

WPSQ POLICY: Conservation of biodiversity in Queensland

Scope

This policy establishes the WPSQ's views on major issues relating to biodiversity conservation in Queensland. It sets out goals, objectives and actions for management of Queensland's biodiversity. Biodiversity, or biological diversity, refers to the number and kind of living organisms and ecosystems present in a region.

Context

Australia is one of only two developed nations among seventeen megadiverse countries in the world. Megadiverse countries have very large numbers of plant and animal species and other elements of biodiversity. Unlike many megadiverse countries, Australia has a strong capacity to manage its biodiversity. Australia also has a very high level of endemic and distinctive species among its plants and animals. Australia, for example, is a world centre of marsupial evolution and diversity. Australia therefore is responsible for the conservation of many highly significant species and ecosystems found nowhere else in the world. Australia also is responsible for the conservation of species with an international range, such as dugongs and marine turtles, which are inadequately conserved in neighbouring, less developed countries due to lack of resources.

Queensland has major components of the natural heritage of the nation, including for example, the Great Barrier Reef, tropical rainforests, tropical savannahs and important wetlands such as the Channel Country. Queensland has made significant achievements in nature conservation. Queensland has five world heritage sites and numerous protected areas, has protected large areas of the Great Barrier Reef in marine park conservation zones and has made important gains in protection of threatened species and regulation of the take of wild species under harvesting, such as kangaroos, crocodiles and marine fishes. Queensland has also recognised the interests of Traditional peoples in biodiversity conservation through a range of measures.

However, although Queensland has made significant achievements in nature conservation, there have still been serious declines in Queensland's biodiversity and a failure to deal with this adequately. WPSQ believes that we must ensure that Australia's flora and fauna survives, and is concerned about this decline. Queensland's biodiversity management falls down in a number of areas.

- Queensland currently does not meet the international standard for including at least 15% of the land area in protected areas (based on recommendations developed at sessions of the IUCN World Congress of National Parks). Broad targets like this may be inadequate anyway, as some ecosystems may require much higher representation for adequate functioning.
- Queensland also has many threatened ecosystems and threatened species and has failed to establish useful conservation programs for many of these species.
- In addition, it is widely recognised that biodiversity cannot be conserved on protected areas alone as significant biodiversity also occurs on privately

managed lands, and biodiversity conservation cannot therefore be the sole responsibility of Government. WPSQ believes that current policies of governments for the facilitation of conservation off reserves are inadequate.

- Management of bushland and reserves is another area where deficiencies need to be addressed. To minimise threats to biodiversity, particularly to rare and threatened species and ecosystems, sound management of native bushland and other natural systems is fundamental. Bushland contains essential habitat and is a key component of local ecosystems.

A policy is needed to address these issues.

The complexity of wildlife habitat requirements is shown by the life cycles of highly mobile species. Migratory birds need wetlands to be conserved all along their migrations routes, which may extend for thousands of kilometers, or their survival will be threatened. Fruit bats, feeding on eucalypt blossom, regularly move for hundreds of kilometres up and down the east coast of Australia and need access to large areas of eucalypt forest throughout this range. Conservation of such species requires planning for habitat protection over very large areas and between different jurisdictions, and provision for free movement between areas of habitat.

Concerns over global warming have also led to a realisation that existing reserve design is often highly inadequate. Climate is a major determinant of habitat suitability for many species. When climate changes, existing habitat may become unfavourable and it is believed that many species must migrate to more suitable areas if they are to survive. Reserve design must permit such movement. This requires establishing very large reserves, establishing reserves with diverse habitats, and providing connectivity of habitat between reserves to permit wildlife movement between them. In addition, species living in off-reserve habitat also require suitable habitat connectivity across the landscape if they are to be able to migrate under the impact of changing climate. Climate change may also lead to the onset of virtually intractable problems such as the degradation of the Great Barrier Reef and associated wildlife.

Therefore, conservation strategies based mainly on the provision of large reserves in key locations are likely to be inadequate for wildlife conservation in the face of rapid climate change. Models are required for the design of wildlife conservation systems on a continental scale across millions of hectares. Such mechanisms should not only address the CAR factors (comprehensiveness, adequacy and representativeness), but also include connectivity and resilience to facilitate continuation of ecological processes and adaptation to climate change. Managing biodiversity should become an integral part of all major developments and similar activities.

There are several basic components of a successful biodiversity conservation strategy.

- First, establish large core areas of protected estate. Protected areas must be very large, or have large effective areas (by means of connecting habitat) for effective conservation and for natural ecological functions to continue.
- Second, develop connecting areas between protected estate to permit movement of species and support adaptation to climate change over the long-term. Land uses in connecting areas must be compatible with their nature conservation functions.
- Third, develop strategies to identify and conserve species, ecosystems or other elements of biodiversity not selected under the CAR approach, particularly rare and threatened species, as broad scale reserve selection

procedures often fail to detect these species and include them in protected areas.

- Fourth, restore and rehabilitate degraded areas.
- And finally, undertake appropriate ongoing management, including aspects such as biodiversity monitoring, fire management, predator control, visitor management and management of wild harvests and other commercial use of wildlife.

Queensland has legislation (see p. 10), international obligations, agreements and a framework for biodiversity conservation. However, these approaches need to be strengthened for full effectiveness. A multifaceted approach is needed for an effective biodiversity conservation strategy. In addition, WPSQ believes that essential elements of biodiversity exist in many places and human activities must be consistent with ecosystem functioning and biodiversity conservation as far as possible.

Goals and objectives

Five major goals and the related objectives are listed below.

Establish and manage protected areas

- Increase the area of protected estate to include all regional ecosystems, and rationalise protected area boundaries to ensure viability and cost effective management.
- Improve Protected Area Estate Management, assess estate values (flora, fauna, landscape and ecological processes), and monitor major ecological processes, significant species and ecosystems.
- Ensure Protected Area Estate has adequate representation of freshwater aquatic ecosystems.
- Establish a continuous marine park along the entire Queensland coast.
- Establish suitably sized green zones representative of marine ecosystems to adequately protect the conservation values of marine parks.
- Improve marine park management and survey park values

Protect and manage wildlife species and threatened ecosystems

- Survey the distribution and status of rare and threatened species in non-marine areas and protect them with appropriate management where needed.
- Survey the distribution and status of Queensland endemic flora and fauna in protected areas.
- Survey the distribution and status of significant species in marine areas, including rare and threatened species.
- Map endangered and of concern ecosystems and protect these areas from threats.
- Manage commercial use of native wildlife and pest control actions affecting native wildlife, including nature based tourism and wildlife displays in zoos.
- Monitor and manage biosecurity issues that threaten biodiversity.

Conserve ecosystems and wildlife on private lands and other off-reserve land

- Establish networks of natural habitat linking protected areas, and encourage land uses and management complementary to conservation in these networks.

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- Develop and improve partnerships and incentives such as stewardship payments to protect and maintain biodiversity on private lands.
- Protect significant freshwater wetlands from drainage and modification.

Enhance knowledge of biodiversity conservation and biodiversity planning

- Improve knowledge of flora, fauna and ecosystems, and ecological processes.
- Determine cost effective methods of biodiversity conservation on private lands and other off-reserve lands.
- Develop expertise in addressing problems arising from climate change.

Increase community participation in biodiversity conservation

- Educate the broader community about the values and benefit of biodiversity conservation.
- Implement capacity building in the broader community and increase community participation in biodiversity conservation.

Actions

To achieve the above goals and the objectives, WPSQ advocates and promotes the following actions.

Establish and manage protected areas

Increase the area of the Protected Estate

- Ensure regional ecosystems of a viable size for species survival are adequately represented in the Protected Area Estate by 2020.
- Adopt conservation models that establish links between protected areas (to ensure connectivity and resilience) and that are in accord with the CAR principles (comprehensiveness, adequacy and representativeness).
- Negotiate with Traditional owners for development of conservation agreements over lands under management, ownership or trusteeship.
- Investigate the possibility of converting all stock routes and camping and water reserves to protected area tenure.
- Integrate management of appropriate State and Local Government reserves with the protected area estate to enhance connectivity.
- Amend legislation to ensure regional ecosystems or plant associations can be listed similar to flora or fauna species

Improve protected area estate management, assess values and undertake monitoring

- Establish programs for managing weeds and feral animals on protected estate.
- Provide adequate on-going research funding for evaluating and monitoring estate assets.
- Survey wildlife and ecosystems on protected estate and monitor where necessary.
- Monitor important processes and major ecological changes on protected estate (such as fire regime).
- Ensure that management strategies are sufficiently adaptable to meet changes in social, economic and environmental conditions.

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- Promote long-term resilience in protected areas to minimise the impact of disasters.
- Consider the *National Reserve System* approach and incorporate the *Interim Biogeographic Regionalisation of Australia* framework within management arrangements to facilitate best practice.
- Use appropriate fire regimes to maintain ecosystems and species where appropriate.

Ensure there is adequate representation of freshwater ecosystems in protected area estate

- Ensure representative examples of all freshwater ecosystems and intrinsic biodiversity values are included in Protected Area Estate by 2020.
- Establish protected areas to protect significant freshwater wetlands.

Establish a continuous marine park along the Queensland coast

- Establish a continuous Marine Park along the entire Queensland coast by 2020.
- Develop a Coordinated Conservation Area concept for marine parks and adjacent areas.
- Investigate the feasibility of the use of international protocols and treaties such as RAMSAR or CAMBA to strengthen the case for the gazettal of additional marine parks.

Establish suitably sized green zones in marine parks

- Enlarge and/or establish green zones in marine parks to protect conservation values where research indicates such action is necessary.
- Provide adequate buffer zones around the green zones.
- Minimise adverse human impacts on sea grass and other benthic communities.

Improve marine park management and assess values

- Record wildlife and cultural values associated with marine ecosystems.
- Document indigenous knowledge and integrate it with conventional management practices.
- Record and assess local knowledge and experience.
- Facilitate information exchange among stakeholders.

Protect and manage wildlife species and threatened ecosystems

Survey distribution of rare and threatened species in non-marine areas and protect them with appropriate management where needed.

- Survey the distribution, populations and conservation status of rare and threatened species.
- Develop conservation programs (such as species recovery plans or other appropriate programs) for rare and threatened species.
- Provide for community participation in conservation programs, including participation in recovery programs for rare and threatened species, where appropriate.

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Survey the distribution and status of Queensland endemic flora and fauna in protected areas.

- Survey the distribution, populations and conservation status of endemic flora and fauna in protected areas.

Survey the distribution and status of significant species in marine areas, including rare and threatened species

- Survey the distribution, populations and conservation status of significant marine species including rare and threatened species.
- Develop conservation programs for rare and threatened marine species, such as species recovery plans or other appropriate conservation programs.
- Develop community conservation programs, including participation in recovery programs, for rare and threatened marine species, where appropriate.

Map endangered and of concern ecosystems and protect these areas from threats.

- Survey and map endangered and of concern ecosystems
- Develop conservation programs to protect endangered and of concern ecosystems, including establishing reservations and preparing recovery plans and conservation programs

Manage commercial use of native wildlife and pest control actions affecting native wildlife

- Regulate the commercial use of native wildlife to ensure use is sustainable and that status in the wild is not affected.
- Regulate pest control activities where native wildlife causes problems, ensuring that an acceptable status is maintained.

Monitor and manage biosecurity issues that threaten biodiversity

- Carry out on-going monitoring at local, regional, state, national and international levels.
- Negotiate with neighbouring countries to reduce the risk of undesirable foreign organisms reaching Australia.
- Ensure all government agencies are aware of biosecurity risks.

Conserve ecosystems and wildlife on private lands and other off-reserve land

Establish networks of natural habitat linking protected areas

- Develop plans for establishing habitat connectivity between major conservation reserves where appropriate.
- Negotiate with forestry and mining sectors to ensure development is ecologically sustainable and to help link remnant vegetation areas.
- Repair and rehabilitate previously damaged environmental corridors.
- Legislate to maintain and rehabilitate adequate areas of riparian vegetation along all watercourses.

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- Develop other off-reserve habitat conservation where relevant.

Facilitate partnerships and incentives such as stewardship payments to protect and maintain biodiversity on private lands.

- Support Landcare, Fishcare and Coastcare and other organisations that can influence or assist individual landowners to protect biodiversity.
- Support active stewardship in the form of payments or taxation relief to make private sector land use compatible with biodiversity protection.
- Integrate relevant regional management programs (e.g. catchment management, forestry management, heritage management) to provide maximum benefit for biodiversity conservation.
- Encourage appropriate institutions to address biodiversity issues.
- Commit to stronger bonds and relationships between all levels of government.
- Include as many stakeholders as possible in decision-making processes.

Protect significant freshwater wetlands from drainage and modification

- Ensure human activities do not have a significant impact on wetlands.
- Monitor water quality to ensure the survival of wetlands, mangroves and riparian vegetation.
- Provide sufficient buffer zones to protect wetlands from the impact of nearby developments.
- Monitor environmental water flows and maintain adequate flows.

Enhance knowledge of biodiversity conservation and biodiversity planning

Improve knowledge of flora, fauna and ecosystems, and ecological processes.

- Undertake systematic fauna and flora surveys throughout Queensland and provide the results to land managers and other relevant groups (e.g. conservation groups).
- Upgrade existing vegetation mapping state-wide with emphasis on the coastal lowland regions.
- Assess conservation requirements of flora, fauna and ecosystems.
- Document indigenous knowledge and experience.
- Make sure information flows equally among stakeholders.
- Develop an overall strategic direction for biodiversity research and undertake both long and short-term research and monitoring programs.
- Develop plans and strategies for biodiversity conservation, integrated with broader land use planning.

Determine cost effective methods for biodiversity conservation on private lands and other off-reserve lands

- Determine methods for conservation compatible land uses where conservation and economic use are balanced.
- Present research findings in plain English so that the broader community can readily understand and apply the findings appropriately.
- Advise stakeholders how to utilise given resources most effectively to reduce wastage.

Develop expertise in addressing problems arising from climate change

- Undertake research into the impact of climate change on Protected Area Estate and biodiversity.
- Develop strategies and plans for the conservation of biodiversity under probable climate change outcomes.

Increase community participation in biodiversity conservation

Educate the broader community about the values and benefits of biodiversity conservation.

- Facilitate regular awareness festivals or events in relation to biodiversity conservation.
- Promote biodiversity education for children.
- Ensure environmental subjects are a component of school curricula.
- Educate the community about the principles of conservation and the need for protection of biodiversity, including the Precautionary principle.

Implement capacity building in the broader community and increase community participation in biodiversity conservation

- Provide long-term incentives to the broader community to increase their participation in nature conservation.
- Identify common goals among community groups in order to facilitate further action in addressing conservation problems.
- Consult the local community and relevant indigenous peoples, and include them in the decision-making process.
- Encourage interaction between neighbouring regions and communities so they may support each other and learn from each other.
- Implement extension programs that are relevant to selected areas or regions.

Approved by Council

Date 27/03/2007

ATTACHMENT

Definitions:

Biodiversity

Biodiversity or biological diversity refers to the number and kinds of living organisms that occur in a region and the ecological complexes of which they are a part, including diversity within species and between species, and diversity of ecosystems.

Biodiversity conservation

All the processes and actions of looking after the biodiversity of a place so as to retain its natural significance and including management, sustainable use, protection, maintenance, monitoring and restoration and enhancement of the natural environment.

Connectivity

A term derived to establish the ‘ecological opportunities for movement’ as opposed to the traditional concept of ‘corridors’ (ie narrow continuous links between entities). For instance, connections may be enlarged ‘islands’ of habitat between major natural areas. When these islands are restored to current or recent past vegetation, preferably through natural regrowth, they can create ‘connectivity’ between larger habitat areas.

Invertebrates

Animals that lack a vertebral column or backbone, including sponges, worms, molluscs and arthropods.

Megadiverse

Megadiverse refers to areas with very high levels of biodiversity. It is based on the total number of species in a country and the degree of endemism at the species level and at higher taxonomic levels. The megadiverse countries have less than 10% of the global surface, but support more than 70% of the biological diversity on earth.

Protected Area Estate

As defined under the *Nature Conservation Act* of Queensland, it includes all protected area tenures. These are areas of land dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources, and managed through legal or other effective means.

Resilience

A measure of the ability of an ecosystem to withstand and recover from environmental stresses and perturbations. The healthier an ecosystem is (e.g. absence of exotic grazers, weeds), the greater its resilience — it is dynamic in time but frequently refers to a spatially static environment. With shifting distributions induced by climate change, resilience may also refer to the capacity to shift to other localities. In this action plan the term ‘ecosystem resilience’ is used in both ways.

Vertebrates

Animals that have a spinal cord enclosed in a backbone. Five traditional classes of vertebrates are fish, amphibians, reptiles, birds and mammals, including man.

Relevant Legislation

Legislation affecting biodiversity conservation in Queensland includes the following Acts:

Commonwealth

- *The Environment Protection and Biodiversity Conservation Act 1999*

Queensland

- *The Nature Conservation Act 1992*
- *The Coastal Protection and Management Act 1995*
- *The Marine Parks Act 2004*
- *The Vegetation Management Act 1999*
- *The Environmental Protection Act 1994*
- *The Land Protection Act 2002*
- *The Fisheries Act 1994*
- *The Land Act 1994*
- *The Recreation Areas Management Act 1988*
- *The Integrated Planning Act 1997*

Other Documents

Thackway, R. & Cresswell, I.D. (1995). *The Interim Biogeographic Regionalisation of Australia a framework for setting priorities in the National Reserve System Cooperative Program*. Reserve System Unit, Australian Nature Conservation Agency, Canberra.

Department of the Environment, Sport & Territories (1996). *National Strategy for the Conservation of Australia's Biological Diversity*. Australian Government, Canberra.

Queensland Environmental Protection Agency (2003). *Queensland Biodiversity Policy Framework: sustaining our natural wealth*.

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