



29<sup>th</sup> July 2011

Our Ref: 05-014-03-0006 SM

Standing Committee on Climate Change, Environment and the Arts  
House of Representatives  
PO Box 6021  
Parliament House  
CANBERRA ACT 2600

To the Standing Committee

### **INQUIRY INTO AUSTRALIA'S BIODIVERSITY IN A CHANGING CLIMATE**

The Western Australia Local Government Association (the Association) welcomes the Inquiry into Australia's Biodiversity in a Changing Climate, and thanks the Standing Committee for the opportunity to comment on this critical issue.

The Association is pleased that both the Minister for Sustainability, Environment, Water, Population and Communities, the Hon Tony Burke MP, and the Minister for Climate Change and Energy Efficiency, the Hon Greg Combet AM MP, recognise this as a serious issue that requires action on a national, state and local scale.

The Association has not had the opportunity to consult widely with the Local Government sector on this broad issue but has recently consulted on related matters including the Caring for our Country Review and biodiversity legislation in WA.

The attached document is an interim submission and will be considered by the Association Zones and State Council at the next opportunity. Any amendments will be forwarded following the next State Council meeting in October 2011.

If you would like to discuss any issues raised in the submission further please contact Sarah Molloy, Environment Policy Officer on [redacted] or at [redacted]

Yours sincerely,

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**WALGA Submission to the Inquiry into Australia's Biodiversity in a Changing Climate**

The Western Australian Local Government Association (the Association) is the united voice of Local Government in Western Australia. The Association is an independent, membership-based group representing and supporting the work and interests of all 138 Local Governments in Western Australia, plus the Christmas Island and Cocos (Keeling) Island Councils.

The Association provides an essential voice for almost 1,400 elected members and over 12,000 employees of the Local Governments in Western Australia. The Association also provides professional advice and offers services that deliver financial benefits to Local Governments and the communities they serve.

The Association is committed to improving the capacity of WA Local Governments to manage biodiversity in a changing climate. To this end, the Association has endorsed Climate Change and Natural Resource Management Policy Statements and implements the Perth Biodiversity Project with metropolitan and some regional Local Governments.

The Terms of Reference for the Inquiry are extremely broad and therefore this submission is in no way a comprehensive synopsis of the issue presented. The comments provided are suitably targeted to provide the Committee with an overview of how this issue is affecting WA Local Governments.

**Key findings**

- Western Australia's unique biodiversity is threatened by climate change, although the level of threat and expected impacts are relatively unknown
- Ecological linkages are critical to the future survival of many species, allowing them to adapt to a changing climate, however, the building of this connectivity across the landscape has been difficult to implement
- The establishment of a publicly accessible database supported by spatial interface would enable monitoring of connectivity at the landscape or regional scale, thus enabling timely and informed decision making at the local scale
- Further research is needed to determine the impact of a changing climate on biodiversity and the impact on, and adaptation opportunities for, individual species and ecological communities
- Research funding should be provided over the medium – long term to allow for adequate collection of base-line data and monitoring
- The predicted costs for Local Government management of biodiversity in a changing climate are unknown, as values attributed to these assets are difficult to quantify and communicate to the community
- Consideration of climate change, in terms of biodiversity management, adds another level of complexity to Local Government land use planning decision making, as does the lack of scientific information and the varying level of support for climate change action across all levels of government

- Many WA Local Governments lack capacity for climate change mitigation and adaptation and rely on external funding and resourcing to undertake this work
- Cooperation and coordination between levels of government and across government departments is limited and hinders cohesive, consistent and effective management responses
- Management responses need to consider the management of human activities as well as natural landscape approaches
- Western Australia does not have adequate legislative mechanisms in place to protect its biodiversity, let alone for consideration of climate change impacts on these assets
- The unique biodiversity of the southwest of WA, the only international biodiversity hotspot in Australia, does not seem to be adequately recognised by the key Australian Government NRM funding program
- Land use planning is an important tool and management response that can be utilised by Local Government and other levels of government
- The introduction of new adaptive management practices by land managers will require clear communication and possibly technical support
- Ongoing communication and integration of research into evidence-based policy is critically important to ensure research outcomes are understood and adopted by decision-makers and facilitate adaptive management.

### **Terrestrial, marine and freshwater biodiversity in Australia and its territories**

Western Australia has an abundance of biodiversity and is home to some of the most unique flora and fauna on earth. The southwest of WA has been identified as one of the world's biodiversity hotspots: the only international hotspot in Australia and one of only 5 Mediterranean-type hotspots in the world.

The southwest of WA has 2,948 endemic plant species, 3 endemic threatened birds, 6 endemic threatened mammals and 3 endemic threatened amphibians. The southwest region also has the highest concentration of rare and endangered species in Australia<sup>1</sup> including the western swamp turtle, thought to be the most threatened freshwater turtle species in the world. The biodiversity values of the southwest need to be recognised and appropriate levels of funding directed at research and management of this landscape, which is home to a variety of ecosystems, to ensure these values are protected under a changing climate.

Western Australia is geologically ancient, allowing flora and fauna to evolve over time in relative isolation. It encompasses 26 biogeographic regions and has more than 11,500 higher order plant taxa and 4446 taxa of vertebrates including mammals, birds, frogs, reptiles, freshwater and marine fish. New species are still being discovered, especially amongst insect and fungi species.<sup>2</sup> WA's remoteness, poor soils and geological stability have created high levels of endemism and biological diversity.

<sup>1</sup> Conservation International. *Biodiversity Hotspots – Southwest Australia* [ONLINE] Retrieved from <http://www.biodiversityhotspots.org/xp/hotspots/australia/Pages/default.aspx>  
<sup>2</sup> Government of Western Australia (2007). *State of the Environment Report*. Perth, Australia: Government of Western Australia.

Western Australia is also home to eight of the fifteen national biodiversity hotspots. These are:

- North Kimberley
- Hamersley-Pilbara
- Carnarvon Basin
- Geraldton to Shark Bay sand plain
- Mount Lesueur-Eneabba
- Central and Eastern Avon Wheatbelt
- Busselton Augusta
- Fitzgerald River Ravensthorpe

These hotspots were identified in 2003 by the Threatened Species Scientific Committee. Sites were selected based on the number of endemic species and level of future threats and pressures.<sup>3</sup>

The international significance of WA's biodiversity has been recognised through the listing of three World Heritage areas: Shark Bay, Purnululu National Park and most recently the Ningaloo Coast.

There are also 12 Ramsar listed wetlands in the state that support a rich heritage of fauna and flora. There are 120 nationally important wetlands and wetland systems in WA, including tidal mangroves, sand and mudflats, coastal lakes, subterranean aquatic systems, swamps and marshes.<sup>4</sup> Forty eight of WA's major rivers have been identified as 'wild rivers' due to their pristine, near pristine and relatively natural state.<sup>5</sup>

It should also be noted that biodiversity values in a vast area of the State have not been identified and therefore threats and potential protection measures have not been determined.

### **Connectivity between ecosystems and across landscapes that may contribute to biodiversity conservation**

Scientific literature provides evidence of climate induced range shifts for many species. It is suggested that some species will expand their ranges in response to the warming climate, while ranges of restricted specialist species will contract.<sup>6</sup> Landscape configuration or connectivity

<sup>3</sup> Conservation International. *Biodiversity Hotspots – Southwest Australia* [ONLINE] Retrieved from <http://www.biodiversityhotspots.org/xp/hotspots/australia/Pages/default.aspx>

<sup>4</sup> Department of Environment and Conservation (2006) A 100-year Biodiversity Conservation Strategy for Western Australia: Blueprint to the Bicentenary in 2029 (Draft), Perth, Australia: Government of Western Australia

<sup>5</sup> Department of Water (2009) *Wild Rivers in Western Australia*. Water Notes WN37, Perth, Australia: Government of Western Australia

<sup>6</sup> Parmesan C (2006) Ecological and Evolutionary response to recent climate change. *Annual Review of Ecology, Evolution and Systematics* 37, 637-69

Isaac *et al* (2009) Resistance and resilience: quantifying relative extinction risk in diverse assemblage of Australian tropical rainforest vertebrates. *Diversity and Distributions* 15, 280-8

becomes increasingly important at low levels of suitable habitat, with different species disappearing at differing levels of habitat loss<sup>7</sup>.

This has been recognised in key policy and climate change adaptation literature that consider building ecosystem resilience through increasing landscape connectivity to 'give space for nature to self-adapt'.<sup>8</sup>

In WA, the Environmental Protection Authority's policy encourages the establishment of ecological linkages across landscapes, identifying these linkages through the development process.<sup>9</sup> Despite this strong policy support, achieving connectivity through landscape is proving difficult, even in parts of WA where ecological linkages have been identified through a strategic and consistent method.

One of the key issues is that without legislative support, long term security of all portions of the landscape that form a linkage between conservation reserves is difficult, especially in parts of the landscape under pressure from intensive development. If a portion of a landscape that forms part of a linkage does not contain biodiversity features protected by legislation, long-term protection of such an area is nearly impossible if identified as a potential development site. In the absence of legislative support, integrating ecological linkages through regional and local planning frameworks, after considering a full range of land use planning issues, is critical to ensuring long term sustainability of ecological linkages.

To ensure that natural areas retained to connect conservation reserves facilitate movement of various organisms across the landscape, further research is needed in this area. This research should: determine individual species' responses to climate change; identify species that are likely to persist in local areas; identify potential refuge areas; and reveal a greater understanding of how interactions with other threatening processes will affect species' adaptations.

However, it is critical that results of such research are clearly communicated to land managers to allow for adaptive management of natural assets.

In addition, building resilience of those parts of landscape that form ecological linkages through reduction of the effects of existing threats should become a clear priority. This should be reflected in any funding programs and climate change adaptation strategies.

The effectiveness and security of networks of ecological linkages that will be identified as ecological linkages also needs to be monitored at landscape or regional scale through a publicly accessible system, thus enabling timely and informed decision making at local scales.

### **How climate change impacts on biodiversity may flow on to affect human communities and the economy**

Climate change demands both adaptation and mitigation action by governments at all levels. Local Governments must try to foresee the risks, prioritise policy options and plan appropriate and politically acceptable adaptation and mitigation actions on behalf of their communities. As the sphere of government closest to community, Local Government is also the sphere of government most at reputational risk for not adequately fulfilling conservation outcomes. This is

<sup>7</sup> McAlpine *et al* (2006) Testing alternative models for the conservation of koalas in fragmented rural-urban landscapes. *Austral Ecology* 31: 529-544.

<sup>8</sup> Australian Government (2009) *Australia's Biodiversity and Climate Change. Summary for Policy Makers 2009* Canberra, Australia: Australian Government

<sup>9</sup> Environmental Protection Authority (2008) *Guidance Statement No 33: Environmental Guidance for Planning and Development*, EPA, Perth, Australia: Government of Western Australia

particularly prevalent in the climate change space as constituents begin to ask the hard questions of their Councils on how climate change impacts and risks are being addressed.

However, the costs Local Governments might incur to adapt to or develop strategies to address these impacts are inherently difficult to quantify and to communicate. How it might affect the sector's ability to deliver its current suite of services is largely unknown. This is particularly true of the management of biodiversity assets. Whereas infrastructure can be relatively easily 'costed' and the impacts of various adaptation actions quantified, biodiversity assets, which are much less easily valued by virtue of much of their worth being 'inherent' or subjective, and based on community attitudes, tend not to be 'costed' in the same way, and often as a result, are not prescribed a financial value at all when traditional asset management processes are undertaken.

Current literature reveals that beyond cost benefit analysis, which has limited benefits for informing adaptation decision-making, little research at a Local Government level has been conducted that explores approaches for linking prioritisation of mitigation and adaptation strategies with Local Government expenditures and budgetary processes. Encouragingly, some valuable research is currently being undertaken with Local Governments as project leaders / participants through NCCARF and other research bodies, however final outputs won't be available in the immediate future.

Without information on how much Local Governments currently spend on biodiversity protection, and how much these natural assets will be affected by climate change, predicting the level of investment that individual Local Governments will need to make in order to 'protect their patch' is almost impossible. Regardless, consideration of community values and natural asset preservation is going to continue to be Local Government core business. Climate change will only make this task, already complex within current land-use planning and development frameworks, even more difficult and costly.

Local Governments currently deal with complex decision-making processes involving a variety of legal frameworks, state policy pressures, development industry pressures, professional guidelines, and financial and time constraints as well as environmental, political and economic uncertainty. The current scientific information being communicated does not make prioritising and valuing natural areas easier for Local Governments, particularly in light of different state perspectives on (and support for) climate change management - it merely adds an additional pressure to an already complex suite of planning issues.

Costing adaptation and mitigation for biodiversity adaptation is complex and different across regions. It would require every Local Government to undertake its own assessment of its vulnerability to climate change impacts, gaining understanding of its current biodiversity assets and its processes for preserving and protecting those assets. It must be understood that for most Local Governments in WA, this process alone is both costly and likely to require external (consultancy) input, as few Local Governments have internal climate change resources, and fewer still have specific adaptation planning expertise available in house.

Each Local Government will also need to identify the predicted habitat changes and movement of species, as well as the rate of ecosystem recovery following a major disturbance, to adapt

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and also to understand the changes to threatening processes such as fire, weeds and feral animal distribution. These questions need to be addressed through further scientific research: research that is outside the capacity and responsibility of Local Government.

Therefore it is critical that any results of further research conducted by appropriately equipped institutions and agencies are clearly communicated to Local Governments and other land managers to allow for adaptive management. The feasibility of any research recommendations should be tested and adequate support provided to land managers to ensure the adoption of new practices and policy.

### **Strategies to enhance climate change adaptation, including promoting resilience in ecosystems and human communities**

Building resilience of current ecosystems through; maintaining well-functioning ecosystems by minimising existing threats, building the conservation reserve system through formal reserves and off-reserve natural area retention, building connectivity and identifying and protecting refugia, are some of the key strategies recommended by experts to enhance climate change adaptation.<sup>10</sup>

It is critical to maintain a continuous flow of information from current and ongoing research to enable adaptive management at local scales, especially in respect of understanding species that will be expanding their range due to climate change, potentially moving into new areas. Providing land managers access to a central, regional database with spatial interface that would store results of research and monitoring of changes in species distributions, including native and introduced, would be assist with management of these species.

### **Mechanisms to promote the sustainable use of natural resources and ecosystem services in a changing climate**

Part of the dilemma faced by decision-makers on climate change is that the issue is not simply an environmental one. There are many stakeholders that need to be involved, in an integrated manner, in the development of resources for climate change management to ensure a national consistency of approach which couples with locally and regionally applicable outcomes. If a consistent approach is to be created, complete multi-stakeholder consultation and development must be undertaken.

As competition increases for limited resources along with other pressures coming from growing populations, pollution discharges, biodiversity degradation and loss, overuse of freshwater supplies and climate change, policymakers in many other sectors need to take an active interest in how decisions are made with regard to biodiversity management, as well as addressing how

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<sup>10</sup> Commonwealth of Australia (2009) *Australia's Biodiversity and Climate Change. Summary for Policy Makers 2009*. Department of Climate Change. Department of Environment and Conservation (2011) *Biodiversity and Climate Change in Western Australia*. <http://www.dec.wa.gov.au/content/view/full/2870/2289/>

their own decision-making processes impact on the sustainable management of natural resources. This is particularly true of the development and resources industries.

To stimulate the adoption of a more sustainable approach to the preservation, use and development of natural resources, integrated management of climate change impacts on all natural assets will need to be considered by all stakeholders and across all spheres of government. Currently, one prevalent issue is that cooperation and coordination between the spheres, or indeed between even Departments within governments, is limited.

Managing the impacts of climate change on biodiversity will be less about management of components of the ecosystem, and more about the management of human activities and their impacts on the ecosystem. This will need to extend to all departments of government, and will need to find a balance between each department considering its own specific risks and issues, and working together to ensure that findings are communicated across the decision-making frameworks, between spheres of government and to the community.

Biodiversity and ecosystems are integrated resources, and this should be acknowledged within existing governance structures. Upland land use decisions impact on downstream water quality and availability, which in turn affects ecosystem integrity. Given the numerous and complex links between activities that influence and are influenced by the decisions made by all state and federal government agencies, an integrated approach to this management issue is imperative.

Promotion of cross-governmental and cross-jurisdictional collaboration would be one way to ensure that the various economic activities that are driven by various sectors and industries are coordinated at a policy level, and that appropriate management interventions are applied when necessary to ensure appropriate adaptation actions and prevent maladaptation.

Some additional approaches that might foster a collaborative and coordinated approach to biodiversity management might be:

1. The development of operational strategies that create an effective governance framework, including: policy and institutional reforms; cross departmental / governmental stakeholder participation; functional partnerships and networking, capacity development; information and knowledge transfer; ongoing and appropriate funding arrangements; strategy development and implementation; and monitoring and evaluation.

2. The development of operational tools that provide specific best practice such as: coastal vulnerability assessment; stakeholder values analysis; governance review and coordinating arrangements; risk assessment and adaptation planning; appropriate land-use planning frameworks and legal/regulatory instruments (e.g. land-use zoning, protected areas); participatory tools (e.g. negotiation, conflict resolution and arbitration); training and education; economic instruments (e.g. polluter pays / carbon pricing mechanism' environmental user fees); and disaster preparedness / response covering manmade (e.g. oil spills) and natural hazards (e.g. storm surges).

3. The use of adaptive management processes based on the premise that information and knowledge about resource systems and how to manage them are largely uncertain. This



principle is an iterative process of planning, implementing, reviewing and 'rethinking' and it emphasises that an entity must be ready to make appropriate administrative or management adaptations in response to unforeseeable impacts, such as climate change impacts and changing political and management conditions.

4. The prioritisation of integration and coordination to ensure that the policies and management actions of relevant sectors / governments / departments are consistent with one another and that policy and management reforms to facilitate policy and functional integration are based on current scientific best practice.

5. Institutional arrangements which operationalise / mainstream interagency and multi-sectoral coordinating mechanisms that involve concerned stakeholders in planning, implementing, evaluating and continually improving programs for biodiversity management in a changing climate.

6. Developing and implementing national legislation and/or state planning policy, which support new and existing policies that facilitate the effective implementation of appropriate land-use planning mechanisms that can operate in a 'adaptive manner' (i.e. take account of changing information rather than being static and unchangeable). This might include the review of interagency and multi-sectoral institutional arrangements, land-use planning strategies and schemes, registration and licensing systems, market-based / revenue generating instruments covering access and use of resources, monitoring and reporting, information sharing, and enforcement mechanisms.

#### **An assessment of whether current governance arrangements are well placed to deal with the challenges of conserving biodiversity in a changing climate**

There is a legislative vacuum for biodiversity conservation in Western Australia, yet it provides home to some of the most unique biodiversity on Earth. Legislation is limited to the *Wildlife Conservation Act 1950*, *Environmental Protection Act 1986* and *Conservation and Land Management Act 1984*. Legislation is largely focused on protecting specific flora and fauna species, or limiting the amount of native vegetation that can be cleared. There is no legislation that directly protects fauna habitat or biodiversity more generally. Furthermore, there is no state strategy for biodiversity. There is a consensus amongst biodiversity conservationists and policy makers that current State legislation is inadequate to protect WA's biodiversity. The numerous attempts over the past 20 years to reform legislation are evidence that a review is necessary.

Aquatic species are not covered under the *Wildlife Conservation Act 1950*. The *Fish Resources Management Act 1994* provides special protection to species of fish, molluscs and crustaceans. Under this legislation, the taking of species that are threatened by over exploitation may be subject to restrictions or prohibitions. Following strong community support to protect the Weedy Sea Dragon, which is protected in all other states, the state government had to pass new regulations to ensure the sustainable management of this species. There are currently no other mechanisms to protect aquatic species for conservation purposes.

The Western Australian Auditor General released the *Rich and Rare: Conservation of Threatened Species Report 5* in June 2009 that found the Department of Environment and

Conservation (DEC) was not effectively meeting its objectives to protect and recover threatened species.<sup>11</sup> This is in the current context and does not consider future pressures from a changing climate, which is likely to increase the number of threatened species.

The current process for identifying and recovering threatened species is failing to protect the majority of species in WA. Lack of information and a time consuming process mean species are not protected as quickly as possible and listing is usually done as a result of reactive pressures.

There are also vast areas of WA that are unmapped and thus do not have identified Threatened Ecological Communities (TECs) or Weeds of National Significance (WONS). There is inadequate resource allocation, legislative support and government commitment to protect existing threatened species, let alone to protect species from the impacts of a changing climate.

The lack of a coordinated state-wide survey to ensure the status of threatened species is understood, and the lack of review by DEC into its existing survey work for adequacy, is a major concern. Not surprisingly, the 2007 State of the Environment Report found that the listing process in WA is incomplete and under-represents the true number of threatened species.<sup>12</sup> The lack of any subsequent State of the Environment reports prevents the community from having an understanding of the level of biodiversity protection in WA.

Consistency in federal, state and local biodiversity and climate change strategies and policies, and the linkages therein, is important in ensuring national priorities are reflected at the local level. Local Government relies on the support of other levels of government to effectively plan and undertake biodiversity and climate change planning projects, however under the current system this support has been lacking.

Land use planning to effectively manage and plan for biodiversity conservation in a changing climate is perhaps the most effective tool Local Governments have to contribute to biodiversity protection, particularly in the metropolitan area. As this holds statutory status, it is a powerful tool which should be utilised more to protect biodiversity in a changing climate and one that the Association strongly advocates for.

Investment into strategic projects that plan for the future management of natural areas should be provided at the national level, not solely for on-ground, geographically narrow projects as is provided under the Caring for our Country investment program. The opportunity for Local Government to plan for conservation and protection of natural areas under a changing climate is vitally important, however is not currently being realised under current investment programs. In addition, the Program does not support climate change and biodiversity research which is critically important in understanding the issue.

Current governance arrangement across the spheres of government do not represent a cohesive approach to climate change impacts on biodiversity and there is little provision for resources to facilitate embedding climate change vulnerability into these community obligations. This is despite Local Governments being closest to the community, and being largely responsible for public open space provision and maintenance and biodiversity management in local areas..

In order to truly address these impacts, the development of a consistent, robust and transferable framework to evaluate and prioritise greenhouse gas mitigation and climate change

<sup>11</sup>Western Australian Auditor General. (2009). *Rich and Rare: Conservation of Threatened Species Report 5*. Perth, Australia: Government of Western Australia. p 5-6.

<sup>12</sup> Environmental Protection Authority, (2007). *State of the Environment Report 2007*. Perth, Australia: Government of Western Australia. Retrieved from [http://www.soe.wa.gov.au/report/biodiversity.html#toc\\_keyfindings](http://www.soe.wa.gov.au/report/biodiversity.html#toc_keyfindings)

adaptation strategies for Local Government decision-makers would need to be developed, which takes into account the large differences in vulnerability, capacity and resourcing between Local Governments.

Ideally a framework might address a number of specific outcomes, in particular:

- identification and quantification of actions and activities relevant to Local Government biodiversity management that could support mitigation of greenhouse gas emissions and adaptation to climate change;
- development of an economic model to assess the varying impacts within different climate change scenarios on biodiversity including costs and benefits to Local Government from action and inaction;
- prioritisation of strategies, policies and actions given immediate, medium and long-term rankings for climate change impacts on the biodiversity assets of an area; and
- assisting Local Government decision-makers to incorporate the results into the Council's financial, social, and environmental assessment framework.

It is the opinion of the Association that the task of developing a governance framework which would adequately address climate change impacts on biodiversity, and the opportunities inherent in best practice biodiversity management, should not fall to Local Government. More and more, Local Governments are being asked to participate in research projects and to input into the development of research programs. This is a major development in the research community, and a welcome one, however it must be acknowledged that the function of Local Government is not research, nor is it the development of tools which apply to national (or international) issues. If there is an expectation, from the state or federal Government, that Local Governments will deliver specific outcomes on biodiversity protection and preservation, and will have the capacity to meet these needs, then they must also provide relevant tools, resources and governance frameworks which can appropriately facilitate this outcome.

Funding for further research needs to be available for medium and long-term studies. Most of the current research programs, through NNCARF for example, do not provide adequate funding or timelines for long-term monitoring, making it difficult to achieve the intended research outcomes.

### **Mechanisms to enhance community engagement**

Public awareness and information management is paramount in the climate change area. Currently, the federal government's communication practices on climate change issues are neither enhancing its profile nor influencing a move towards consensus on the need to participate in addressing climate change impacts. It is very difficult for champions in Councils, or decision-makers in Local Government to push forward an agenda which is both politically

contentious and complex, is poorly communicated by the federal government, nor supported by the state government.

Putting into operation communication strategies and plans for ensuring that stakeholders are informed of the scope, benefits and threats to their local ecosystems, and the programs and processes that are being developed and implemented to reduce threats and enhance benefits can only enhance the Commonwealth's ability to encourage strategic stakeholder engagement from the Local Government sector.

Communication, coupled with appropriate funding mechanisms designed to facilitate the ongoing management of biodiversity assets in a changing climate can only benefit the federal government, by ensuring that Local Government, a primary delivery mechanism for local biodiversity management, is resourced to manage the impacts of climate change on natural areas. Sustainable financing; institutionalising the measures and means to biodiversity conservation through public funds and market-based sources, would ensure that an adaptive approach can be taken to climate change impacts on biodiversity.

In addition, an important building block of the capacity and ability of Local Governments to adequately engage with their communities is the communication of science and its integration into policy. Specifically, the focus is the input by the scientific community at local, national and regional levels on the scientific basis and rationale for climate change and biodiversity management decisions, and the research into and assessment of adaptation interventions and their ultimate contribution to biodiversity conservation targets and objectives