



14 December 2016

Hon Steven Miles MP

Minister for Environment and Heritage Protection and

Minister for National Parks and the Great Barrier Reef

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Dear Minister,

**QWaLC's Submission on the Queensland Climate Change Adaptation
Directions Statement**

Queensland Water and Land Carers (QWaLC) is pleased to provide you with its submission on the *Queensland Climate Change Adaptation Directions Statement*.

QWaLC is a peak body for natural resource management volunteers established in 2004. It has a membership of over 320 groups and 30,000 individuals across the state. QWaLC represents Landcare, Coastcare, Rivercare, Waterwatch, Bushcare, Friends of, and similar volunteer organisations dedicated to sustainable land and waterway management, and landscape protection in Queensland.

The collective efforts undertaken by the members of QWaLC contribute to enhancing the climate resilience of ecosystems and communities in Queensland. By working at the forefront of natural resource management and community engagement, QWaLC members are initiating, implementing and promoting climate change actions at the local level.

The *Queensland Climate Change Adaptation Directions Statement* is a positive step forward and QWaLC looks forward to working together with the Queensland Government to plan for and respond to the impacts of climate change.

Should you have any questions regarding our submission, please do not hesitate to contact me on 0407 696 792.

Yours sincerely,

Darryl Ebenezer

Executive Officer





QWaLC
QUEENSLAND WATER & LAND CARERS

Queensland Climate Change Adaptation Directions Statement

A Submission by Queensland Water and Land Carers

December 2016



1. Introduction

The Queensland Climate Change Adaptation Directions Statement ('the Directions Statement') sets out the Queensland Government's approach to mainstreaming climate change adaptation across key sectors. The Directions Statement will inform the development of the Queensland Climate Adaptation Strategy due to be released in 2017.

Queensland Water and Land Carers (QWaLC) is a state Peak Body for Natural Resource Management (NRM) volunteer groups. It engages, supports and builds the capacity of not-for-profit volunteer groups in the NRM sector in Queensland.

The membership of QWaLC consists of approximately 320 community voluntary groups who themselves represent an estimated 30,000 volunteers. QWaLC recognises and acknowledges the term Landcare to include Landcare, Coastcare, Rivercare, Waterwatch, Bushcare, Friends of, and similar organisations founded on hands-on volunteer learning and participation in achieving positive and sustainable environmental outcomes.

Our organisation supports the Natural Resource Management sector by:

- Representing the interests of NRM volunteer groups at all tiers of decision making;
- Networking between NRM volunteer groups to achieve effective links with government and industry;
- Promoting the on-the-ground achievements of NRM groups and individuals;
- Advocating for effective governance to ensure NRM groups remain strong and viable; and
- Providing insurance coverage to protect NRM volunteers and associations within Queensland.

QWaLC's members already contribute enormously to climate change adaptation and mitigation actions. This submission outlines QWaLC's feedback on the Directions Statement.

2. Community Engagement is Key to Climate Change Adaptation

QWaLC members carry out a wide range of on-ground activities that directly contribute to climate change adaptation, including dune and coastal protection, land restoration, biodiversity conservation, water quality monitoring, sustainable agriculture and community education. By working at the grassroots level, QWaLC members are seeing firsthand the impact of climate change on the natural environment.

The Queensland Government can work collaboratively with QWaLC to achieve proactive and full engagement of communities in climate change adaptation. It can do this by tapping into QWaLC's membership network and working with community-based NRM groups in each of the regions in Queensland.

With a deeply-rooted network of like-minded volunteer communities across the state, QWaLC members can mobilise people and resources, share information and bring people together based on a common ethos of Landcare:

- **Community ownership** of activities and solutions to environmental and agricultural land issues, which in turn contribute to emissions reductions and climate adaptation.
- **Voluntary commitment to the environmental cause** where members themselves must agree to participate and be involved in the delivery of NRM activities. The success of the community-based NRM groups can be attributed to a shared vision and understanding of environmental sustainability. The volunteers focus on activities that they are passionate about and believe can make a positive difference to communities.
- **Targeting ‘do-able’ actions.** NRM volunteers are motivated to achieve real impact on the ground. They target actions that are home-grown, locally-driven and are within their resourcing capacity in order to achieve realistic and tangible outcomes.
- **Leveraging local knowledge of landholders and stakeholders who live, experience and work off the land.** NRM groups turn to accumulated knowledge of changes to landscapes and vegetation and recognise the wisdom of Indigenous people to instigate environmental change. Community strengths such as collective knowledge and expertise form integral part of the community development process for QWaLC members.
- **Nurturing collective learning and bottom-up innovation.** Community-based NRM groups use action-learning and trial new assumptions, practices and methods to transform how land and waterways are used and managed.

All of the above elements of Landcare ethos are fundamental to effective community engagement. Without trust, mutual understanding and a shared vision, it is difficult to bring about change needed to enhance adaptive capacity of institutions and communities in Queensland.

QWaLC’s membership network can act as a bridge between the Queensland Government and communities, and to engage community-based NRM groups in the planning, implementation and monitoring of the proposed Climate Adaptation Strategy.

3. Partnership for Climate Change Adaptation

To maximise the use of available resources and to strengthen environmental action, QWaLC collaborates with NRM bodies at all levels. At the national level it works closely with the National Landcare Network and Landcare Australia Limited. At the state-level, QWaLC and our member groups have developed relationships with key organisations in the NRM sector. It continues to work in collaboration with:

- The Queensland Regional Groups Collective;
- Greening Australia;

- Green Cross;
- Queensland Conservation Council
- Conservation Volunteers Australia;
- Keep Queensland Beautiful;
- Local Governments; and
- State Government agencies.

The strength of QWaLC rests with its state-wide network of locally-based volunteer NRM groups. From the Torres Strait Islands in the north to Central Queensland and to the urban centres of South East Queensland, QWaLC's membership covers the whole state.

With the extent of QWaLC's membership coverage, it is strategically positioned to work with the Queensland Government in rolling out the Queensland Adaptation Framework. In particular, it can directly contribute towards the development of sectoral plans for all sectors (especially Biodiversity and ecosystems, Tourism, Business and industry, Agriculture, and Human settlements and infrastructure) by bringing the NRM and community engagement perspectives to the table. It can also draw on its extensive experience partnering with local governments to inform key climate change and NRM issues through the Queensland Climate Resilience Councils.

4. Natural Resource Management is a Prerequisite for Reducing Vulnerability and Enhancing Adaptation

The breadth of on-ground environmental activities undertaken by community-based NRM groups like Landcare in Queensland has expanded in the past two decades. The 1991 Landcare survey conducted by the University of Queensland found weeding and community awareness were the main types of activities delivered by Landcare groups.¹ While these are still a key focus for many Landcare groups in Queensland, most have diversified into a wider range of on-ground activities including wildlife conservation, community education (through the delivery of workshops), water quality monitoring, sustainable agriculture, and dune and coastal protection.²

By carefully managing and restoring Queensland's natural landscapes, waters, wetlands and vegetation, QWaLC members are reducing the vulnerability of ecosystems – environmental and human – to the impacts of climate change. In fact, NRM is a prerequisite for climate change adaptation; areas where there is intensive land use and human activity, pollution and exposure to pests and diseases, are more likely to be under threat by climate change.

For example, the Cairns and Far North Queensland Environment Centre is engaged in marine wildlife conservation. It delivers public awareness programs and advocates for

¹ Holsinger, C., Keith, K. and Chamala, S. (1991) *Working at "Working together for Landcare" - an analysis of the needs of landcare groups in Queensland*. Department of Agriculture, University of

² QWaLC. (2014). *2014 Membership Survey*.

preserving biodiversity of coastal and marine ecosystems.³ The Trinity Inlet Catchment Management Association Incorporated in Cairns carries out revegetation works to local beaches and waterways.⁴ Conservation Volunteers Australia in collaboration with member groups mobilise volunteers across Queensland to conduct environmental research, water quality monitoring, revegetation, community education and removal of invasive weed species.⁵

All of these activities improve terrestrial and coastal ecosystems health, which in turn enhance climate change resilience. It is important to note that community-based NRM groups are *volunteers* – they are struggling to secure funding to deliver environmental projects and facing volunteer burn-out – and without sufficient investment in the NRM volunteer sector, it will be extremely difficult to maintain the continuity and sustainability of their environmental activities.

Together with the 14 Regional NRM organisations, QWaLC and its member groups are delivering practical projects that identify, manage and respond to climate change risks and causes of vulnerability. With dedicated funding, NRM volunteer groups can continue to make positive contributions to the environment and drive bottom-up adaptive responses to climate change in the areas identified in the Directions Statement.

5. Protecting the Queensland Treasure: The Great Barrier Reef

The Great Barrier Reef is the largest coral reef system in the world with significant environmental, cultural, social and economic value to humanity. For decades, Queensland communities have advocated for and protecting the reef through on-ground volunteer activities.

The Great Barrier Reef is still under threat by declining water quality associated with terrestrial runoff from land use changes and discharge of nitrogen, fine sediments and pesticides, loss of habitat from coastal development, outbreaks of crown-of-thorns starfish which kills coral coverage, increase in shipping and fishing, proposed construction of mega coalmining ports and climate change impacts.⁶

Despite having the Reef 2050 Plan in place, the Great Barrier Reef is still under threat and climate change will only exacerbate the deteriorating state of the reef. There is already a strong body of scientific evidence indicating the impact of rising sea temperatures and ocean acidification on the Great Barrier Reef. QWaLC members have reported coral bleaching, beach erosion, degradation of water quality and loss of biodiversity – all within and in the

³ QWaLC. (2015). *The Missing Link: Community Engagement and Citizens Participation in Protecting the Great Barrier Reef*. Discussion Paper on the Reef 2050 Plan.

⁴ *Ibid*

⁵ *Ibid*

⁶ Brodie, J., Waterhouse, J., Schaffelke, B., Kroon, F., Thorburn, P., Rolfe, J., Johnson, J., Fabricius, K., Lewis, S., Devlin, M., Warne, M., McKenzie L. (2013). *2013 Scientific Consensus Statement Land use impacts on Great Barrier Reef water quality and ecosystem condition*. Queensland: Reef Water Quality Protection Secretariat.

areas of the Great Barrier Reef. While the Australian Government has developed the Great Barrier Reef Climate Change Adaptation Strategy and Action Plan 2012-2017, it lacks ownership and engagement of communities and people who love the Great Barrier Reef and rely on it for their existence. With the life of the Strategy and Action Plan coming to an end next year, the **Queensland Climate Adaptation Strategy** provides an opportunity to articulate clearly the need for urgent action to save, protect and enhance the resilience of the Great Barrier Reef. By doing so, the Great Barrier Reef will continue to be an international icon and a national treasure for many generations to come.

The Great Barrier Reef is a significant natural asset that is most vulnerable to climate change. QWaLC's members are championing local response to the impacts of climate change on the Great Barrier Reef. As stewards of the reef, they possess invaluable environmental, cultural, social and economic knowledge of the Great Barrier Reef which are key to developing site-specific adaptation responses to avoid maladaptation and irreversible damage to the reef.

6. Sustainability Education and Green Jobs

Encouraging people of all ages to learn about the principles of ecological sustainability is critical for the state's long term future and in avoiding the depletion of our scarce natural resources. The members of QWaLC are already working with schools in their local communities to educate children about NRM, sustainable planning and climate change. However, environmental education needs to be introduced as a core curriculum in schools to ensure children from a young age gains appreciation for the environment and their connection to it.

The proposed Queensland Climate Adaptation Strategy identifies 'Recognise' as one of the five broad directions to increase understanding among Queenslanders of the climate risks and opportunities, and how to respond to them. This is welcomed by QWaLC as an avenue for embedding sustainability and climate change as part of the education curriculum. Through the Queensland Climate Adaptation Strategy, Queensland children can be educated and equipped about the science of climate change and the practical actions they can take towards climate change adaptation and mitigation. Education is fundamental to effective climate action.

There also needs to be a strong commitment from the Queensland Government for creating environmental jobs that builds on the state's existing industries and expertise in the environmental sector. These include marine science, environmental management, renewable technology, waste management, and water efficiency which are all essential to develop strategies and solutions to the challenges brought about by climate change. Some of QWaLC members are working professionally in these fields and would like to see more jobs of this kind created as part of the growth in the state's knowledge economy.

Sustainability education combined with job creation in the environmental sector can deliver both environmental and economic benefits to Queenslanders. Climate change adaptation relies on innovation, creativity and drive: drive for transformative change.

Greater investment in education, employment and technology linked to climate change action can strengthen the climate-resilience of Queensland.

7. Adaptation Challenges Differ Between Cities and Rural Areas

Climate change vulnerability is a function of exposure, sensitivity and adaptive capacity.⁷ The definition for exposure is a degree to which climate stress upon a particular unit of analysis. Exposure can be to climate variability, extreme events and long-term changes to climate conditions. Sensitivity is the degree to which a system (human, environmental or economic) will be affected by climate change. Sensitivity may be altered by human intervention; socio-economic changes can either increase or reduce sensitivity of a system to climate change effects. Adaptive capacity refers to a system's potential or capability to adjust to the impacts of climate change.

With the above definitions in mind, Queensland cities, regional and rural areas differ in their exposure, sensitivity and adaptive capacity to climate change. For example, the low-lying islands of Saibai and Boigu in the Torres Strait are highly exposed to rising sea levels and coastal flooding. Although communities in the Torres Strait have been advocating for a long time to the federal and state governments on the issue of climate change, there has been very little recognition, support and leadership thus far. The Queensland Climate Adaptation Strategy is a step in the right direction – the Queensland Government can and should recognise the real and immediate threat of climate change to the Torres Strait and the need for enhancing adaptive capacity that draw on traditional knowledge of the land and the sea, as well as on modern science and technology.

2015 was a devastating year for Queensland with more than 85% of the state in drought. Central Queensland was hit the hardest with towns like Mt Isa, Richmond, Charters Towers, Winton, Longreach, Emerald and Roma suffering from lack of rainfall. The rural areas play a critical function as the **agricultural hub and food bowl** of Queensland. The impacts of climate change have the potential to increase the sensitivity of agricultural crops which have flow-on effects to the economy and human health. As the experience from the drought has shown, rural communities can cope with adversity however without targeted support and efforts to increase their response capacity, they will be vulnerable to climate change.

Finally, densely populated urban centres are more exposed and sensitive to heat stress, sea level rise and extreme weather events. High-value assets and critical infrastructure are mostly located in urban centres thus proper planning, maintenance and management is necessary for effective adaptation. Building the adaptive capacity of urban environs and population also brings about different constraints and opportunities compared to rural and regional areas due to the dynamics of existing socio-demographic and economic conditions.

Balancing economic development and environmental protection will be an ongoing challenge for the state. The importance of sustainable land use planning in both urban and rural areas cannot be undermined. Areas with high biodiversity and environmental values need to be protected by buffers and landscape corridors to avoid urban encroachment. Conservation

⁷ Inter-governmental Panel on Climate Change. (2007). *Fourth Assessment Report Working Group II: Impacts, Adaptation and Vulnerability*.

and wilderness areas should also be protected and not compromised by marginal agricultural and extractive/mining activities. Sustainable land use planning, which QWaLC members directly engage in, is an important part of reducing emissions and adaptation response to climate change.

Strengthening the economic, social and governance capacity of rural and regional communities in Queensland is pivotal to effective adaptation. Communities with high economic, social and environmental capital are resilient communities, able to plan for, cope with, respond to and recover from the impacts of climate change. Without these elements, Queensland communities are highly vulnerable to climate change.

8. Conclusion

The Directions Statement is a positive start to having an open and honest dialogue about climate change, an issue avoided by previous state government. Climate change is a cross-cutting challenge as well as an opportunity for all sectors and communities.

QWaLC's response to the key questions in the Directions Statement can be summarised as follows:

1. How should the Queensland Government engage and work with communities, local governments and economic sectors to facilitate planning for climate adaptation?

QWaLC's membership network can act as a bridge between the Queensland Government and communities, and to engage community-based NRM groups in the planning, implementation and monitoring of the proposed Climate Adaptation Strategy.

By having the state-wide reach and experience in NRM, QWaLC can advise and contribute to the development of sectoral plans, especially Biodiversity and ecosystems, Tourism, Business and industry, Agriculture, and Human settlements and infrastructure. It can also bring a strong community voice and perspective to Queensland Climate Resilience Councils.

2. What infrastructure, assets, services and functions are most threatened by climate change?

Tourism, agricultural industries and our coast lines are all threatened by climate change. The Great Barrier Reef is a significant natural asset that is most vulnerable to climate change. QWaLC's members are championing local response to the impacts of climate change on the Great Barrier Reef. As stewards of the reef, they possess invaluable environmental, cultural, social and economic knowledge of the Great Barrier Reef which are key to developing site-specific adaptation responses to avoid maladaptation and irreversible damage to the reef.

3. How can the Queensland Government support effective climate adaptation?

The Queensland Government can support effective climate adaptation by investing in the voluntary community NRM sector which is hugely under-funded. Member groups and their volunteers are operating on very limited resources. This lack of resource is keeping

them away from what they are good at: hands-on delivery of environmental actions that contribute to climate change adaptation.

With dedicated funding, for both on ground activities and paid coordinator support, NRM volunteer groups can continue to make positive contributions to the environment and drive bottom-up adaptive responses to climate change in the areas identified in the Directions Statement.

4. How should the Queensland Government work with your region to promote adaptation action?

The Queensland Government can work directly with QWaLC to engage 320 community landcare groups and 29,000 volunteers. QWaLC as the peak body of community-based NRM groups, regularly undertakes regional planning and consultation activities to understand and represent the interests of Landcare, Coastcare, Rivercare, Waterwatch, Bushcare, Friends of, and similar organisations in Queensland.

5. What are the priority economic sectors with which the Queensland Government should build adaptation partnerships?

The environmental sector is a priority sector that can and will deliver economic benefits to Queensland. Fostering partnerships with the environmental sector and investing in sustainability education, the green and blue economies can deliver both environmental and economic benefits to Queenslanders. Climate change adaptation relies on innovation, creativity and drive: drive for transformative change. Greater investment in education, employment and technology linked to climate change action can strengthen the climate-resilience of Queensland.

6. What are the key climate risks for your community or sector?

The climate risks to the NRM sector and communities are huge. Noting that there are existing environmental stressors such as urbanisation, land degradation, contamination and pollution of our lands, seas and waterways, and over-exploitation of natural resources, climate change places additional stresses to our natural ecosystems.

Unlike social and economic systems, impacts on natural environmental systems are irreversible as no human intervention can replace natural resources to bring back species and habits that are lost. Queensland's terrestrial and marine ecosystems are unique and have value beyond economic figures – this is why NRM and environment should be the priority for the Queensland Government and the Queensland Climate Adaptation Strategy.

7. What climate adaptation activities are already underway in your community or sector?

QWaLC and its member groups are delivering projects that identify, manage and respond to climate change risks and causes of vulnerability. Weeding, wildlife conservation, community education, water quality monitoring, sustainable agriculture, and dune and coastal protection are activities undertaken by community-based NRM groups across the state. NRM activities are a prerequisite to effective climate adaptation.

8. What can be done to build on current climate adaptation?

Strengthening the economic, social and governance capacity of rural and regional communities in Queensland is pivotal to effective adaptation. Communities with high economic, social and environmental capital are resilient communities, able to plan for, cope with, respond to and recover from the impacts of climate change. Without these elements, Queensland communities are highly vulnerable to climate change.

QWaLC is committed to working in partnership with the Queensland Government, local councils, private sector, educational institutions, NRM groups and communities in accelerating efforts towards a climate-resilient and clean-energy future for Queensland. Together we can and we must make this possible.