitzroy Crossing WA, by the Kimberley Land Council, Environs Kimberley and Australian Conservation Foundation. Australian Conservation Foundation, Cairns.

Hill R, Harding E K, Edwards D, O' Dempsey J, Hill D, Martin, A and McIntyre-Tamwoy S (2008), *A Cultural and Conservation Economy for Northern Australia*. Land and Water Australia/Australian Conservation Foundation, Canberra.

National Native Title Tribunal (2009), *Western Australia*. Accessed 20th May 2009, http://www.nntt.gov.au/Native-Title-In-Australia/Pages/Western-Australia.aspx

United National Department of Economic and Social Affairs, Division for Social Policy and Development (2007), *United Nations Declaration on the Rights of Indigenous Peoples*. Accessed on 27/5/09, http://www.un.org/esa/socdev/unpfii/en/drip.html

Woinarski J, Mackey, B Nix, H and Traill B (2007), *The Nature of Northern Australia; natural values, ecological processes and future prospects*. ANU Press, Canberra.

WA Legislative Council Hansard (2009), *Tourism Business in Kimberley – Indigenous Connection*, Tuesday, 7th April 2009, p2775b-2775b., Accessed 1stMay 200, http://www.parliament.wa.gov.au

01 Conservation and Compatible Development Planning

Section 1: CONSERVATION AND COMPATIBLE DEVELOPMENT PLANNING

Summary:

There is currently no effective integrated planning for the Kimberley - rather there is an ad hoc approach to conservation management and economic development, with no coordinated plan which brings the two components together. This submission argues there is a very real need for a comprehensive regional planning process – which will identify and protect the natural and cultural values of the region, while also pursuing compatible economic and community development and creating long-term employment and enterprise opportunities for local communities.

Background

For several decades, calls have been made by successive government agencies, scientific and conservation organisations to adopt strategic, integrated and comprehensive approaches to conservation and planning in the Kimberley. However, due to the failure of successive governments to commit the necessary policy effort and resources to this task, previous attempts at this have failed.

One of the most significant examples of these was the establishment of the Kimberley Region Planning Study by the State Labor Government in 1986 (Department of Regional Development and the North West et al., 1990). The key aim of this study was "to prepare a long range planning strategy for the Kimberley region having particular regard to economic, social and environmental issues and to devise mechanisms to implement that strategy", with its primary objective in relation to environment to "identify areas and terms of natural, cultural, historical or archaeological significance and to identify specify strategies which will provide for the maintenance, conservation and where appropriate the development of the Region's natural attributes and resources (Department of Regional Development and the North West et al., 1990). Despite this significant foresight – and key understanding for the need of an integrated approach to planning for the region - this strategy was not actively supported and adopted by State Government.

There are currently approximately 50 longstanding, unimplemented Kimberley terrestrial and marine conservation reserve proposals arising from previous government studies and reports (CTRC 1977; EPA 1980; CALM 1991; Marine Parks and Reserves Selection Working Group, 1994). Of the 20 gazetted terrestrial conservation reserves in the Kimberley, only three have statutory management plans as required under the Conservation and Land Management Act (1984) and of the four internationally significant Ramsar sites, only one has a draft management plan (Conservation Commission WA, 2009).

The latest announcement by the State Government to establish four new regional planning committees, including for the Kimberley, does not appear to answer the need for a new integrated approach for conservation and future development. While the Minister for Planning has signaled this new regional planning process will "provide a platform for a collaborative approach to planning", it is unclear how this will include conservation planning processes and outcomes.

One matter of particular concern is that while the Government has hailed the Gascoyne Regional Planning Committee as an "affirmation – not abandonment - of principles of responsible and sustainable development in this pristine part of WA" (Day, 2009), at the same time, the Minister has also emphasised the acceleration of regional planning for major projects:

> *This initiative is long overdue. For too long, local government has been left to determine major regional issues and deal with major projects without any regional planning context. This has led to delays, overlap and duplication among approval bodies; confusion and costs to industry and community groups; and land shortages. (Day, 2009)*

While this submission welcomes the recognition by the State Government for the need for a more strategic approach to planning in the region, the failure to make an explicit commitment to environmental planning within this process is a significant concern. The governance arrangements around this planning committee are yet to be clarified but should include Indigenous and conservation sector expertise. It is also unclear how this new regional planning group will integrate with the newly formed Department of State Development, which has been the principal and driving agency responsible for the proposed development of the LNG gas precinct at James Price Point.

To date, the key regional body driving economic development within the region – the Kimberley Development Commission – appears to make only a token recognition of the unique environment of the Kimberley and mentions only in passing a

desire to support environmental management. The Commission recognises the need for a strategic and integrated approach for economic development, citing in its Strategic Plan for 2009/10:

> *The Commission will facilitate and coordinate support for strategic regional economic development projects using a whole of government approach to ensure optimum allocation and leverage of resources…*
>
> *The Commission will identify and promote the needs of the region through the development and coordination of regional strategies and planning initiatives. (2009)*

Despite the fact that four of the five largest Kimberley industry sectors by value – tourism, pearling, pastoralism and agriculture – depend on the unique, intact, clean and healthy nature of the Kimberley for their economic viability and future, no reference can be found to integrate these with strategic economic and conservation planning.

It is not clear what work has been done to coordinate a systematic approach to the region identifying the kinds of economic opportunities that are compatible with the Kimberley landscape, environment and communities. Rather it appears the Development Commission's key strategy is attracting resource projects to the region on a proponent-by-proponent basis – in isolation of a broader planning vision. This approach lends itself to ad hoc development – with no understanding of the broadscale environmental impacts on the region and potentially great long-term harm.

This broader planning failure is acknowledged by the Science Synthesis, which recognises there has been an ad hoc approach to development of marine resources in the region, with site selection of industrial developments driven predominantly by proponents:

> *Until the Government implemented the strategic site selection process for an LNG processing precinct in the Kimberley, planning for large-scale development was proponent-driven. In the case of smaller scale development/activities including pearling, aquaculture and marine tourism, proponents are still largely responsible for selecting the sites for their activities in the Kimberley. This approach inevitably leads to conflict between uses as the intensity and diversity of use increases. (DEC, 2009)*

It is this flawed historical approach which the Synthesis recognises needs changing to an integrated process to delivering significant conservation outcomes for the region, while also identifying opportunities for compatible development:

> *This highlights the need for integrated marine planning at the region scale. Regional marine planning in advance of the projected growth in development proposals over the short to medium term is likely to deliver ecological and other benefits for the region, by identifying important areas to be included in marine conservation reserves and areas that may be suitable for development. Informed regional marine planning should ideally be underpinned by targeted strategic science. (DEC, 2009)*

This submission welcomes this recommendation on two fronts: 1) the need for an integrated planning approach which considers both conservation outcomes and compatible economic development and; 2) that this process should be founded on strategic knowledge – both western science and Traditional Ecological Knowledge (TEK). However, this submission contends this approach cannot be exclusive to marine planning in the Kimberley. Unfortunately the Synthesis makes no reference to the need to adopt an integrated planning approach to terrestrial conservation and development.

As the Dampier Peninsula Infrastructure and Land Use Project Brief stated for the Peninsula region:

> *The lack of a consistent and equitable framework for planning and development decisions on the Peninsula leads to ad-hoc decision making. This has resulted in: incompatible land uses being co-located; uncontrolled access to land of cultural importance to Aboriginal people; unforeseen impacts on the environment; duplication of infrastructure; inappropriate development setbacks; and a failure to take advantage of economic opportunities. (Department for Planning and Infrastructure, 2006)*

Given that the Kimberley's terrestrial biodiversity values – as recognised by the Synthesis – are as significant as the marine environment, no distinction should exist between the needs for integrated conservation planning for each – but rather should been seen as one broadscale holistic and inclusive conservation planning process for the region. It will not work otherwise.

Current regional planning processes

The ad hoc development of the region is matched by a lack of cohesion among State Government departments' and agencies' development planning processes for the region, with seemingly minimal integration of existing or proposed plans. For example some of the agency driven processes which are relevant to – and impact on – the local environment and proposed future economic and infrastructure development of the region include:

Kimberley Regional Water Plan – as part of the State Water Plan, the Department of Water is preparing a specific regional water plan for the Kimberley (classified by six sub regions), which will set broad strategic directions for water resource management in the Kimberley over the next 20 years. The development of this plan is underway (Department of Water, 2009).

Australia's North West Destination Development Strategy – Update 2007 to2017 - is geared towards the enhancing tourism product and developing strategies to address gaps in infrastructure as well as helping to attract "diverse visitors so all parts of the region benefit from tourism" (Tourism Western Australia, 2007).

Kimberley Plan Towards 2015 (Fisheries) – aimed at guiding the future development and direction for the use of aquatic resources in the Kimberley as part of a vision to "ensure sustainable fish resources and fish habitats for the Kimberley now and into the future." This process was begun by the Department of Fisheries in 2006 but is now on hold (Department of Fisheries, 2009).

Dampier Peninsula Strategic Land use and Infrastructure Plan (2006) - as referred to previously, aims to provide an integrated planning framework for this particular region of the Kimberley. The working group is chaired by the Western Australian Planning Commission, with the Department of Planning and Infrastructure also a member. After a hiatus of some time, the planning process is recommencing (Department for Planning and Infrastructure, 2006).

The Ord East Kimberley Expansion Project – represents a massive development in the region – with the project set to double the size of the Ord irrigation areas to around 28,000ha of agricultural land. The first land release is expected in 2011. This project also includes developing social infrastructure of the region, subject to a joint Commonwealth/State Feasibility Study and developing new conservation reserves under the Ord Final Agreement between the State and Miriuwung-Gajerrong traditional owners (Department of Regional Development and Local Government, 2009).

In addition to these processes, the most publicly known planning process has been the joint strategic assessment of options to process gas from the Browse Basin. The submission acknowledges the strategic assessment has had many commendable elements which make it a significant improvement over the usual project-by-project assessments for such developments. However, at the time of publication of this report, there is a strongly held view that there has been a rush to judgment on the location for a gas processing precinct (James Price Point), compromising good process. The (statutory) environmental assessment is far from over (as is work on socio-economic factors) and much more work needs to be done to assess options outside the Kimberley. There are grave concerns about the environmental impacts of a gas processing precinct on this fragile and globally-important coast

In addition to these state planning strategies, there is also a key Commonwealth regional planning process underway which will have a major influence on future economic development in the region – the Northern Australia Land and Water Taskforce. Initiated by the Howard Government and revamped by the Rudd Government, the taskforce is focused on finding new economic development opportunities in the north based on water availability. The Taskforce final report, which it is said will be the most important examination of development opportunities and issues for northern Australia for 60 years, will be delivered to the Government in December 2009 (Gray, 2008).

It is not clear how this Federal process will integrate its findings with the State Government's new regional planning committee established for the Kimberley – and what recommendations, if any, the Taskforce will make in relation to the potential future impacts of the proposed economic development on the environment and its implications for future conservation planning.

Government conservation planning

As identified earlier, there has been a disjointed effort to implementing broadscale conservation planning in the Kimberley at a State level. As the Science Synthesis has already identified, there have been various planning processes and strategies for parts or all of the Kimberley Region over the past thirty years, many of which have not been implemented.

One of the most recent approaches to conservation planning in the region has been the development of a Natural Resource Management Plan for the Kimberley, which was devised as a tool for future planning and protection of natural resources in the region and as a component of the broader Rangelands NRM Strategy (WA Planning Commission, 2007). This process included significant community input via a series of NRM planning workshops, meetings and working groups held across the Kimberley region to consult with people about the resources that are valued by the community and the subsequent pressures that need to be managed to ensure that the Kimberley remains unique. The Kimberley Aboriginal Reference Group (KARG) was established through this process and has become a leading model for other NRM regions to provide a platform for Indigenous engagement and input. KARG also contributed an Aboriginal land management chapter to the final Strategy.

This submission believes that, if integrated, many of these previous State and Commonwealth initiated processes could make a worthwhile contribution to the conservation of the Kimberley landscape. However, in total they reflect a piecemeal approach to conservation planning and do not provide sufficient consideration of the impact of current and potential future development on the natural and cultural values of the region.

For example, there is no overarching plan to guide tourism development and activity in the Kimberley. Tourism is not currently subject to an enforceable management plan or code of practice to ensure that operations do not impact negatively on environmental or cultural values. Responsible tourism operators have been calling for such a framework for many years in an effort to curb 'maverick' operators from doing the wrong thing and impacting on the reputation of the industry as a whole. The development of a set of guidelines to manage tourism activities, particularly on Indigenous owned and managed lands was a stated objective by Traditional Owners at the Kimberley Appropriate Economies Roundtable held in Fitzroy Crossing in 2005 (Hill et al., 2006). It was also stated in the outcomes of the Saltwater Country Project, which is now being progressed by the Kimberley Land Council and Indigenous groups, with the support of WWF, Bush Heritage Australia and some industry representatives.

Management of a range of activities, including aquaculture, fisheries, agriculture, pastoralism and tourism would benefit from improved and enforceable conditions and guidelines that could be developed under a comprehensive conservation and compatible development plan.

Developing a coherent conservation plan driven by best available knowledge

It is on this basis, that the submission believes that the development of an isolated Conservation and Science Strategy for the Kimberley without consideration of long term and compatible economic development will not be effective in the protection of biodiversity and other natural and cultural values. Further, without the inclusion of Traditional Ecological Knowledge (TEK) an opportunity is being lost to both address knowledge gaps and to maintain the interrelated aspects of social, cultural and economic well being through Aboriginal cultural and natural resource management. While the submission welcomes the recognition that good on ground conservation management, both on and off reserve, to tackle immediate existing threats like wildfire, feral animals and weeds is important, the future threat of unabated and ad hoc development presents a real challenge to securing meaningful conservation outcomes.

We believe the Commonwealth Government-led heritage assessment provides an excellent basis for proper conservation planning. The heritage assessment will provide a sound cultural and scientific examination of the region, aimed at identifying national and potential World Heritage values. This examination of values should inform the comprehensive conservation strategy for the Kimberley, which would also identify what type of development can be compatible with protecting the internationally significant values of the Kimberley.

Similarly, the Commonwealth's North West Bioregional Marine Planning process has already provided a significant snapshot of the North West region's biodiversity values as part of its Bioregional Profile report (Department of Environment, Water, Heritage and the Arts, 2008). This information will ultimately feed into a draft plan of conservation priorities in the region and network of Marine Protected Areas. The planning process will also importantly include a set of climate change scenarios for the North West marine region – the first time this has been done for the marine planning process.

We would also draw attention to the ongoing contribution of ENGOs in facilitating high level expertise and providing rigorous scientific documentation to aid for regional planning and conservation prioritisation:

- Kimberley Appropriate Economies Roundtable (Hills et al., 2006);
- Kimberley Coast Natural Values Workshop (Mustoe S, 2008);
- Coastal and Marine Natural Values of the Kimberley (Mustoe and Edwards, 2008);
- The Nature of Northern Australia report (Woinarski et al., 2007);
- Establishing priorities for wetland conservation and management in the Kimberley region (Vernes, 2007); and
- WWF Global Eco-region 200 assessment (WWF, 2009).

In addition to these resources, the upcoming and proposed work of the WildCountry Science Council (incorporating some of the pre-eminent conservation scientists working in Australia and internationally) will contribute further valuable information and direction. Work to be published in the near future or proposed includes a Short Statement of Significance for the Kimberley and a prioritisation of conservation actions project.

The development of a comprehensive conservation and compatible development plan will also need to include provisions for:

- maintaining and restoring connectivity at local, catchment and whole-of landscape scales;
- expanding terrestrial and marine conservation reserves and effective off-reserve management – including collaboration with private conservation organisations to acquire and manage pastoral lease land in co-operation with Traditional Owners;
- preventing incompatible and destructive developments and facilitating the development of economic activities that are, or can be made to be, compatible with the protection of the Kimberley's natural values and ecological processes;
- ensuring that the cultural, legal and economic rights and interests of the region's Traditional Owners are acknowledged and addressed;
- factoring in Australia's greenhouse costs and benefits from developing/conserving the Kimberley; and
- quantifying the Kimberley's nature carbon storage value, accounting for ongoing emissions due to large scale wildfire and providing mechanism for investment in carbon emissions mitigation.

Recommendations:

1) That the State Government develop and implement a comprehensive conservation and compatible development plan for the Kimberley, which is based on a broadscale regional planning process and integrates conservation protection and management, Indigenous rights and interests and long term compatible economic development.

2) The plan should be based on whole-of-land/seascape principles using the best available scientific, traditional and local knowledge. It should identify and protect the natural and cultural values of the region and clearly identify compatible economic development opportunities for the region, especially in, for example, the 'culture and conservation' economy.

3) The plan must be backed by both adequate ongoing resourcing for development and implementation and by statutory authority, including improved integration of current laws, plans and government agencies/departments activities.

4) The plan will need to inform, reform, create and amend current management for a range of activities such as tourism, aquaculture, mining and fisheries and incorporate a classification of compatible [and incompatible] land and sea uses/activities. This will include the development of a binding code of conduct for tourism that addresses environmental and cultural impacts and access to Indigenous lands and waters.

5) Declare a moratorium on approval of new major developments until such time as the comprehensive plan is completed and implemented.

References:

Burbidge AA, McKenzie NL, & Kenneally KF (1991), *Nature conservation reserves in the Kimberley*, Department of Conservation and Land Management, Perth.

Conservation Commission Western Australia (2009), *Conservation Commission Western Australia.* Accessed 2nd May 2009, http://www.conservation.wa.gov.au/

Conservation Through Reserves Committee (CTRC), System 7 (Kimberley) Report to EPA, 1977 ('The Green Book 2')

Day J (2009), *Regions to benefit from regional planning approach*, media release. Accessed 7th Mary 2009, http://www.mediastatements.wa.gov.au

Department of Environment and Conservation - Masini R, Sim C, and Simpson C (Marine) and McKenzie N, Start T, Burbidge A, Kenneally K and Burrows N (2009), *A synthesis of scientific knowledge to support conservation management in the Kimberley Region of Western Australia*, Department of Environment and Conservation, Perth.

Department of the Environment, Water Heritage and the Arts (2008), *The North-west Marine Bioregional Plan: Bioregional Profile, a description of the ecosystems, conservation values and uses of the north-west marine region.* Accessed 10th April 2009, http://www.environment.gov.au/coasts/mbp/north-west.

Department of Fisheries (2009), *Kimberley Plans Towards 2015, Perth. WA.* Accessed 20th April, http://www.fish.wa.gov.au/docs/pub/KimberleyPlan2015/KimberleyPlan2015Page02.php?0504

Department of Planning and Infrastructure (2006), *Project Brief Dampier Peninsula Strategic Land Use Plan and Infrastructure*, Department of Planning and Infrastructure, Perth.

Department of Regional Development and Local Government (2009), *Royalties for Regions: Ord- East Kimberley Expansion Project Accessed*, Perth.Accessed 1st May 2009, http://www.dlgrd.wa.gov.au/RegionDev/RforR/Ord.asp

Department of Regional Development and the North West; Department of Planning and Urban Development, (1990), *Kimberley Region Planning study report: a strategy for growth and conservation*, Department of Regional Development and the North West, Perth.

Department of Water (2009), *Water Planning Activities in the Kimberley – E Bulletin February 2009*, Department of Water, Perth. Accessed 20th May 2009, http://portal.water.wa.gov.au/portal/page/portal/PlanningWaterFuture/RegionalWaterPlans/KimberleyWaterPlan/Contents/EBulletin%20Feb09.pdf

EPA System 7 (Kimberley) Report to Cabinet, (1980) ('The Red Book 3')

Gray G (2008), *Rudd Government Overhauls Northern Australia Taskforce, media release. Accessed at 28th April 2009*, http://www.minister.infrastructure.gov.au/gg/releases/2008/september/gg013_2008.htm

Hill R, Golson K, Low PA, Mann MK, Hayes S and Blackwood JE (Editors) (2006), *Kimberley Appropriate Economies Roundtable Forum Proceedings.* Convened 11-13 October 2005, Fitzroy Crossing WA, by the Kimberley Land Council, Environs Kimberley and Australian Conservation Foundation. Australian Conservation Foundation, Cairns.

Kimberley Development Commission (2009), *Strategic Plan 2009 to 2010*, Accessed 28th April 2009, www.kimberley.wa.gov.au.

Marine Parks and Reserves Selection Working Group, (1994), *A representative marine reserve system for Western Australia.* Report of the Marine Parks and Reserves Selection Working Group. Department of Conservation and Land Management, Perth.

Mustoe S (2008), *Kimberley Coast Natural Values Workshop – Transcript of results*, WWF Australia, Melbourne.

Mustoe S and Edwards M (2008), *Coastal and Marine Natural Values of the Kimberley*, WWF Australia. Sydney.

Tourism Western Australia (2007), *Australia's North West Destination Development Strategy – An Action Plan Approach – Update 2007 – 2017*, Tourism Western Australia, Perth. Accessed 28th April 2009, http://www.tourism.wa.gov.au.

Vernes T (2007), *Establishing Priorities for Wetland Conservation and Management, Kimberley Region*, WWF Australia. Accessed 20th May 2009, www.wwf.org.au/ourwork/water/kimberleywetlands/attachments/kimberley-wetlands-newsletter-2007-03.pdf.

WA Planning Commission (2007), Draft- Rangelands Natural Resources Management Strategy – A Review and Evaluation from a Land Use Planning Perspective. Accessed 10th May 2009, http://www.planning.wa.gov.au/Initiatives/EnviroPlanning/enviroplanning2/NRM%20strategy%20review_Rangelands.pdf?id=1543

Woinarksi J, Mckey B, Nix H and Traill B (2007), *The Nature of Northern Australia: Natural values, ecological processes and future prospects.* Australian National University, Canberra.

WWF (2009), WWF's Global 200 WWF, Accessed 20th May 2009, http://www.worldwildlife.org/science/ecoregions/global200.html

02 Traditional Owners and Management

Section 2: TRADITIONAL OWNERS AND MANAGEMENT

Summary:

This submission recognises the unique role Traditional Owners play in the management of the natural values of their country and believes they should have full authority (and capacity), recognised in policy and legislation, to carry out environmental management, including the management of natural and cultural values. The submission also recognises the enormous potential for increased socio-economic wellbeing for Indigenous communities from the development of a Kimberley "culture and conservation economy", including increased Indigenous rangers and tourism opportunities.

Background

The Kimberley has outstanding Indigenous cultural values - with Traditional Owners' ancient connections to their country continuing strongly through to the present day. These unique connections and an intricate ecological and geographic knowledge of their lands, seas and biota has grown with them over thousands of years and provides Traditional Owners with a highly valuable 'cultural map' of their country.

The rights and responsibilities held by Traditional Owners still exist across Australia's original Indigenous clan estates – covering land and seas. In the Kimberley, where culture and tradition prevail, Native Title and other Indigenous rights are of great importance. At present the majority of land in the Kimberley has native title considerations and at least 45% has been determined in Traditional Owners' favour (National Native Title Tribunal, 2009), a large part of which is exclusive possession native title. This has major implications for conservation and management not adequately recognised in the Synthesis document, as Traditional Owners are the majority land owners and land managers and therefore must be an integral part of any planning process.

Traditional Owners have a unique role to play in the management of the natural values of their country and should have full authority, recognised in policy and legislation, to carry out management responsibilities. The eco-cultural connections developed over millennia require active and ongoing practice to ensure their survival, which in turn enhances the chance of survival of the region's biodiversity.

In addition to the management of country carried out by custodians across the Kimberley, Traditional Owners also engage in a number of compatible mainstream conservation initiatives such as IPA's, co-management of conservation areas (e.g. National Park) and Ranger programs. These activities provide a crucial part of the current and future conservation management of the Kimberley. It is important that government support for these leading edge initiatives is continued and significantly expanded.

In recognition of the rights and the valuable expertise of Traditional Owners, there is an opportunity for existing industries to contribute to supporting Indigenous activities that result in a resilient and healthy landscape necessary for their enterprises. For example, pearling requires high water quality, tourism benefits from healthy ecosystems and local government benefits from ranger patrols in high use areas. Agreements and partnerships with custodians are one mechanism that could be explored.

It is important for government to guarantee that the socio-economic well-being of Kimberley Indigenous communities is secure and in the full definition of 'community development' provides opportunities for compatible social, cultural and environmental potential. A comprehensive and participatory planning approach can provide an opportunity to support development that is compatible and maintains the right of all people to a standard of living irrespective of development decisions.

This submission contends that Traditional Owners should be involved in all levels of conservation planning and that Native Title claims that are still outstanding should be resolved rapidly and justly to provide certainty for all and to allow a regional conservation plan to be implemented with confidence by all stakeholders.

It is also important to recognise the disparity between Indigenous understandings of ownership and responsibility for marine waters (Sea Country) and the recognition of this under Australian law. While precedents have been set in both the Croker Island and Blue Mud Bay cases there is still inadequate legal recognition of traditional ownership and connection to Sea Country below the low water mark. Of the Kimberley's coastal seas and islands, the Bardi Jawi Native Title claim was determined in 2005 (but parts are under appeal by the claimants) and claims in progress affecting the marine environment include Djaber-Djaber, Goolarbooloo/JabirrJabirr, Balanggarra, Uunguu, Dambimangari and Mayala. It is in this context that most future MPAs will be

located in areas for which Native Title has been recognised or which are under claim and the State Government must recognise this in any future expansion of the marine conservation estate.

Joint management

This submission welcomes the recognition of the Environment Minister's statement to the Parliament of Western Australia acknowledging "opportunities to further engage Indigenous people in conservation work and joint management of conservation areas" (Faragher, 2009). There is no doubt that the establishment of a legal framework – under the CALM Act - for ownership, lease-back, joint management or other appropriate arrangements is long overdue and immediate action is required. The legal framework should be developed in consultation with Traditional Owners.

As highlighted by Meyers and Porter (2008), joint management of national parks is not a new concept in Australia, with the first national park owned and jointly managed by Indigenous people and government (Kakadu) established in the Northern Territory in 1978. This in turn led to "many more jointly managed parks being set up in the Northern Territory and other States" (Meyers and Porter, 2008). In fact, joint management is not a "foreign concept to WA either" with two initiated joint management arrangements with Traditional Owners for the Karijini and Purnululu (Bungle Bungles) National Parks conferred under management plans (Meyers and Porter, 2008).

In addition, the WA Conservation Commission (WACC), the statutory body in which WA's public conservation lands are legally vested has also supported moves towards joint management of conservation lands with Traditional Owners, with a policy stating that:

> *Through the implementation of joint management plans Traditional Owners and traditional knowledge can play an important part in natural area management. During the reporting period significant achievements have been made in progressing towards achieving the Commission's goal of formulating cooperative management solutions, two examples are the Ord Final Agreement and the Indigenous Conservation Title Bill. (2007)*

Pertinent to the Kimberley, the WACC recognises a joint management approach could provide an opportunity to contribute significantly to improved conservation management in remote areas of the state.

Most recently, the Ord Final Agreement (OFA), signed on 6 October 2005, between the Western Australian Government, the Miriuwung Gajerrong Traditional Owners and nine other parties, including the WA Conservation Commission, cover joint management type arrangements for lands in the Ord River (East Kimberley) catchment. The Agreement is the culmination of several years of negotiations between stakeholders and provides for the implementation of Indigenous ownership and joint management arrangements with the Miriuwung Gajerrong Traditional Owners leading to the creation of six new conservation areas covering 154,000 hectares in the Ord River catchment (Office of Native Title, 2006).

Despite the recent history of joint management arrangements in Australia, progress to date in developing a formal legal framework for Western Australia has been shamefully slow. The previous Labor Government in July 2003 launched a consultation paper entitled "Indigenous Ownership and Joint Management of Conservation Lands in Western Australia" which proposed changes to the CALM Act to enable Indigenous ownership and joint management of national parks and conservation lands. As the consultation paper stated at the time, the lack of a clear framework for joint management has been a hurdle for conservation outcomes, delaying the implementation of new measures to protect the region's outstanding natural values:

> *Some of these, for example most of the Environmental Protection Authority's (EPA) recommendations for conservation lands in the Kimberley Region, System 7, have been outstanding since 1980. Although previous State Governments have accepted the EPA's recommendations, CALM efforts to create the reserves have foundered as much on the lack of clear policy for sharing of management with the Traditional Owners as on difficulties associated with issues such as exploration and mining interests. (Government of WA, 2003)*

The consultation paper identified three potential ways forward to amend the CALM Act to recognise legal interests in land for Traditional Owners and to enable protected areas to be co- managed by Traditional Owners and CALM: consultative management (Non-Aboriginal vested reserves); cooperative management (Aboriginal vested reserves) and; Joint management (Aboriginal freehold lands) (Government of WA, 2003).

However, this discussion paper is now out of date and responses to these proposed models have not been publicly debated or decided. The State should adopt a mechanism to revise this policy as a matter of priority. The process should enable Native Title claim groups to engage with Government to develop and test title and broader management models that are appropriate in the circumstances of each particular case.

WA Indigenous Conservation Title Bill 2007

After years of inaction, the previous State Government finally drafted legislation to create a model for Indigenous ownership of conservation lands in WA. Initially focused on Western Desert lands, the Indigenous Conservation Title Bill 2007 (ICT Bill) was introduced into WA Parliament to create a new form of title that returns Indigenous ownership to the land covered by the Bill, under a 99 year leaseback to the Department of Environment and Conservation. Among a number of other objectives, the ICT Bill aimed to:

> *...provide the foundations for the negotiation of joint management agreements that can be negotiated between the State and the Traditional Owners for mutual benefit; facilitate the management of conservation areas in such a way as to ensure a balance between preserving the Indigenous cultural and heritage values of the land and preserving the conservation values of the land. (Ripper, 2007)*

Whilst such an arrangement paves the way for the negotiation of joint management of lands, to be known as conservation areas, together with access to State funding, it is recognised that the Bill may not adequately take into account Traditional Owners' interests and responsibility for their country, or their aspirations for eventual sole management. In the Kimberley where Native Title covers the majority of land and there is a large area of exclusive possession, an approach must be negotiated with Traditional Owners that adequately reflects their aspirations to manage country.

This submission contends that the issues of Indigenous ownership, lease-back and management and/or co-management of protected areas need to be addressed at a policy and legislative level as a matter of priority.

Indigenous Protected Areas

The expansion of Indigenous Protected Areas (IPAs) in the Kimberley represents significant benefits, not only environmentally, but culturally and socially as reported by Gilligan (2006). The IPA program represents an opportunity for major expansion of effectively managed protected areas in the north and remote regions and to develop meaningful opportunities for Traditional Owners in conservation planning and management, compatible with cultural and social priorities.

To date, 28 IPAs have been declared across Australia covering more than 20 million hectares (Department of Heritage, Environment, Water and the Arts, 2009). In the Kimberley two successful IPAs have been declared:

- Paruku (Lake Gregory) IPA, located in the Great Sandy Desert Bioregion, is home to the Walmajarri people of the Tjurabalan lands. Paruku IPA was declared in 2001.
- Warlu Jilajaa Jumu IPA, also located in the Great Sandy Desert Bioregion, is home to the Ngurrara Traditional Owners, who represent the Walmajarri/Juwaliny, Wangkajunga, Mangala and Manjilyjarra peoples. This IPA was declared in 2007.

Currently six native title groups are involved in Indigenous Protected Areas (IPA) consultation projects, with the support of Kimberley Land Council. Below is a breakdown of the areas being considered for IPA management by native title groups:

Karajarri 2, 005,600 hectares of land 13,400 hectares of sea country	**Dambimangari** 1,604,400 hectares of land 1,189,600 hectares of sea country
Bardi Jawi 105,500 hectares of land 235,200 hectares of sea country	**Uunguu** 923,200 hectares of land 1,666,500 hectares of sea country
Mayala 14,600 hectares of land 366,800 hectares of sea country	**Balanggarra** 2,228,600 hectares of land 381,000 hectares of sea country
	Combined Land and Sea Country Total: 10,734,400 hectares

In addition, there are a number of other Native Title groups currently considering entering into IPA consultations, with many of the areas containing very high priority biodiversity sites in need of management assistance and protection.

Whilst there is now movement by DEC to support IPAs, there are still a number of outstanding policy issues which need to be addressed to improve the delivery and maintenance of IPAs.

The three most pressing issues are:

- Lack of State conservation agency support for IPAs (both on-ground management resources and policy support) is notable in the Kimberley. The Department of Indigenous Affairs has provided expertise, personnel and resources to assist IPAs in the Kimberley and in a short time this effort has dramatically increased the capability and coordination of existing IPAs and those in consultation. A similar level of support is lacking from DEC, nor has DEC developed cohesive policy to support IPAs;
- Recognition of Sea Country IPAs: Given the Kimberley coastline is large (one third of WA's total), remote and largely inaccessible, coupled with the high biodiversity values of the marine and coastal environment, Sea Country IPAs provide an opportunity for effective protection, monitoring and cultural management; and

- Recognition of multi-tenure IPAs, that is, IPAs declared over a range of tenure under one management agreement. Multi-tenure IPAs are currently being developed in Queensland and may provide a precedent that can be followed in WA to provide protection and management resources over a mix of tenure, for example, where a range of authorities or departments are reluctant to act, such as has been the case at the internationally significant Roebuck Bay.

While there is still significant work to be undertaken for the development and implementation of Indigenous Protected Areas, the signatories to this submission call upon the State Government to become actively supportive proponents for these proposals, including coastal waters, when confirmation of State support is sought by the Commonwealth for each IPA's declaration.

Other Indigenous land and sea management

Alongside a comprehensive system of formal protected areas, support must be offered for maintaining high biodiversity and ecological health and resilience across other Indigenous tenure such as Aboriginal Land Trust estate, unallocated Crown land under exclusive possession Native Title and sea country. The need for management as a protective mechanism, rather than just legislation is recognised by the IUCN as an appropriate approach (IUCN, 1994).

Such support is currently severely lacking and resulting in 'no management' or poor management across vast areas, contributing to pervasive threats such as weeds and feral animals reaching high levels with associated high costs of control. Providing cultural and natural resource management (CNRM) support for Indigenous people to manage remote areas is a cost effective mechanism to maintain biodiversity, build resilience and provide a range of social and cultural outcomes at the same time.

Recent research (Altman et al., 2007) shows the relative intactness of the Indigenous estate in northern Australia is currently experiencing major threats relating to fire, water, feral and weed management. It is paramount that significant investment for Indigenous people in CNRM is provided to address the current decline in ecosystem health. This is the most cost effective strategy as it is reliant upon local knowledge, labour and skills, as well as benefiting from the application of traditional ecological knowledge.

Traditional Ecological Knowledge (TEK)

There is a noticeable lack of inclusion and acknowledgement of the contribution of traditional ecological knowledge in our current understanding for conservation in the synthesis document. Over the past decade especially, Indigenous people have been bringing their knowledge to the mainstream in ways that can be understood, such as in the Ngauwudu Management Plan (Wunambal Gaambera Aboriginal Corporation, 2001) and the Miriuwung-Gajerrong cultural planning framework (Hill et al., 2008), among others.

There are many other studies that have been and still are being conducted in the Kimberley, directed by Traditional Owners and carried out through a two-way learning process that combines western science and traditional knowledge, providing a richness of information and many social benefits. Such surveys include remote and high biodiversity sites such as Walcott Inlet, Charnley River, Paruku IPA, Roebuck Bay and other projects are building information and awareness for management of species and their ecosystems such as the EPBC listed Gouldian finch, Purple crowned fairy-wren, Northern quoll, Partridge pigeon, Freshwater sawfish and the Snub-fin dolphin. Through these initiatives Indigenous people maintain responsibility for CNRM, build capacity and overall assist in the protection and management of biodiversity. It must be noted that custodians must retain ownership of intellectual property relating to TEK and control of how and where TEK is used.

Whilst this submission fully supports the use of science in conservation decision making, sole reliance on this form of knowledge misses the opportunity of engaging with a compatible knowledge system -TEK - for a richer understanding of the country. Further, this also misses the opportunity for inclusion of tangible benefits to Indigenous people, including employment opportunities in this area of inquiry. Qualitative benefits to Indigenous people, such as increased understanding of scientific techniques, their application and scientific information, are not often measured but are often reported as a result of positive collaboration.

A common complaint heard from Indigenous people or organisations is that research undertaken on their land is not reported back to them. This lack of protocol is not only disrespectful, but similarly misses an opportunity for shared knowledge exchange for better management. Building the capacity of government departments to understand, respect, engage and include Indigenous people and their knowledge is a step that is required for improved understanding and management of the Kimberley. A policy or agreement with Traditional Owners to define their role in future research studies, premised on informed consent and protection of IP rights should be pursued as part of the implementation of the Science and Conservation Strategy.

Indigenous rangers

Across Australia and in the Kimberley, remote Indigenous communities are already doing on-ground environmental work over millions of hectares of country, delivering tangible results to improve on-ground conservation outcomes and preventing the escalation of threats. A key avenue for this work has been through the Commonwealth Indigenous Rangers program, with over 700 individual rangers employed across the nation. Specific work carried out by these existing Indigenous Ranger groups includes:

- Fire management of vast areas of bushland to reduce greenhouse gas pollution caused by wildfires;
- Fire management of bushland to protect threatened species habitat;
- Destruction of noxious weeds;
- Reducing numbers of feral animals such as feral pigs and buffalo;
- Removal of marine rubbish such as destructive 'ghost fishing nets';
- Quarantine services to stop foreign diseases and pests entering Australia;
- Detection of illegal fishers and other border security work; and
- Managing visitors and campsites.

To date, 12 different Indigenous Ranger programs exist across the region, with the projects operating very successfully. For example, the Bardi Jawi Ranger Program from the Dampier Peninsula is one of the few Sea Ranger programs in the Kimberley. Beginning in October 2006, the project appointed six permanent full-time positions under the Working on Country program in April 2008. The Bardi Jawi Ranger group was recognised nationally as the 'front-line' managers of the north Australian coast when they won a national award for their involvement in a northern Australian Dugong and Marine Turtle Management project.

Current work by Indigenous Rangers is largely carried out under CDEP (Community Employment Development Project) or short term contracts for specific works. In more recent years some more structured programs have begun to deliver sources of funding that are longer term, including the Federal Working on Country program and Indigenous Protected Areas program. There has also been increasing support from business and philanthropic sources to assist specific Indigenous Ranger programs.

These programs and initiatives have been an excellent start in beginning to supply crucial long term support for effective Indigenous Ranger programs. However, currently the programs provide a disparate array of initiatives, missing some major opportunities such as business opportunities for Ranger groups in trading carbon and development of a broader 'culture and conservation economy'. In addition, meaningful employment (encompassing tasks, training and salary within a long term timeframe) is limited. From those working in the field, it seems that there is a greater demand for Ranger positions than current funding allows. However, this also represents a great opportunity for gains in social and environmental areas if greater resourcing can be secured. The sheer scale of environmental work required to manage our remote lands also requires a much bigger investment. Indigenous Rangers are central to successful land management in the Kimberley.

Particularly important for building successful conservation and cultural outcomes for Indigenous people in the Kimberley is job stability. If long-term funding is not available and jobs are dependent on annual pursuit of piecemeal funding it will be hard to recruit and retain people and difficult to maintain program continuity and quality over time.

We suggest that the State Government support Indigenous Ranger development, including a strategy for future expansion and coordination of Indigenous Rangers and related conservation work on a much greater scale. This can deliver major environmental benefits and provide long term jobs for residents of remote areas, jobs that deliver specific environmental services benefiting all Australians.

A major new initiative is required that brings together State and Commonwealth governments, business, Indigenous organisations and philanthropic organisations to support a long-term future for Indigenous Rangers.

This national initiative should include:

- Long-term resources for Indigenous Rangers in remote areas, including the Kimberley, to deliver identified and specific environmental services;
- Specific resources to develop innovative businesses delivering environmental services, including carbon abatement via fire management; and
- Business and philanthropic support for specific Indigenous Ranger projects where private sector investment and support could add significant value.

Recommendations:

6) That the State Government develop and implement as a matter of urgency, a policy and legislative framework for Indigenous ownership, leaseback, management and co-management of conservation areas in the Kimberley, developed in partnership with Traditional Owners.

7) The State Government support the establishment of new Indigenous Protected Areas (IPAs) in the Kimberley, including nominated sea country and also provide support to existing IPAs through on-ground expertise, resources and access to existing programs as negotiated with each individual IPA.

8) That State agencies explore knowledge partnerships with Indigenous groups and organisations for a richer understanding of country and two-way capacity building, with a policy or agreement reached with Traditional Owners to define their role in future research studies, premised on informed consent and protection of IP rights.

9) The State Government work with the Commonwealth Government to actively support the expansion of the Indigenous Ranger Programs in the Kimberley and link this with development of the region's emerging 'culture and conservation' economy, including support for Indigenous land management outside of formal protected areas.

References

Altman JC, Buchanan GJ and Larsen L (2007), *The environmental significance of the Indigenous estate: Natural resource management as economic development in remote Australia, Caepr Discussion Paper No 286./2007, Australian National University, Canberra.*

Conservation Commission of WA (2007), *Annual Report 2007-2008*, Conservation Commission of WA, Perth.

Department of Environment, Heritage, Water and the Arts (2009), *Indigenous Communities and the Environment - Locations of Indigenous Protected Areas in Australia*. Department of Environment, Heritage, Water and the Arts. Accessed 20th April 2009, http://www.environment.gov.au/indigenous/ipa/map.html

Faragher D (2009), *Protecting the Kimberley – Development of Kimberley Science and Conservation Strategy*, WA Parliament, Perth.

Gilligan B (2006),*The Indigenous Protected Areas Programme 2006 Evaluation*, Department of the Environment and Heritage, Canberra

Government of Western Australia (2003), *Indigenous Ownership and Joint Management of Conservation Lands in Western Australia – Consultation Paper July 2003*. Government of Western Australia, Perth.

Hill R, Miriuwung and Gajerrong people, Hill, D G and Goodson S (2008), *Miriuwung Gajerrong Cultural Planning Framework*, WA Department of Environment and Conservation, Yoorooyang Miriuwung Gajerrong Yirrigeb Noong Dawang Aboriginal Corporation and CSIRO.

IUCN (1994), *Guidelines for Protected Area Management Categories*. IUCN, Gland, Switzerland.

Meyers GD and Porter M (2008), *Indigenous joint management of national parks in Western Australia*, eLaw Journal, 15, (2) pp. 262-274. Viewed 1st May 2009, http://elaw.murdoch.edu.au/archives/issues/2008/2/elaw_15_Porter_Meyers%20.pdf

National Native Title Tribunal (2009), *Western Australia*. Accessed 20th May 2009, http://www.nntt.gov.au/Native-Title-In-Australia/Pages/Western-Australia.aspx

Office of Native Title (2006), Ord Final Agreement - *Overview*. Office of Native Title, Perth. Accessed 26th May 2009, http://www.nativetitle.wa.gov.au/agreements_OrdFinal.aspx

Ripper E (2007), *Indigenous Conservation Title Bill 2007 – First and Second Reading*, Office of Native Title, Perth, Perth. Accessed 26th May 2009, http://www.nativetitle.wa.gov.au/uploadedFiles/Media_and_Publications/Speeches/Indigenous%20Conservation%20Title%20Bill%202007.pdf

Wunambal Gaambera Aboriginal Corporation (2001), *Land of Wandjina and Wunggurr - Ngauwudu Management Plan*. Accessed 29th April 2009, http://www.savanna.org.au/downloads/ngauwudu.pdf.

03 On Ground Conservation Management

Section 2: TRADITIONAL OWNERS AND MANAGEMENT

Summary:

The range of serious, cumulative and increasing threats to the region's ecological (and hence socio-economic) health, including climate change, large unplanned fires, feral animals and weeds, requires a substantial and sustained increase in resources for active on-ground conservation management, through a range of programs (both State and Commonwealth funded) including Indigenous Rangers and management incentives.

Background

Australian ecosystems have been utilised and managed by Indigenous people for 50,000 or more years. Many terrestrial ecosystems in Australia require active management to maintain their biodiversity and other natural values, particularly the drier ecosystems such as occur in the Kimberley. Across the savannas of Northern Australia active management is required to deal with degrading threats such as inappropriate fire regimes, noxious weeds, feral animals and over-grazing by stock. Lack of such management has led to ongoing local and regional biodiversity declines and extinctions in recent years of some birds and mammals.

Uncontrolled late dry season fires have greatly increased in recent decades as the numbers of active land managers have reduced in many parts of the Kimberley, on both Indigenous and non-Indigenous managed lands. This is known to have a major impact on many species, particularly some seed-eating birds and some small mammals.

Wild cattle occur through most of the Kimberley and are likely to have a significant impact on some native wildlife species. The impact of cattle, donkeys and pigs on wetlands and rainforest patches in the Kimberley is well documented (Environment Australia, 2001; Graham, 2002; Semeniuk, 2004a; Semeniuk, 2004b; Storey et al., 2001; Vernes, 2007 and Yu, 2004), as is the impact of horses and camels on waterholes and soaks in the drier desert regions. Cane toads are on the brink of invading the Kimberley and are likely to cause reductions and local extinctions of many species in the region – for example some reptiles and amphibians and the Northern Quoll.

While most of the north Kimberley is relatively free of highly invasive noxious weeds, some have become established elsewhere in the Kimberley and need active work to eradicate them or prevent their spread. For example, fragile and threatened Monsoonal Vine Thicket is being smothered by Passion vine along the coastline and sections of the Fitzroy River are being choked by combinations of Noogoora burr, rubber vine, parkinsonia and leucaena. Weeds also cause hotter and more frequent fires and threaten vulnerable species with local extinction. Feral cattle, donkeys and camels, as well as off-road driving, all contribute to the degradation of native vegetation and promote the spread of weeds.

A range of current projects have made major advances in management in recent years. Well managed aerial shooting programs by the Western Australian Department of Agriculture have greatly reduced feral donkey numbers. The Kimberley Regional Fire Management Program was the most successful NHT funded project in the Kimberley at the time, combining outcomes in improved fire management, training, social benefits and environmental protection in remote areas. Following on from this, the NHT/DEC funded fire program in the central Kimberley and coordinated by the Australian Wildlife Conservancy has now reduced wildfire frequency over a four million hectare area of mixed pastoral, Indigenous, public lands and private conservation reserve (Legge et al., 2009).

Current funding and resources

There is limited information publicly available about the level of resourcing to combat these aforementioned threats. However, this submission contends that from public data provided to the Western Australian Parliament, funding is woefully inadequate, given the large areas within the region impacted by these threats. For example, the most recent public information on total Department of Environment and Conservation expenditure in 2006-07 financial year across all Western Australia lands, including national parks, nature reserves, state forest and unallocated land, was only $3.1 million for weed control and $6.7 for feral animals. This included work within the Kimberley region and the control of weeds on unallocated Crown land in the Fitzroy River area (WA Legislative Council Hansard, 2007). While this submission welcomes the additional $9 million in funding for conservation planning in the Kimberley, a more substantial funding allocation is needed for conservation management in the region. For example, funding is required for major gaps in foundation knowledge to improve on ground management is needed, including vegetation mapping or flora and fauna surveys undertaken in conjunction with custodians and Indigenous Rangers.

This submission recognises that funding for broader scale land management should not just be reliant on State funds. Some of the work, such as existing donkey eradication work and eradication of environmental weeds, delivers benefits for

industries like tourism and pastoralism as well as nature conservation. For areas identified as being of national heritage significance. It is reasonable to expect Commonwealth funding to maintain those values. Commonwealth funding already provides significant input into Indigenous Ranger programs and this is likely to continue.

Management of natural carbon resources

Accounting for, and managing natural carbon stores in the Kimberley is also an important factor that must inform approaches to on-ground conservation management. It is important, therefore that the State Government acknowledges the value of the huge carbon store in the region including its extensive intact savanna woodlands. Investment in the protection and management of the region's outstanding natural values should take place in ways that are consistent with maintaining and enhancing these carbon values. This includes increasing investment in cross-tenure fire management programs, based on the successful central Kimberley approach and when background carbon assessments are done and management plans are tied to carbon abatement delivery.

Prudent and sustainable management of natural carbon resources may also have the potential to provide significant income streams in the future in the form of an emerging carbon economy. These income streams may be applied to supporting other land management activities referred to elsewhere in this document, such as active fire management by landholders and Indigenous ranger groups.

At present, there is very little information about the existing carbon stores or carbon storage potential of vegetation and soils in the Kimberley. Research into these factors must therefore become a priority of the State, both as the conservation planning agent and as the legal owner of any carbon stocks on State-owned land, including pastoral leases.

The Federal Government has recently made available funding for establishing the foundation science necessary for measuring the carbon reduction potential across Northern Australia and the State Government should seek to partner with the Commonwealth to derive maximum benefit from these efforts in the Kimberley context. This submission recommends the development of a Natural Carbon Management Plan for the Kimberley as an important part of the State Government's Science and Conservation Strategy for the region.

Pastoral lands

Around half of the Kimberley is leased as pastoral properties for cattle grazing, with many now owned by Indigenous organizations, such as Kupungarri Aboriginal Corporation which owns Mt Barnett pastoral lease. Under the Land Administration Act (1997) all pastoral leases are required to be managed in accordance with the principles of ecological sustainability – although this requirement is not well enforced. In the last national biodiversity assessment, overgrazing was identified as a threatening process in many case studies in Northern Australia (Sattler and Creighton, 2002). The PMSEIC report (Morton et al., 2002) stated that "degradation of our natural systems occurs because our economy makes it cheaper to degrade Australia than to look after it…. Systems are needed that reward stewardship." It is time to put in place new systems for managing the Australia landscape that keep people on the land, reward environmental stewardship and remove unprofitable grazing systems that result in long-term land degradation.

In this context, the submitters argue that the State Government should implement a policy that strengthens the requirement for sustainable management of pastoral leases. We recognise that the leases must be of a term that provides certainty for enterprise development and rural livelihoods, but that this must be balanced alongside mechanisms to ensure lessees uphold their responsibilities according to ecological sustainability.

This submission recommends that the State Government implement a policy whereby lease renewal is based upon an independently-audited property management plan demonstrating sustainable management practices. This would be followed on a regular basis by a compliance audit prior to future renewal. This policy should be applied as existing pastoral leases expire (most pastoral leases in WA come up for renewal in 2015). This mechanism has been described as a 'rolling lease'.

In pursuing a 'rolling leases' policy, Government would need to make a clear commitment that any resultant changes to management regimes not have a detrimental impact on Native Title rights and interests including, for example, limiting access to country, or the collecting of bush foods - without the free, prior and informed consent of Traditional Owners.

The ability for traditional owners to negotiate a greater role in land management, for example through Ranger initiatives on pastoral properties, would also strengthen the goal of biodiversity protection in areas outside of the formal reserve system.

A second important issue identified through prior stakeholder consultation is the existing requirement for all pastoral leaseholders to maintain minimum stock levels, even where stocking is not the primary activity of the leaseholder (such as in the case of tourism enterprises in conjunction with pastoral enterprises). This requirement forces an unsustainable system onto those areas that could be better utilised (such as through tourism rather than pastoralism) and does not provide support to manage and restore biodiversity.

This submission argues that the State Government should move to allow de-stocking of pastoral leases where grazing is not the primary activity of the Leaseholder, and provide support mechanisms to allow land managers and Traditional Owners to manage and restore biodiversity in the landscape. This may require an identification of institutional and legislative arrangements and economic instruments that would allow degraded and uneconomic lands to be retired from pastoral production whilst maintaining people on the land to manage and restore biodiversity in the landscape.

Recommendations:

10) That the State Government significantly increases funding above current 2009-10 levels for conservation management in the Kimberley, including:

    - Continued detailed vegetation mapping of the Kimberley as a basis for future management work for fire and other issues; and
    - Targeted fauna and flora benchmark surveys and ongoing monitoring to assess change in species distributions, especially for species known to be declining. This should be undertaken in collaboration with Traditional Owners and Indigenous Rangers combining western scientific and traditional ecological knowledge

11) The State Government develop a noxious weed plan (including a rapid response network via Indigenous Rangers and community groups) for the Kimberley, based on strong region-wide approaches to rapidly detect and eradicate or isolate new highly noxious weed such as Mimosa, Gamba grass and Mission grass, which may be transported into the region.

12) The State Government develop and fund programs to eradicate unmanaged wild cattle, donkey, horses, pigs and camels from outside pastoral leases.

13) The State Government expand research for biological control of cane toads and in the meantime continue support for campaigns to hold back the cane toad western front line through manual removal methods and fencing. Urgent action is also required to implement contingency strategies for protection of high biodiversity hotspots and endangered species from the impacts of cane toads.

14) The State Government undertake a comprehensive baseline assessment of existing and potential natural carbon storage capacity and values in the Kimberley. This information should be used to inform a) the development of a Natural Carbon Management Plan for the Kimberley and b) management policies and programs that seek to maintain and build upon the area's natural carbon stores, while also maximising opportunities arising from the emergence of a carbon economy for financial support of sustainable land management practices across different land tenures.

15) The State Government implement a policy for pastoral lands whereby lease renewal is regularly and independently assessed and made contingent upon sound ecologically sustainable management and must avoid any detrimental impact on Native Title rights without the free, prior and informed consent of Traditional Owners. This policy should be applied as existing pastoral leases expire.

16) The State Government move to allow total destocking of pastoral leases where grazing is not the primary activity of the leaseholder.

References

Environment Australia (2001), *A directory of Important Wetlands in Australia*. Third Edition, Environment Australia, Canberra.

Graham G (2002), Kimberley Biodiversity Assessment, IN: May J E. & McKenzie N L. (Eds.) *A biodiversity audit of Western Australia's 53 Biogeographical Subregions in 2002*. Department of Conservation and Land Management, Perth.

Legge S, Murphy S, Maher B, Kingswood R, Swan D, Axford J, Faulkner R and Basnett G (2009), *EcoFire 2008* Australian Wildlife Conservancy, Subiaco

Morton S, Bourne G, Cristofani P, Cullen P, Possingham H and Young M (2002), *Sustaining our Natural Systems and Biodiversity: an independent report to the Prime Minister's Science, Enginnering and Innovation Council*. CSIRO and Environment Australia, Canberra.

Sattler P and Creighton C (2002a), *Australian Terrestrial Biodiversity Assessment*, National Land & Water Resources Audit, Canberra.

Semeniuk Research Group (2004a), *Geegully Creek valley track: landforms, maintenance of water areas, vegetation, history, and global significance*. Report to Walangkarr Jirrkaliy Healthy Country Project. Unpublished report.

Semeniuk Research Group (2004b), *Spring deposits in the northern Great Sandy desert: description, maintenance of water areas, history, and global significance*. Report to Walangkarr Jirrkaliy Healthy Country Project. Unpublished report.

Storey AW, Davies PM and Froend RH (2001), *Fitzroy River System: Environmental Values*. Draft Report

WA Legislative Council Hansard (2009), *Unallocated Crown Land – Pest Animal and Weed Control*, pg 7207a – 7207a, WA Parliament, Perth. Accessed 2nd May 2009, http://www.parliament.wa.gov.au.

Vernes T (2007), *Establishing priorities for wetland conservation and management in the Kimberley*. Final report WWF Australia.

Yu S (2004), *Walangkarr Jirrkaliy Healthy Country Final Report*, prepared for the Land and Sea Management Unit, Kimberley Land Council (Broome) and the Cooperative Research Center for Tropical Savannas Management NT University, Darwin.

04 Marine Protection

Section 4: MARINE PROTECTION

Summary:

This submission contends that the current identification of only five marine areas for protection does not adequately protect the globally significant ecological values of the Kimberley marine environment and the scope is not in line with previous government and scientific recommendations. What is needed is a comprehensive marine protected area network based on international best practice.

Background

The Kimberley marine and coastal environment has been internationally recognised as being in very good ecological condition, particularly when compared with most of the world's other coastal tropical marine areas which have been degraded to varying degrees (Halpern et al., 2008; Masini et al., 2009). Such widespread degradation of other tropical coastal areas worldwide emphasises the global significance of the Kimberley marine environment.

This submission notes that no State coastal marine waters in the Kimberley are currently protected in any form of marine park and this represents a serious gap in protection of our unique Western Australian marine environment.

Some of Australia's most significant coral reefs occur in the northwest – including the fringing coral reefs of the Kimberley. Western Australian coral reefs have been identified by Roberts et al. (2002) as one of 18 hotspots for coral reef diversity worldwide, ranking highly in total diversity (7th) and endemic species (2nd) and least threatened environmentally (15th). As 70% of the world's coral reefs are threatened or destroyed (Wilkinson, 2004), the Kimberley fringing coral reefs have global significance.

The Indo-Pacific biogeographic region, which covers waters off the Kimberley, encompasses approximately 75% of the world's coral reefs and includes the centre of global marine diversity for several major taxa including corals, fish and crustaceans (Bruno and Selig, 2007). However, the rate and extent of coral loss in the Indo-Pacific is greater than expected (Bruno and Selig, 2007).

Future threats to coral reefs in WA include climate change and associated acidification, coral bleaching and damage from predicted increased severity of cyclones (Miller and Sweatman, 2004). Future damage to reefs (and sea grass and filter feeding communities) is also possible through increased sediment loads associated with increased erosion (caused by poor agriculture, pastoral or fire management practices, clearing or mining) or construction and dredging operations which represent a significant future threat, as does industrial pollution and/or accidents. In addition to coral reefs the Kimberley coastal environment is an increasingly important stronghold for mangrove, sea grass and filter feeding communities which are also declining worldwide and in the Indo-Pacific region.

It is also important to recognise that the Kimberley region serves as one of last remaining large and healthy habitats/refuges for many threatened and endangered marine species such as sharks, turtles and marine mammals (e.g. whales, dolphins and dugong). The majority of shark species in Australia are under pressure from overfishing and habitat destruction. The Kimberley region provides a critical habitat for shark species that are vulnerable, threatened and/or critically endangered (Philips, 2006; Stevens, 2008 and DEWHA, 2008). The Kimberley region is thought to be the second largest population of Green Turtles in Australian(DEHWA, 2008) and the broader North West shelf region (including the Kimberley) is possibly the largest remaining hawksbill nesting population in the Indian Ocean, with initial surveys indicating about 2,000 females nesting annually (Limpus, 1997). Presently all species of turtles (except the flatback) are listed in the IUCN Red List as endangered or critically endangered (2009). Preliminary studies from Deakin University have identified key critical habitats for coastal dolphins, particularly for the Snubfin, along the Kimberley coast. Snubfin and humpback dolphins are listed as "Near Threatened" on the IUCN Red List 2008 and the Australian Snubfin dolphin (Orcaella heinsohnii) is listed as Priority Four: Taxa in need of monitoring under the Western Australian Wildlife Conservation Act 1950.

As such, it is important when developing a conservation strategy for the Kimberley region that additional conservation and management measures are in place to ensure the protection and persistence of these species for future generations, noting that connectivity between ecosystems and habitats is crucial for many species. By allowing for and achieving the conservation of these 'iconic/ charismatic' species, the status of many other species which share their habitat – or are vulnerable to the same threats – should also be improved.

These values of the marine and coastal environments of the Kimberley have been discussed in several reports completed in the last 18 months, in addition to the Synthesis, including:

- The Nature of Northern Australia, ANU Press, by J Woinarski, B Mackey, H Nix and B Traill, for the Wilderness Society, 2007;
- Coastal and Marine Natural Values Of The Kimberley, by Simon Mustoe and Matt Edmunds, for WWF Australia, January 2008; and
- A Turning of the Tide: Science for decisions in the Kimberley-Browse marine region a WAMSI initiative, by Mike Wood, Des Mills, Western Australian Marine Science Institution (WAMSI), August 2008.

Yet in contrast to its global significance, the Kimberley marine environment is poorly understood and little protected, particularly when compared to other regions of similar latitude in Australia, such as the Great Barrier Reef. Like the Great Barrier Reef Marine Park - which brings in an estimated $6.9 billion per year to the Australian economy (DEWHA, 2009) - the Kimberley marine and coastal environment is a natural marvel which has the potential, if properly protected and managed - to be of lasting economic value to the Kimberley, WA and Australia.

There are still large gaps in our knowledge which make an integrated approach to protection and ecologically-compatible development difficult because a lack understanding of ecological processes. Given this, a precautionary approach to identifying compatible and non-compatible developments in both the marine and terrestrial environments is recommended.

In addition, sea country is of great significance to coastal Traditional Owners and includes culturally significant places, animals and environments, as for terrestrial areas. The ability to continue subsistence fishing and harvesting and access sea country should be recognised and supported. An important point to understand in the development of management zones and strategies is that no distinction is made between 'land' and 'sea' from an Indigenous perspective and this needs to be taken into account.

Current proposal

The current Government's conservation priorities map released in March 2009 identifies just five small marine areas throughout the Kimberley for possible reservation. It is unclear whether any or all of these areas are intended as highly protected 'no take' sanctuaries, or merely as multiple use conservation areas. Regardless, these five areas are far fewer and smaller than those recommended previously in government studies. These proposals fall far short of international standards on marine protection and fail to fully reflect the values and significance of the Kimberley marine and coastal environment.

The most comprehensive government report on the Kimberley's marine environment - carried out by the Marine Parks and Reserves Working Group (1994) identified twenty one areas worthy of protection and/or further survey work in the Kimberley region, as shown in the summary table for areas and recommendations on the following page:

No.	Area of interest	Details of area	Recommendation
1	Cambridge Gulf	Incorporating the false mouths of the Ord and the tidal waters of the east arm of the Ord, extending to the limit of State waters	Consider for reservation for conservation
2	Cape Londonderry	Including estuaries of the Drysdale and King George Rivers and extending to Cape Rulhieres and out to the limit of State waters	Reserve for conservation and recreation
3	Vansittart Bay	Including waters south of Mary island and Eclipse islands	Survey for reservation for conservation and recreation
4	Port Warrender	South of a line eastward from Walsh point including all tidal waters of the Lawley Estuary and the Lawley Mangals	Reserve for conservation
5	Mitchell River	Entire estuary to limit of tidal waters including waters of Walmesly Bay south of Pickering Point	Consider for reservation for conservation
6	Long Reef	Outer Admiralty Gulf	Survey for reservation for conservation
7	Prince Frederick Harbour	Across York Sound between Cape Torrens and Augeraeu Island	Reserve for conservation
8	Saint George Basin	Across Brunswick Bay between High Bluff and Cape Wellington incorporating Hanover Bay and open ocean habitats	Reserve for conservation
9	Montgomery Reef	Waters surrounding Montgomery and High Cliffy Islands incorporating the whole reef	Reserve for conservation (with allowance for traditional hunting)
10	Walcott Inlet	Seaward boundary at Yule Entrance	Reserve for conservation and recreation
11	Secure Bay	Seaward boundary at The Funnel	Reserve for conservation and recreation
12	George Water / Doubtful Bay	Entire area	Survey for reservation for conservation
13	Buccaneer Archipelago	Entire Archipelago and adjoining coastal waters including Cygnet Bay and Talbot Bay	Reserve for conservation and recreation (multiple use Marine Park)
14	Browse Island	State waters surrounding island	Consider for reservation for conservation
15	Adele Islands	State waters surrounding islands	Consider for reservation for conservation
16	Scott Reef	State waters surrounding island	Consider for reservation for conservation
17	Pender Bay / Beagle Bay	No border proposed	Worthy of reservation for conservation and recreation. Survey required
18	Lacepede Islands	Surrounding waters	Worthy of reservation for conservation. Survey required
19	Roebuck Bay	Encompassing Broome Harbour, north of Gantheume Point to Cape Villaret, high water to State waters limit	Reserve for conservation (Marine Park), important to reserve adjoining terrestrial areas which are part of drainage /geomorphologic systems
20	Lagrange Bay	Cape Latouch Treville to Cape Bossut including Legrange bay	Survey for reservation for conservation and recreation
21	Eighty Mile Beach	To include terrestrial to 40m above high tide level, extend to limit of State waters, preliminary recommendation in vicinity of Anna plains	Survey for reservation for conservation, with particular regard to shorebirds

(Source: Collated from Marine Parks and Reserves Working Group report, 1994).

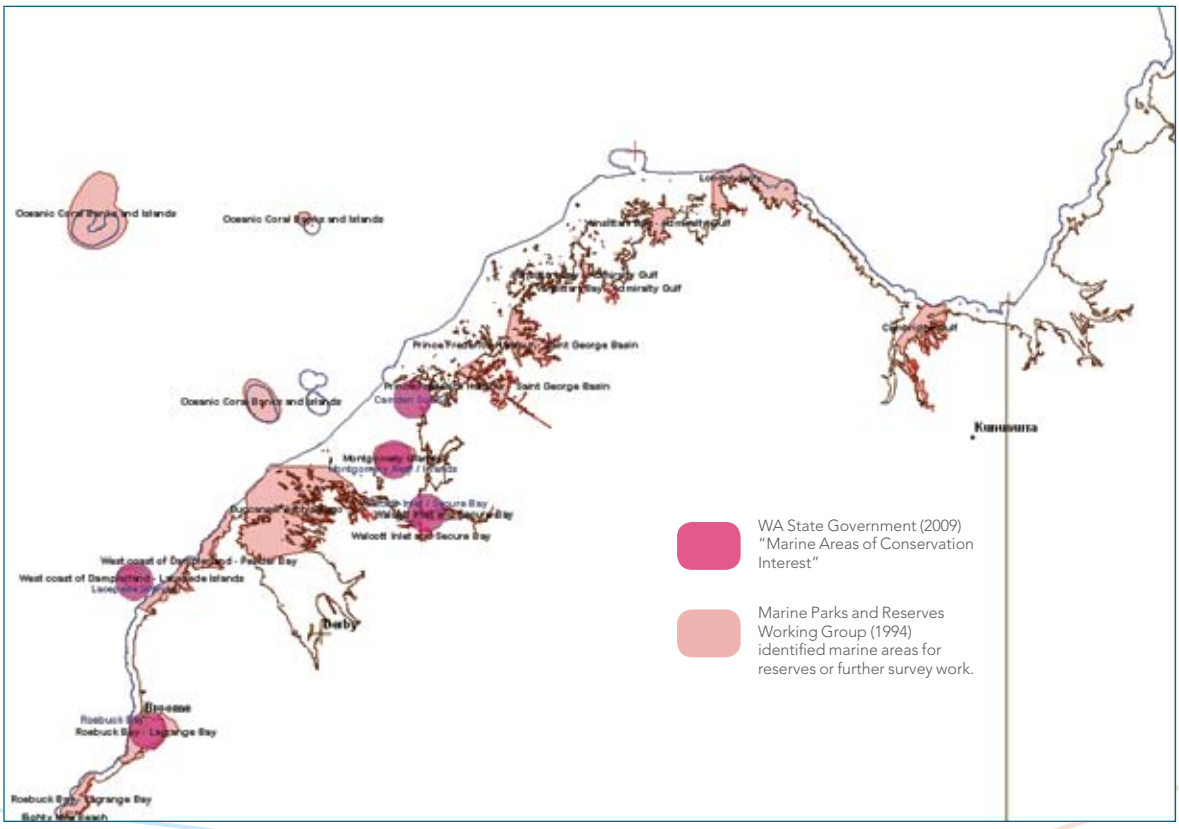
Just four of these twenty one recommended locations are identified by the current Government proposal/map. The fifth location on the current government proposal/map, Camden Sound, was not included in the 1994 report presumably because it was not yet known to be so significant as a Humpback whale breeding and birthing ground. Thus, there are now at least 22 marine areas throughout the Kimberley officially identified in Government documents as having high conservation significance. As the Camden Sound example clearly indicates, these previously identified areas do not form a comprehensive list and is extremely likely that other areas should and will be identified as high conservation significance areas suitable for reservation. The map below provides a comparative picture of marine areas of significance or potential reserves previously proposed by the Marine Parks and Reserves Working Group (1994) and the current State Government's identified Marine Areas of Conservation Interest (2009).

Similarly, the current proposal's failure to meet international benchmarks for science-based marine conservation planning is very disappointing. The World Parks Congress calls for fully protected MPAs (i.e. no-take reserves) covering at least 20% to 30% of each marine habitat type so as to contribute to a global target for healthy and productive oceans by 2012 (IUCN, 2005). International marine scientists and scientific organisations have stated that networks of fully protected MPAs should cover 20% or more of all marine biogeographic regions and habitats to be able to meet economic and conservation goals (Roberts et al., 2003). On coral reefs, the percentage of protection for each habitat is set higher at 30% to 50%, due to the impacts of climate change; sea warming and acidification (Hughes et al., 2002).Some features may need to be protected at even higher levels given their rarity and/or exposure to risk.

Credible science-based marine planning for the Kimberley

Australian scientists are at the forefront of developing tools to determine the optimal size and location of areas to be set aside to help conserve our biodiversity. These scientific methods have been employed by Commonwealth (DEWHA for the South West Marine Bioregion) and State departments (DEC for planning of the Pilbara and Eighty Mile Beach Marine Park). DEC has used a systematic reserve planning approach "to ensure that the process of identifying appropriate marine park and reserve boundaries is scientifically rigorous and to allow for a thorough analysis of options".

In May, a new consensus statement was produced on the scientific principles for designing marine protected areas in Australia. Researchers from the University of Queensland's Ecology Centre produced the statement which was signed by over 40 marine scientists entitled "Scientific Principles for Design of Marine Protected Areas in Australia: A Guidance Statement" (2009).



The statement aims to provide a clear science- based guidance on design principles and criteria for conservation planners involved in the selection, design and implementation of Australia's National Representative System of Marine Protected Areas.

The statement identifies six scientifically-based "Operational Principles" that should be used in the design phase of MPAs to minimise the risks inherent in planning MPAs with an incomplete knowledge-base and changing threats. These are:

1. Biodiversity primacy: Nature conservation and maintenance of ecological integrity are the primary outcomes for the MPA network.
2. Management constraints: Recognise the constraints in the likely management arrangements and the need to minimise management costs consistent with achieving effective biodiversity conservation.
3. Multiple objectives: Low-impact uses may be permitted in an MPA system within appropriate management zones, providing that biodiversity conservation outcomes and protection of ecological integrity can be demonstrated.
4. Managing threats: The location of MPAs should avoid or minimise exposure to any known and potential threats to the biodiversity, provide for maximum resistance and resilience to the impacts of increasing threats and minimise the potential for compliance violations.
5. Monitoring, assessment and reporting: Given the high levels of uncertainty confounding the problem of MPA design, individual MPAs and MPA networks must provide for adaptive management including, at a minimum, scientifically robust monitoring and reporting of biodiversity outcomes and management to confirm the effectiveness of the MPA design and provide reference areas for assessing impacts of broad-scale threats and the effectiveness of off-MPA management.
6. Stakeholder engagement: Wide engagement with stakeholders is required in selection, declaration, zoning and management to ensure that robust local and traditional knowledge is used in the design/planning and that existing use rights and potential threats are considered in the planning process. This engagement assists to provide a framework for designs to best recognise local knowledge, minimise effects on users, assist with local management (thus enhancing the likelihood of persistence of the MPA and limiting compliance violations) and the management of surrounding/upstream areas to avoid compromising the objectives of the MPA network. (The University of Queensland, 2009)

This submission believes the WA government should adopt this approach to develop a comprehensive marine planning process for the Kimberley marine environment.

As part of this process, MPAs in the Kimberley must:

- be established with the informed consent of Traditional Owners by developing an appropriate negotiation process;
- include management zones with measurable conservation objectives;
- represent all habitats in each ecological region and use best scientific practices (Marxan optimisation programme) incorporating important cultural sites and traditional knowledge;
- have a scientific and community-driven process to achieve no-take zones consistent with the internationally recommended scientific targets;
- be funded adequately to create (including structural adjustment funds), monitor and police MPA's to ensure that they are meeting their conservation objectives;
- support and recognise the importance of Sea Country IPAs by providing funding for Sea Ranger programs along the Kimberley coast and policy support;
- support and create synergies with Commonwealth MPA planning across Commonwealth and State waters:
- take into account the importance of connectivity both between reserves and between reserves and non reserved areas on species, ecological and physical parameters incorporating also links to terrestrial conservation reserves to maintain the (elsewhere relatively uncommon) natural interface between land and sea: and
- ensure adequate consideration to key species and impacts of development pressure and other anthropogenic activities - where required additional conservation/ management measures are implemented as part of the marine bioregional plan.

Recommendations

17) That the State Government establish a comprehensive marine protected areas (MPAs) network in the Kimberley. This should be based on international best practice for MPA design and implementation to protect all areas of high conservation value and the broad scale ecological health of the Kimberley marine environment as well as protecting the rights and culture of its Traditional Owners.

18) The State Government maintain and expand support for long term research and monitoring (including via Indigenous and other community based programs) to assess the status of key marine species (eg. turtles, sharks, coastal dolphins, dugongs) at regional scales including distribution, abundance, movement patterns and genetic structure of populations in priority areas. Such a commitment would include developing and implementing a Wildlife Conservation Plan for key marine species that are currently not protected under the *Environmental Protection and Biodiversity Conservation (EPBC) Act 1999* – eg the Snubfin Dolphin and Dugong.

19) The State Government develops and funds both broad spatial scale data collection and risk assessments and regional spatial risk assessments, to provide a mechanism for assessing the direct and cumulative impact of future and current activities on ecosystems and flagship species. The outcomes should be fed into protected area planning to help implement spatial management protection measures.

20) Planning and legislation at the State level should be amended to require a strategic environmental assessment of all future proposals for coastal developments which considers the cumulative impacts of such developments on key species and ecosystems and the Kimberley coast as a whole.

References:

Bruno JF and Selig ER (2007), *Regional Decline of Coral Cover in the Indo-Pacific: Timing, Extent, and Sub regional Comparisons.* PLoS ONE 2(8): e711. doi:10.1371/journal.pone.0000711)

Department of Environment and Conservation (2009), *Kimberley Region - Marine Areas of Conservation Interest.* (Map B) Department of Environment and Conservation WA, Perth.

Department of Environment and Conservation - Masini R, Sim C, and Simpson C (Marine) and McKenzie N, Start T, Burbidge A, Kenneally K and Burrows N (2009), *A synthesis of scientific knowledge to support conservation management in the Kimberley Region of Western Australia*, Department of Environment and Conservation, Perth.

Department of the Environment, Water, Heritage and the Arts (DEWHA) (2008), North-West Marine Bioregional Plan: Bioregional Profile: A Description of the Ecosystems, Conservation Values and Uses of the North-West Marine Region. [Online]. Canberra: Department of the Environment, Water, Heritage and the Arts. Available from: http://www.environment.gov.au/coasts/mbp/publications/north-west/bioregional-profile.html.

Department of Environment, Water, Heritage and the Arts (DEWHA) (2009), *Environment Budget Overview 2009-2010.* Accessed 20th May 2009, http://www.environment.gov.au/about/publications/budget/2009/ebo/pubs/budget-overview-09-10.pdf

Halpern BS, Walbridge S, Selkoe KA, Kappel CV, Micheli F, D'Agrosa C, Bruno J, Casey K, Ebert C, Fox H, Fujita R, Heinemann D, Lenihan H, Madin E, Perry MT, Selig ER, Spalding M, Steneck R and Watson R (2008), *A global map of human impact on marine ecosystems*, Science 319: 948-952, Vol 319, no 5865, pp 948 – 952. Accessed 10th Mary 2009, http://www.sciencemag.org/cgi/content/abstract/319/5865/948.

Hughes T (Convener) (2002), *The Townsville Declaration on Coral Reef Research & Management International Forum on Threats to Coral Reefs Centre for Coral Reef Biodiversity*, Townsville October 14-19, 2002

IUCN (2005), Benefits Beyond Boundaries. Proceedings of the Vth IUCN World Parks Congress (2003). Gland, Switzerland and Cambridge, UK. 306

IUCN (2009), *The IUCN Red List of Threatened Species*, Accessed 2nd May 2009, www.iuchredlist.org

Limpus CJ (1997), Marine turtle populations of southeast Asia and the western Pacific Region: distribution and status. In: Noor Y R, Lubis IR, Ounsted R, Troeng S, Abdullah A, ed. *Proceedings of the Workshop on Marine Turtle Research and Management in Indonesia. Jember, East Java, November 1996.* Page(s) 37-72. Bogor: Wetlands International/ PHPA/ Environment Australia.

Marine Parks and Reserves Selection Working Group (1994), *A representative marine reserve system for Western Australia*. Report of the Marine Parks and Reserves Selection Working Group. Department of Conservation and Land Management, Perth, WA. June 2004.
http://www.iucn.org/themes/wcpa/wpc2003/pdfs/outputs/recommendations/approved/english/html/r22.htm.

Miller I and Sweatman H (2004), *Status of Coral Reefs in Australia and Papua New Guinea*. In Wilkinson C (ed) Status of the coral reefs of the world 2004. Australian Institute of Marine Science, Townsville, Australia.

Mustoe S and Edmunds M (2008), *Coastal and Marine Natural Values of the Kimberley* (Report for WWF-Australia) (http://wwf.org.au/publications/wwfkimberleyreport/)

Phillips N (2006), *Development of genetic and morphological methods for the study of sawfish (Pristidae) populations via analysis of old rostra.* Honours Thesis, Murdoch University, Perth, Western Australia.

Roberts CM, McClean CJ, Veron JEN, Hawkins JP, Allen GR, McAllister DE, Mittermeier CG, Schueler FW, Spalding M, Wells F, Wynne C, and Werner TB (2002), *Marine biodiversity hotspots and conservation priorities for tropical reefs.* Science 295: 1280-1284.

Roberts CM, Branch G, Bustamante RH, Castilla JC, Dugan J, Halpern BS,. Lafferty KD, Leslie H, Lubchenco J, McArdle D, Ruckelshaus M and Warner RR (2003), Application of Ecological Criteria in Selecting Marine Reserves and Developing Reserve Networks. *Ecological Applications* 13(1).

The University of Queensland (2009), *Scientific Principles for Design of Marine Protected Areas in Australia: A Guidance Statement,* The University of Queensland's Ecology Centre, Brisbane.

Wilkinson C (2004), *Status of Coral Reefs of the World: 2004,* Australian Institute of Science.

Woinarski J, Macke B, Nix H and Traill B (2007), *The Nature of Northern Australia; natural values, ecological processes and future prospects.* ANU Press, Canberra.

Wood M and Mills D (2008), *A Turning of the Tide: Science for decisions in the Kimberley-Browse marine region - a WAMSI Initiative*, Western Australian Marine Science Institution, Perth.

05 Terrestrial Protection

Section 5: TERRESTRIAL PROTECTION

Summary:

Clear, scientifically-based targets must be set for the Kimberley to be protected in the conservation estate, including Indigenous Protected Areas, private conservation reserves, National Parks and other conservation reserves to ensure comprehensive, adequate and representative protection of the full spectrum of the region's rich biodiversity, its associated cultural heritage and the ecological processes that maintain them.

Declaration of any new protected areas should occur only with the full and informed consent of Traditional Owners and should include options for Indigenous ownership, lease-back and joint management.

Background

> *The comprehensive and adequate representation of vegetation communities in the reserve system is a priority issue in the Kimberley. Several areas, including many of the coastal islands, have been proposed for reservation since the 1970s (Burbidge et al. 1991), and vegetation mapping at a resolution of 1:100 000 or better is urgently needed not only to guide fire management programs, but also to further refine the existing reserve system.*
>
> *Kimberley rainforest patches are too dispersed and compositionally dissimilar to be adequately represented by existing conservation reserves. Although a series of additional conservation reserves have been proposed to ensure adequate representation of Kimberley rainforest types, the community is so dispersed that the persistence of its richness in the region relies on patches being functionally networked, which cannot be guaranteed by any feasible reserve system so there must be active management and protection of patches both inside and outside reserves.*
>
> *(DEC Science Synthesis, 2009)*

Until recent years the conventional approach to targets for the terrestrial conservation estate has focused on the reservation of a representative area of each class of ecosystem. In various processes these targets have typically varied between 10% to 30% of the bioregion or broad vegetation type (eg. Convention on Biological Diversity, 2002; JANIS, 1997). Unfortunately this approach is rarely based on scientifically robust targets in providing long term security for all species and overall ecosystem function and health. For example, many species have large home ranges and require use of extensive habitat to maintain viable populations.

More recent international reviews of adequacy of targets in large, intact ecosystems have identified the need for delivering much higher levels of protected areas to ensure protection of biodiversity and the ecological processes that support them. A 2006 review of conservation targets identified that the median recommendation for protection lies above 50% in order to achieve maintenance of ecosystem types and native species (Schmiegelow et al., 2006). An earlier review of conservation planning exercises determined that between 25% to 75% of a region should be protected to represent all species and ecosystem types (Noss and Cooperrider, 1994). This submission recommends that a precautionary approach must be taken, with science-based targets addressing:

- Representation of all native ecosystem types and seral stages across their natural range of variation in a system of protected areas;
- Maintenance of viable populations of all native species in natural patterns of abundance and distribution;
- Maintenance of ecological and evolutionary processes, such as natural disturbance regimes, predator-prey cycles and hydrologic processes; and
- Maintenance of ecosystem resilience to short-term and long-term environmental change.

This is particularly the case in northern Australia where resources for many animals are patchy in time and space because of generally infertile soils and rainfall which varies highly between seasons and between years. (Woinarski et al., 2007) The Kimberley consequently has many nomadic and migratory species which move over long distances to find food and breeding habitat. A small and patchy reserve system embedded in non-conservation managed lands cannot adequately protect these species.

In addition a sampling approach which includes simply a small number of scattered reserves fails to take into account the need to maintain ecological processes which underpin the long term survival of particular species. These key ecological processes in the Kimberley, which often occur over huge areas, include hydro-ecology, pollination and dispersal of seeds and disturbance regimes such as fires and cyclones.

Reservation levels in the Kimberley

As already stated in the DEC Synthesis paper, currently 2.3 million hectares of the Kimberley is in designated State-managed conservation reserves (national park, nature reserve and conservation park), with 4.4% of the Central Kimberley IBRA bio-region area, 14.6% of North Kimberley, 1% of Dampierland, 5.9 % of Ord Victoria Plains and 5.8% of Victoria-Bonaparte. (DEC, 2009). Based on DEC analysis, 2.3 million hectares in the State conservation reserve system represents just 5.5% of the Kimberley region (42 million hectares). A further 430,000 hectares is in the Paruku Indigenous Protected Area in figure (DEWHA, 2009), 1.6 million hectares is in Warlu Jilajaa Jumu IPA and 640,000 hectares in two pastoral leases managed as private conservation reserves by the Australian Wildlife Conservancy (AWC, 2009). This gives a total of conservation managed lands in the Kimberley – public, private and Indigenous - of only around 11.8%.

The submission believes there is an opportunity and need to revise and increase reservation targets for the Kimberley. At a Federal level, reservation targets under the Commonwealth National Reserve System are for 10% of all bioregions (DEHWA, 2009). The previous WA Government has made several key commitments through the Natural Resources Management Ministerial Council (NRMMC, 2005) to reach targets, including comprehensiveness, adequacy and protection of threatened species and ecosystems, but is still some way from meeting these targets (WWF, 2008).

Three of the Kimberley's five IBRA bioregions (Ord Victoria Plain, Dampierland and Central Kimberley) currently fail to meet the minimal Commonwealth 10% target (Sattler and Taylor, 2008). However, there is no scientific basis for believing that this minimalist 10% target will adequately conserve biodiversity and ecosystem function in the Kimberley region.

Woinarski and Hickey (unpublished) analysed comprehensiveness and adequacy of different levels of reservation in the Northern Territory, a region with a similar range of ecosystems to that of the Kimberley. They found that the current protected area system in the Territory (9% currently in protected areas) falls well short of target values for proportional representation of vegetation types and for the long-term viability of many of the terrestrial vertebrate species.

Their analysis found that reservation of 10% of a bioregion would provide sufficient area for only about 30% of the vertebrates present in the region; reservation of 30% of the region is likely to provide sufficient area for only 40%-50% of the vertebrate fauna in the region. The inadequately protected species mostly comprised those with the most extensive habitat area requirement, but also include some highly localised species whose globally restricted range is not included in protected areas.

Based on this and related overseas studies noted above (Schmiegelow et al., 2006 and Noss and Cooperrider, 1994) a much greater level of protection of the Kimberley is ultimately needed, to maintain all existing species in largely intact landscapes, especially when considering resilience against the upheavals of climate change. This could be comprised of an expansion of Indigenous Protected Areas, privately owned reserves, National Parks and conservation reserves. In addition, off-reserve conservation management initiatives and resources can further strengthen ecosystems. Such a system of well managed, well buffered and connected protected areas would provide the foundation for protection of specific species and places and ensure maintenance of all of the broad-scale ecological processes that are essential to maintaining the rich biodiversity of the region. It would also provide the foundation for sustainable long term development of the regional economies dependent on a healthy landscape.

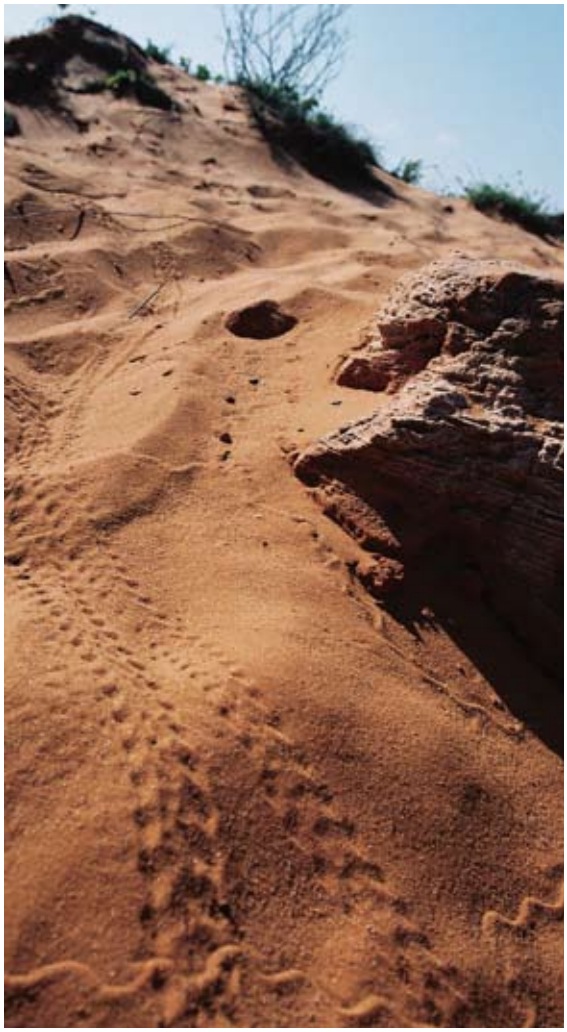
Any specific protected areas should only be established with the full and informed consent of Traditional Owners and take native title issues into account. A major step in this direction - already mentioned in the previous chapter - is being driven by the Kimberley Land Council which is coordinating consultations with Traditional Owner groups for six Indigenous Protected Areas over land and sea country along nearly the entire length of the coast. The proposed IPAs are likely to cover an area of approximately 10.7 million hectares.

However, the WA State Government has currently only committed to:

> *Enhanced protection for terrestrial areas such as Prince Regent Nature Reserve, areas in the vicinity of the Mitchell Plateau, and the various islands throughout the Kimberley. (Faragher, 2009)*

The best available science is clear that this would not be sufficient to comprehensively and adequately protect the rich biodiversity of the Kimberley. This statement disregards the many previous assessments and recommendations made by government and science organisations and will barely increase the current reserve levels in the Kimberley. There is even a risk that this proposal will actually weaken the current reserve system, through opening up the current 'A' Class Prince Regent Nature Reserve to higher levels of access for large number of visitors that could come with National Park status. A much more systematic, scientific, longer term and ambitious reservation plan is required from the government if adequate protection of Kimberley terrestrial biodiversity is to be achieved.

In this regard, the current State Government proposals appear to fail to acknowledge and consider the significant previous work undertaken by DEC's predecessor, the Department of Conservation and Land Management, which recommended a major expansion of conservation reserves within the Kimberley region - in particular, the Burbidge et al. (1991) report "Nature Conservation Reserves in the Kimberley Western Australia".



Recommendations

21) That protected areas in the Kimberley be increased to a science based target. This target should be achieved by working with the broader community and aimed at ensuring a conservation reserve system which comprehensively, adequately and representatively protects the full spectrum of ecosystems, ecological processes and species in well resourced and well-managed Indigenous Protected Areas, private conservation reserves, National Parks and other conservation reserves.

22) Declaration of new conservation reserves or other protected areas, or changes to existing conservation reserves should occur only with the free, prior and informed consent of Traditional Owners and should include negotiations for the most appropriate management approaches for each area.

23) Strategic expansion of protected areas be an integral element of a whole-of-Kimberley conservation and compatible development plan.

References

Australian Government (2005), *PIMC NRMMC*. Accessed 2nd May 2009, http://www.mincos.gov.au

Australian Wildlife Conservancy (2009), Australian Wildlife Conservancy Sanctuaries. Accessed 3rd May 2009, http://www..australianwildlife.org

Burbidge AA, McKenzie NL, Kenneally KF (1991), *Nature conservation reserves in the Kimberley*, Department of Conservation and Land Management, Perth.

Convention on Biological Diversity (2002), *Convention on Biological Diversity - Global Strategy*. Accessed 1st May 2009, http://www.cbd.int/gspc/targets.shtml

Department of Environment and Conservation - Masini R, Sim C, & Simpson C (Marine) and McKenzie N, Start T, Burbidge A, Kenneally K and Burrows N (Terresterial) (2009), *A synthesis of scientific knowledge to support conservation management in the Kimberley region of Western Australia*, Department of Environment and Conservation, Perth.

Faragher D (2009), *Protecting the Kimberley – Development of Kimberley Science and Conservation Strategy*, WA Parliament Perth.

JANIS criteria (1997), Nationally Agreed Criteria for the Establishment of a Comprehensive, Adequate and Representative Reserve System for Forests in Australia. http://www.daff.gov.au/rfa/about/reserve-criteria

Noss RF and Cooperrider AF (1994), *Saving Nature's Legacy: Protecting and Restoring Biodiversity*. Island Press, Washington, D.C.

Phillips N (2006), *Development of genetic and morphological methods for the study of sawfish (Pristidae) populations via analysis of old rostra.* Honours Thesis, Murdoch University, Perth.

Sattler P and Taylor M (2008), *Building Nature's Safety Net.* WWF Australia

Schmiegelow F K A, Cumming SG, Harrison S, Leroux S, Lisgo K, Noss R, and B Olsen B (2006), Conservation Beyond Crisis Management: A Conservation-Matrix Model, BEACONs Discussion Paper No. 1. Available online at http://www.rr.ualberta.ca/research/beacons/publications.htm.

Stevens JD, McAuley RB, Simpfendorfer CA, Pillans R.D (2008), *Spatial distribution and habitat utilisation of sawfish (Pristis spp) in relation to fishing in northern Australia. September 2008* A report to Department of the Environment, Water, Heritage and the Arts, Canberra.

Woinarski. and Hickey P (2008), *Assessment of the adequacy of the conservation reserve system in the Northern Territory*, Australia

Woinarski J, Macke, B, Nix H and Traill, B (2007), *The Nature of Northern Australia; natural values, ecological processes and future prospects.* ANU Press, Canberra.

06 River Protection and Management

Section 6: RIVER PROTECTION AND MANAGEMENT

Summary:

This submission highlights the need for the protection of the natural river and surface water flows, groundwater stores and overall catchment health of the Fitzroy and other rivers in the Kimberley, through the establishment of a comprehensive conservation management strategy and enhanced statutory protection.

Background

The Kimberley's waterways are recognised as internationally important for their biodiversity values. For instance, Kimberley rivers and streams are included as one of WWF's top 200 global ecoregions (WWF, 2009) According to the recently released document, Rivers of the Kimberley (Department of Water and Australian Government 2008):

> *WA's Kimberley region has approximately 30 major rivers and many more tributaries and tidal creeks. Kimberley rivers are unique because of their relatively pristine nature. Unlike rivers in many other parts of Australia and the world, most Kimberley rivers are free flowing, their riverside vegetation is relatively intact, and water is not highly extracted or contaminated. In a few cases entire river catchments remain in an almost natural condition, free from significant human disturbance. Many Kimberley rivers are unique and represent important examples of some of Australia's, and the world's, last remaining natural river ecosystems.*

As highlighted by leading scientists in Northern Australia, hydro-ecological processes are critical to the healthy functioning of country in the north (Woinarski et al., 2007). The relatively intact status of Kimberley rivers needs to be maintained and protected, through improved conservation management as well as formal statutory protection by State legislation where this has the support of Traditional Owners.

Given the ecological and cultural importance of rivers in the Kimberley environment, this submission contends that the Science Synthesis document does not adequately acknowledge or discuss their importance to the region. In particular, there is no reference to in-stream aquatic values of Kimberley rivers.

This submission assumes this emphasis reflects the State Government's approach to separate the management of rivers as the Department of Water's responsibility, whereas vegetation comes under the Department of Environment and Conservation's (DEC) purview. This would confirm why the Synthesis authored by DEC scientists refers to the importance of riparian vegetation, but not the in-stream aquatic values. This submission argues this type of compartmentalised approach will lead to a flawed and non-integrated conservation plan – and ultimately prevent delivery of the most effective conservation management for the region.

The ecological values of Kimberley rivers

The rivers in the Kimberley contain significant natural values, which include:

- The Fitzroy River is a stronghold for the EPBC Act-listed Freshwater Sawfish (Vulnerable). The EPBC Act-listed Northern River Shark (Critically Endangered) has been found in Doctor's Creek in King Sound and more recently in other coastal areas of King Sound (Thorburn et al., 2004; Thorburn et al., 2004b).
- Kimberley rivers are notable for their level of endemic freshwater fish species and the distribution of many species can be highly restricted or is poorly known (Morgan, 2008). There are 49 native species in the Kimberley, with almost 40% endemic to the region. Current research is also showing that a number of Kimberley species, whilst also found in other parts of northern Australia, are genetically distinct in the Kimberley population (e.g. Freshwater Sawfish). There are currently no introduced fish species in major catchments in the Kimberley.
- There are a number of species endemic to the Kimberley that are restricted to one or two river catchments, including:
    - *Craterocephalus helenae* (Drysdale Hardyhead) – Drysdale River
    - *Melanotaenia pygmaea* (Pygmy Rainbowfish) – Prince Regent River
    - *Ambassis sp.* (Fitzroy River Glassfish) – Fitzroy River
    - *Hypseleotris kimberleyensis* (Barnett River Gudgeon) – Fitzroy River (Barnett River, Manning Creek), Calder River
    - *Hypseleotris regalis* (Prince Regent Gudgeon) – Prince Regent River, Roe River
    - *Kimberleyeleotris hutchinsi* (Mitchell Gudgeon) – Mitchell River
    - *Kimberleyeleotris notata* (Drysdale Gudgeon) – Drysdale River

- Morgan (2008) also notes:
  - The Kimberley is a hotspot for terapontids, with almost a third of the Australian representatives of the family found here. Six of the 10 species found within the Kimberley are endemic to the region, including Hannia greenwayi, Hephaestus epirrhinos, Leiopotherapon macrolepis, Syncomistes kimberleyensis, Syncomistes rastellus and Syncomistes trigonicus' .
- A new species of freshwater turtle was recently discovered in the Isdell River (Department of Water and Australian Government, 2008).
- The only bird endemic to the Kimberley, the Black Grasswren, lives along and near the Prince Regent River and the Mitchell River (Department of Water and Australian Government, 2008) and Bachsten Creek near the Charnley River (WWF-Australia: pers. comm.).
- The significant Indigenous cultural values of Kimberley aquatic systems, such as the Fitzroy River and the La Grange groundwater system (Yu, 2000) have also been documented to some extent (see Toussaint et al., 2001).

Current threats to Kimberley river systems

Whilst Kimberley rivers are relatively intact and healthy (with the notable exception of the Ord River), there are a number of threats to this status. Current threats to Kimberley rivers and aquatic fauna include:

- Colonisation of the region by the rapidly advancing Cane Toads (Bufo marinus);
- Other introduced species being released into the Kimberley eg. exotic fish and plant species, via aquaculture or other mechanisms;
- Loss of habitat as a result of other introduced species, in particular damage to river banks from cattle and pigs. Sedimentation is caused by overgrazing and excessive wildfires;
- Infestations of weeds in riparian zones, such as noogoora burr and rubbervine;
- Existing unnatural barriers on Kimberley rivers (i.e Argyle and Kununurra dams on the Ord, Camballin Barrage on the Fitzroy) have been shown to impede or inhibit the migration patterns and population demographics of a number of fish species (see Morgan et al., 2005);
- A strong push for expansion of agricultural and mining practices and high demand to access water from the Kimberley;
- Pollution from pesticide use (particularly relevant to the Ord River and Camballin Floodplain on the Fitzroy River) and aquaculture waste water; and
- Contamination of groundwater and rivers from mine seepage. The prospects of coal mining on the Fitzroy River at Liveringa, bauxite mining on the Mitchell Plateau and uranium mining in a number of catchments, would all be highly detrimental to the health of rivers and aquatic fauna.

Groundwater and surface waters interact to constitute an interdependent system in spring-fed rivers like the Fitzroy. Springs replenish the river and waterholes in the dry season, maintaining flows to allow fish migration for longer periods and providing important habitat for fish, birds and other animals. However, ground and surface water interactions are not well documented in western scientific knowledge (see V and C Semeniuk Research Group, 2004 and Yu, 2000 for documentation of traditional knowledge of water interactions).

Future planning and protection for the river systems

Currently, there is inadequate conservation management of rivers in the Kimberley, with no overarching strategy to guide their long-term health and protection. Given this, there is a need for the development and implementation of a Kimberley Living Rivers Management Strategy that would seek to identify, manage and protect high conservation value rivers and associated aquatic ecosystems in the Kimberley. This strategy should be developed in parallel and closely integrated with the Kimberley Science and Conservation Strategy (or possibly even be a sub-set of it). A greater level of inter-departmental cooperation will certainly be required, along with extensive consultation with and involvement of, Traditional Owners and a broad range of stakeholders. The Northern Territory Government, for instance, has recently released a Living Rivers Strategy for public comment (2009).

Potential rivers which would be considered in a Living Rivers Management Strategy could include the 17 Priority One rivers (near pristine) in the Kimberley and 17 Priority Two rivers (slightly disturbed), almost all in the north of the region. These were identified by the Australian Heritage Commission and the Government of WA in the late 1990s (Water and Rivers Commission, 1997; 1999).

The Department of Water has said: 'A number of tools exist to better protect priority river catchments, including improved management practices, ranger programs, education materials and listing as Indigenous Protected Areas, national parks or Ramsar sites' (Department of Water and Australian Government, 2008b). The WA Government should extend the priority listing to other catchments or sub-catchments where appropriate, including the Fitzroy, Mitchell and Drysdale Rivers, with the informed consent of Traditional Owners.

As part of this strategy, the WA Government will need in some instances to prohibit environmentally damaging activities in listed living river catchments and in other high conservation value aquatic ecosystems, e.g. in-stream mining, dams, introduction of exotic flora and fauna species, clearing of riparian vegetation. One way of doing this would be to link the strategy to the forthcoming Water Resources Management Act, which is currently being drafted. The Act could allow the Minister for Water Resources to declare waterways with high conservation and cultural values, such as the Fitzroy River, to be 'significant', with some activities being prohibited or requiring additional assessment and authorization. As discussed previously, Traditional Owners are central to the development of management strategies for aquatic systems. A process including meaningful engagement and decision making with native title groups would be needed to revise the Act, or further develop the Living Rivers Strategy. The signatories to the submission contend that the Department of Water is currently under funded to properly execute such a process.

Under this strategy, there would also be potential for the establishment of river/catchment management groups or authorities, including Traditional Owners, government and other landholders, again backed by the upcoming Water Resources Management Act or related legislation. The already established Fitzroy River Catchment Management (FitzCAM) Reference Group could provide a working model for the evolution of catchment groups into statutory catchment management authorities.

Recommendations

24) That the State Government develop and implement a Kimberley Living Rivers Management Strategy to protect and manage the natural river, surface and groundwater flows and catchment health of the Fitzroy and all other rivers in the Kimberley, backed by enhanced statutory protection through the proposed Water Resources Management Act.

25) Ensure Native Title and associated Indigenous customary rights to rivers and water are recognised and protected in government legislation and associated regulations.

26) The State Government increase funding for research, planning and management of river systems, including:

- Water planning and environmental flows research programs carried out by government agencies and bodies such as Tropical Rivers and Coastal Knowledge (TRaCK) and the Centre for Fish and Fisheries Research (Murdoch Uni.); and
- Protection of key aquatic habitats and in-stream fauna, such as Freshwater Sawfish habitat in the lower Fitzroy River.

27) The State Government implement a ban on: dams in the Kimberley; inter-basin transfer of water; large-scale native vegetation clearing and large-scale extraction of groundwater or surface water resources

References:

Department of Water (WA) and Australian Government (2008), *Rivers of the Kimberley*. Water Notes, WN35, August 2008. http://portal.water.wa.gov.au/portal/page/portal/WaterQuality/Publications/WaterNotes/Content/WaterNotes_35.pdf.

Department of Water (WA) and Australian Government (2008b), The Kimberley river environment, Water Notes, WN36, August 2008. http://portal.water.wa.gov.au/portal/page/portal/WaterQuality/Publications/WaterNotes/Content/WaterNotes_36.pdf .

Morgan D, Allen M, Bedford P and Horstman M (2002), *Inland Fish Fauna of the Fitzroy River Western Australia, including the Bunuba, Gooniyandi, Ngarinyin, Nyikina and Walmajarri Aboriginal names*. Report to the Natural Heritage Trust. Murdoch University. http://wwwscieng.murdoch.edu.au/centres/fish/REPORTS/Fitzroy Fish report.pdf

Morgan D, Thorburn D, Fenton J, Wallace-Smith H and Goodson S (2005), *Influence of the Camballin Barrage on fish communities in the Fitzroy River, Western Australia*. Murdoch University, Kimberley Land Council, Department of Environment report to Land and Water Australia. http://www.cffr.murdoch.edu.au/reports/Camballin_Barrage_Final_Report.pdf

Morgan D (2008), *Freshwater fishes of the Kimberley region of Western Australia* (Draft). Centre for Fish and Fisheries Research, Murdoch Uni, Perth, April 2008. Contact Dave Morgan for detailed distribution maps of freshwater fish species in the Kimberley.

Northern Territory Government – Department of Nature Resources, Environment, The Arts and Sport (2009), *A discussion paper for Framing A Living River Strategy*. Accessed 28th Mary 2009, www.nt.gov.au/livingrivers.

Thorburn D, Morgan D and Gill H (2004), *Elasmobranches in the Fitzroy River, Western Australia*. Report to the Natural Heritage Trust. http://www.environment.gov.au/coasts/publications/elasmo-wa.html

Thorburn D, Morgan D, Rowlan A, and Gill H (2004b), *The northern river shark (Glyphis sp. C) in Western Australia*. Report to the Natural Heritage Trust. Centre for Fish and Fisheries Research, Murdoch University, February 2004. http://www.environment.gov.au/coasts/publications/glyphis-wa.html

Toussaint S, Sullivan P, Yu S, and Mularty M. (2001), *Fitzroy Valley indigenous cultural values study : a preliminary assessment, Report for Water and Rivers Commission*, University of WA, Nedlands, WA.

V & C Semeniuk Research Group (2004), *Gegully Creek valley tract: landforms, maintenance of water areas, vegetation, history, and global significance*. Report to Walangkarr Jirrkaliy Healthy Country Project, funded by the Kimberley Land Council, Tropical Savanna CRC and Environment Australia, February 2004.

Williams P, Pen L, and Alford J (1999), *Wild Rivers of Western Australia*. Water and Rivers Commission (undertaken for Environment Australia), WA.

Woinarski J, Macko B, Nix H and Traill B (2007), *The Nature of Northern Australia; natural alues, ecological processes and future prospects*. ANU Press, Canberra.

WWF (2009), *WWF's Global 200 WWF*, Accessed 20th May 2009, http://www.worldwildlife.org/science/ecoregions/global200.html

Yu S (2000), *Ngapa Kunangkul: Living Water – Report on the Aboriginal Cultural Values of Groundwater in the La Grange sub-basin*. Prepared by the Centre for Anthropological Research, University of Western Australia, for the Water and Rivers Commission of WA, second edition, May 2000.

07 Heritage Assessment

Section 7: HERITAGE ASSESSMENT

Summary:

The signatories to this submission believe that the Kimberley region and especially the north/west Kimberley marine, coastal and terrestrial environment, is worthy of assessment for National and later World Heritage listing and is likely to qualify for listing under many of the published criteria. Heritage assessment should be undertaken with full involvement and free, prior and informed consent of Traditional Owners.

Background

> *The Kimberley region is a major environmental asset which is internationally regarded for its environmental, cultural and heritage values. To ascertain the nature and extent of the region's natural, cultural and historic heritage values, the Government is currently conducting a National Heritage assessment of the West Kimberley (in addition to the Strategic Assessment being conducted jointly with the Western Australian Government under the Environment Protection and Biodiversity Conservation Act 1999). The Minister for the Environment, Heritage and the Arts has asked the Australian Heritage Council to provide advice to him by June 2010 on the national heritage values of the Kimberley region. This assessment, due for completion in 2010, will form the basis for National heritage nomination under the EPBC Act. It is likely that this work will also form the basis for potential future World heritage nomination.*
>
> *(Kevin Rudd, House of Representatives Hansard, May 2009)*

National Heritage assessment

The National Heritage List has been established to list places of outstanding heritage significance to Australia. It includes natural, historic and Indigenous places that are of outstanding national heritage value to the Australian nation (DEWHA, 2009). The assessment of the Kimberley's natural and cultural heritage values is expected to form the basis of a national heritage nomination under the EPBC Act.

To ensure the on-going protection of a national heritage place, National Heritage listing requires that a management plan be produced that sets out how the heritage values of the site will be protected or conserved (DEWHA, 2009). The recommended development of a comprehensive Kimberley conservation and compatible development plan would be able to draw extensively on the information collated from the heritage assessment process, as well as incorporating any management strategies for identified heritage sites.

It is essential that the Western Australian Government work cooperatively with the Commonwealth Government to support this process and to assist in implementing the outcomes of this process in accordance with Traditional Owners wishes and concerns. Implementation may include a number of avenues to protect natural and cultural values, including World Heritage Listing.

World Heritage assessment

The World Heritage Convention is an international agreement, ratified by the United Nations, which aims to identify and protect the best places on earth – natural and cultural. The Convention and the listing of places is the responsibility of the World Heritage Bureau based in Paris.

Created in 1972, the World Heritage list now comprises 878 places including places as unique and diverse as the wilds of East Africa's Serengeti, the Pyramids of Egypt, the Great Wall of China, the glaciers of Alaska and Kakadu National Park. Australia currently has 17 properties on the World Heritage List, with the 18th – Western Australia's Ningaloo region – currently under consideration (UNESCO, 2009).

There has for many years been discussion of the World Heritage qualities of the Kimberley. For example in 1990 the International Union for the Conservation of Nature and Natural Resources (IUCN) at its General Assembly in Perth passed a resolution which included reference to the world heritage qualities of the Kimberley:

> *18.68 Kimberley Region, Western Australia*
>
> *RECOGNIZING that the Kimberley region of Western Australia is the traditional land of an ancient, living Aboriginal culture, and that the Kimberley landscape is an Aboriginal landscape;*
>
> *RECOGNIZING ALSO that the Kimberley region contains within it large wilderness areas that rank amongst the most beautiful and biologically significant left in the world, including a unique wilderness coastline……*
>
> *RECALLING past recognition by numerous international and national bodies of the potential World Heritage qualities of the Kimberley region, because of its immense cultural and environmental value. (IUCN, 1990)*

The IUCN resolution also noted that conservation strategies, environment protection measures and the conservation estate were far from adequate in the Kimberley and failed to conserve adequately the biodiversity of this unique region and

substantial measures were required to reverse serious environmental degradation (IUCN, 1990). In addition, the resolution highlighted at the time that no satisfactory means had been found for protecting and promoting the interests and aspirations of the Indigenous people of the Kimberley region, particularly with regard to their land aspirations (IUCN, 1990).

Since then, Purnululu National Park in the east Kimberley has been inscribed on the World Heritage list. Purnululu was World Heritage listed for two main features - the area's incredible natural beauty and its outstanding cultural and geological value. The Commonwealth's current Kimberley National Heritage assessment process is expected to identify a range of natural and cultural heritage values in the region that would potentially provide the basis for a successful World Heritage nomination.

To be included on the World Heritage List, sites must be of outstanding universal value and meet at least one out of ten selection criteria. Of the ten criteria seven would appear to apply in the Kimberley. For example, in relation to criteria 10: to contain the most important and significant natural habitats for in-situ conservation of biological diversity, including those containing threatened species of outstanding universal value from the point of view of science or conservation, the status of the north Kimberley as one of the few areas in Australia not to have experienced the loss of native fauna species is remarkable in itself and provides the opportunity to protect in-situ many threatened, rare and endemic mammal, bird, reptile and amphibian species.

World Heritage listing benefits for the Kimberley

Having a property inscribed on the World Heritage list provides international recognition which in turn creates economic and conservation opportunities. Listing also promotes national, state and local responsibilities and obligations to protect and better manage the natural and cultural values of the area. World Heritage listing does not in itself automatically confer any change of tenure, regulation or management on an area, but in Australia the listing of an area does invoke statutory obligations under the Commonwealth EPBC Act (1999).

World Heritage listing would help ensure that both State and Federal governments provide and access adequate funding to ensure better management of the Kimberley's outstanding natural and cultural values. As discussed earlier within this submission, current resourcing levels for the region are inadequate and problems such as weeds, feral animals, fire and poorly regulated industry (tourism, mining, grazing and fishing) continue to degrade the area's values.

World Heritage listing has the potential to generate significant economic and employment opportunities for the Kimberley community. A recent Commonwealth Government report into the economic activity of Australia's World Heritage properties found that Australia's existing World Heritage sites generate $12 billion annually and support over 120,000 jobs nationally (Gillespie Economics, 2008).

World Heritage listing can also promote increased and better-managed tourism opportunities, with accompanying increases in employment and revenue generation. World Heritage listing should not imply, however, that fishing, grazing or traditional land uses could not continue if areas currently subject to these uses were included in the area listed.

Recommendation:

28) The State Government support the current National Heritage assessment of the north/west Kimberley and implement outcomes for protection of natural and cultural heritage, including World Heritage assessment, in accordance with the wishes of Traditional Owners under a process of free, prior and informed consent.

29) The National Heritage assessment and listing process be seen as a complementary process integrated with the development of a comprehensive Kimberley conservation and compatible development plan.

References:

Badman T. *et. Al*. (2008), Outstanding Universal Value Standards for Natural World Heritage - *A Compendium on Standards for Inscriptions of Natural Properties on the World Heritage List*. Accessed 22nd May 2009, http://data.iucn.org/dbtw-wpd/edocs/2008-036.pdf

Department of Environment, Heritage, Water and the Arts (2009), *National heritage*. Accessed 26th May 2009, http://www.environment.gov.au/heritage/about/national/index.html

Gillespie Economics (2008), *Economic Activity of Australia's World Heritage Areas Final Report July 2008*. Gillespie Economics and BDA Group Economics and Environment Report to the Department of the Environment, Water, Heritage and the Arts, Canberra.

House of Representatives Hansard, Australia (2009), *Kimberley Coastal Region*. Question to the Prime Minister Kevin Rudd. Question 622, pg 94. Viewed 1st May 2009, http://www.aph.gov.au/hansard/reps/dailys/dr120509.pdf

The General Assembly of IUCN (1990), *The World Conservation Union*, at its 18th Session in Perth, Australia, 28 November-5 December 1990

United Nations Educational, Scientific and Cultural Organisation (2009), *World Heritage List (Online)*. Accessed 20th May 2009, http://whc.unesco.org/en/list