

# Implementation of the Burnett Mary NRM and Climate Adaptation Plan 2015

## *PROGRAM of ACTIVITIES*

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*This document is a “first step” in terms of reporting implementing activities across the region that address this plan’s targets. It is supported by a spreadsheet that details targets, suggested activities and implemented (funded) programs / projects for each regional asset. Both documents can be readily updated as new information becomes available, to develop a record of target-related actions undertaken, and identify those targets that are NOT supported by investment – the gaps.*

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### **Background**

In 2013 the Burnett Mary Regional Group (BMRG) was contracted by the Australian Government (AG) to review and update the region’s natural resource management plan. The update was to include a comprehensive consideration of the impacts of projected climate change on natural assets, engage regional stakeholders and identify opportunities for landscape storage of carbon. The project was contracted at the end of an AG term characterised by a focus on climate change policy and an unsuccessful attempt to develop an Emissions Trading Scheme. The regime of the replacement AG focused climate change activities on direct actions by proponents, delivered through an Emissions Reduction Fund that used an auction process to determine successful proponents. Simultaneously, the Queensland Government (QG) was withdrawing funding to a wide range of Queensland groups on the basis that it would not fund activities already funded through the AG. It was against this changing policy backdrop that this plan review process was initiated and finalised.

Stakeholder engagement in the project to develop the *Burnett Mary NRM and Climate Adaptation Plan 2015* commenced mid-2014. A Maryborough summit, highlighting the regional impacts of climate change and open to all sectors of the community, was convened and addressed by leading climate scientists and policy makers. Community scenario planning workshops across the region followed the summit, along with the first round of workshops supported by scientists and regional experts. They considered the detailed implications of region-specific climate change projections on the region’s biophysical assets.

The revised plan clearly concentrates on non-statutory activities that will deliver its asset targets. These targets arose from *expert panel* review and updating of the previous plan’s targets, in early 2015. Further, expert panel members suggested target-aligned activities that would help to achieve the plan’s targets. Where confident, they ascribed a priority to the proposed actions.

The draft plan was released for public comment between August and October, 2015. A review of current funded activities, aligned to the targets, was undertaken during this time. The results of that review have informed development of this implementation approach.

### ***BMRG's role in plan implementation***

The *Burnett Mary NRM and Climate Adaptation Plan 2015* is a whole-of-region plan; its strategic approach is designed to **enable** future investment in management of the region's natural assets. The plan's implementation is not the sole responsibility of BMRG. BMRG, through the devolved programs and projects it directly delivers, will retain a significant role in implementation. The region's key catchment management groups – the Burnett Catchment Care Association and the Mary River Catchment Coordinating Committee – as well as other community organisations, such as Coastcare and Landcare groups, and local governments – all play critical roles in implementing the *Burnett Mary NRM and Climate Adaptation Plan 2015*.

BMRG's strategic plan highlights the importance of the revised natural resource management plan to its future directions. Future on-ground BMRG activities, projects and grant applications will be required to demonstrate alignment against the plan's targets and/or identified activities. The targets and activities are incorporated into enQUIRE, the online management system used by BMRG and Queensland's other regional NRM groups to manage programs and projects. This will also assist reporting to funding providers and inform progress toward meeting the plan's targets.

#### **'SNAPSHOT' - BURNETT MARY NRM INVESTMENT HISTORY**

BMRG is primarily funded by government, with occasional project / program funds sourced from other organisations such as Flora and Fauna International. In turn, BMRG "contracts out" to landholders, catchment and/or industry groups to deliver programs and projects. Those same groups also pursue funding for their activities so that, as well as being collaborators for program delivery and lobbying, the groups also compete for available funding.

The nature of government investment in on-ground NRM has changed considerably since regional groups such as BMRG were established. There has been a transition from untied funding allocations to address documented regional priorities, to stipulated outcomes under the AG *Caring for our Country* program, to the current focus on program-specific outcomes, such as improved water quality of Reef lagoon inflows.

The imperative to deliver contracted outcomes, rather than direct activity to identified regional priorities, has resulted in a loss of "big picture" focus for BMRG and the region's other NRM stakeholders. The revised regional NRM plan and this activity reporting framework provide a pragmatic mechanism for regionally assessing how investment in NRM activities relates to the region's assets. Thereafter, it would be possible to refine this approach and develop a strategy for monitoring the effectiveness of investments. Broader engagement of the region's NRM operators is key to the success of such a venture.

## Overview – current plan targets, aligned activities and gaps

As a first step in reviewing current implementation activities, a compilation of all of the plan’s 2020 targets<sup>1</sup> and aligned activities across the dimensions – *planning and governance, on-ground, community capacity building and science* – was prepared using information extracted from the plan’s four Asset Background Reports<sup>2</sup>. Senior BMRG officers identified current and recently completed programs/projects (previous 12 months) that deliver on the targets. These activities extend beyond those directly managed by BMRG. This exercise highlighted facets of the regional natural resource agenda that are well supported by current programs and those that are NOT well supported i.e. THE GAPS. At present there is no systematic mechanism for capturing other funded activities or the voluntary, self-funded efforts of local groups, businesses and individuals instituting on-ground works and delivering initiatives that address, at local-scale, delivery against the plan’s targets.

Tables reflecting information captured using the “Targets and Programs” spreadsheet, for each plan asset, are shown in Appendices 2 – 7. Each displays the asset targets and aligned activities, as well as current programs/projects.

An overview and narrative, specific to each asset, is presented in the following sections.

### Definitions

- Currently addressed:** *list of activities<sup>3</sup> funded now, or in the last 12 months - plus supporting comment (optional)*
- No/Limited current (known) activities:** *list of activities NOT currently or recently funded - plus supporting comment (optional)*
- Priorities – ongoing:** *current activities supported by continuing funding*
- Priorities – emerging:** *high priority unfunded activities for which funding will be sought*

### Aboriginal Cultural Heritage – targets, recommended activities and current initiatives

#### **Currently addressed:**

1.2, 1.3, 2.3, 2.5, 2.6, 3.4, 3.5, 3.6, 4.1, 4.2, 4.4

Over recent years, the focus of BMRG’s indigenous programs has been on strengthening the capacity of Indigenous groups, raising Indigenous awareness to the community and protecting culturally significant sites.

#### **No/Limited current (known) activities:**

1.1, 1.4, 2.1, 2.2, 2.4, 2.7, 3.1, 3.2, 3.3, 4.3, 4.5, 4.6

Further work on strengthening partnerships and recognition of cultural significance with other organisations, particularly councils, is required.

#### **Priorities – ongoing:**

1.2, 2.3, 2.5, 2.6, 3.5, 3.6, 4.1, 4.4

Awareness raising and the protection of cultural sites needs to continue to maintain and enhance the cultural landscape.

#### **Priorities – emerging:**

<sup>1</sup> Appendix 1 details all of the plan’s 2020 targets

<sup>2</sup> See <http://nrmpplan2015.bmrg.org.au/links-and-resources/>

<sup>3</sup> Aligned activities identified in Asset Background Reports and captured in supporting spreadsheet to this document

1.3, 3.1

Building real and meaningful partnerships between Indigenous groups and other organisations (in particular local councils) where both parties are respected and their input valued, is a high priority activity that needs to be addressed.

*Air and Climate – targets, recommended activities and current initiatives*

**Currently addressed:**

**No/Limited current (known) activities:**

**Priorities – ongoing:**

**Priorities – emerging:**

*\*This asset is currently LEAST supported by BMRG-delivered activities. Traditionally air quality and climate-related issues have received scant recognition in regional NRM plans. However, it is anticipated that international attention on atmosphere-related matters, focused by the United Nations Paris Climate Change Conference, will result in greater regional activity levels.*

*Coastal and marine – targets, recommended activities and current initiatives*

**Currently addressed:**

**No/Limited current (known) activities:**

**Priorities – ongoing:**

**Priorities – emerging:**

**WORK IN PROGRESS**

*Freshwater – targets, recommended activities and current initiatives*

|   |
|---|
| <b>Currently addressed:</b>                   |
| <b>No/Limited current (known) activities:</b> |
| <b>Priorities – ongoing:</b>                  |
| <b>Priorities – emerging:</b>                 |

**WORK IN PROGRESS**

*Land and Soils – targets, recommended activities and current initiatives*

|   |
|---|
| <b>Currently addressed:</b>                   |
| <b>No/Limited current (known) activities:</b> |
| <b>Priorities – ongoing:</b>                  |
| <b>Priorities – emerging:</b>                 |

**WORK IN PROGRESS**

*Plants and Animals – targets, recommended activities and current initiatives*

|   |
|---|
| <p><b>Currently addressed:</b></p> <p>1.1, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.10, 3.4, 3.5, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15</p> <p>BMRG’s biodiversity program aims to deliver activities to mitigate threatening processes and the negative effect this is having on threatened species, ecosystems and key supporting habitat.</p> |
| <p><b>No/Limited current (known) activities:</b></p> <p>1.2, 1.3, 1.4, 1.11, 1.12, 2.8, 2.9, 2.11, 2.12, 2.13, 2.14, 2.15, 3.1, 3.2, 3.3, 3.6</p> <p>Promote incentives and/or delivery mechanisms that provide new opportunities to achieve priority conservation outcomes within the region.</p>  |
| <p><b>Priorities – ongoing:</b></p>   |

1.1, 1.5, 1.6, 1.7, 1.8, 1.9, 1.10, 2.1, 2.2, 2.3, 2.4, 2.5, 2.6, 2.7, 2.9, 2.10, 2.14, 2.15, 3.4, 3.5, 3.7, 3.8, 3.9, 3.10, 3.11, 3.12, 3.13, 3.14, 3.15

Continue to support existing and new partnerships to achieve priority conservation outcomes, understand the effectiveness of prescribed actions and define future needs.

**Priorities – emerging:**

1.2, 1.3, 1.4, 1.6, 1.11, 1.12, 2.3, 2.4, 2.5, 2.6, 2.8, 2.9, 2.10, 2.11, 2.12, 2.13, 2.14, 2.15, 3.1, 3.2, 3.3, 3.4

Encourage the use of evidence based planning, resources assessment and prioritisation methods to clearly demonstrate regional gaps and priorities for investment.

### **Future ‘tracking’ of NRM plan implementation**

This document and its supporting spreadsheet provide a means of capturing *current status* high-level information regarding implemented activities across the Burnett Mary region that address the NRM plan’s targets. The current version provides a “first cut”, built largely on the input of key BMRG personnel and reflecting the status of plan-aligned, on-ground works at the end of 2015.

Annually, there will be a review of delivered on-ground works against the plan targets and activities. The spreadsheet of plan targets, recommended activities and funded programs and projects is straightforward approach to capturing relevant information. In turn that data can be used to inform this document’s update, providing an overview of activities and supporting narrative, as well as a growing record of regional activity.

“Asset champion” groups with membership beyond BMRG, and focused on “key players” involved in delivering on-ground activities and research relevant to the assets, will be convened. Members might be drawn from Qld and local government, research institutions, cultural heritage bodies, catchment groups and Landcare / Coastcare groups.

Periodic meetings of such groups, to capture updated information about the status of relevant programs and projects, will also provide important regional networking opportunities for NRM professionals. The demise of the Wide Bay Burnett Environment and Natural Resources Working Group, convened to support development of the Wide Bay Burnett Environment and Natural Resource Management Plan 2012-2031, has left a regional “collaboration void”. Reinstating a similar broad group has great potential for improved co-ordination and more efficient delivery of on-ground natural resource management activities.

Future Australian and Queensland Government arrangements for the delivery of on-ground natural resource management activities are uncertain. Limited current QG funding for Burnett Mary regional NRM works, and a general winding-back of AG investment, are critical concerns at the time of finalising this NRM plan – November, 2015. The steps above constitute a pragmatic approach to retaining a “big picture” region-wide NRM focus and fostering all-important collaboration between those Burnett Mary residents and group members engaged in better management of the region’s natural wealth.

**Appendix 1. Strategic directions and 2020 targets for assets – Burnett Mary NRM and Climate Adaptation Plan 2015**

**Aboriginal Cultural Heritage**

*Strategic direction: Land and sea country values that focus the guardianship of Aboriginal people in the Burnett Mary region are widely acknowledged across the entire community.*

ACH1. The knowledge base of Aboriginal cultural heritage is documented and informs land and sea cultural management plans.

ACH2. Traditional Owners undertake on-ground assessment, protection and management of areas of cultural significance.

ACH3. Regional Councils, State Government agencies and other major land and sea -management agencies recognise and respect cultural heritage values in their urban planning and NRM related processes and have established working relationships with Traditional Owners.

ACH4. The cultural values and caring for country aspirations of regional Aboriginal people are promoted by an increased number of the region's educational, research, tourism and government organisations.

**Air and Climate**

*Strategic direction: The region makes its contribution to mitigation measures that reduce atmospheric carbon releases and address state and national air quality targets.*

A1. The effect of air contaminant levels on the community will be maintained at or below 2015 levels.

A2. Education and extension initiatives that improve the community's understanding of climate change causes, effects and mitigation measures are delivered.

A3. Participation in schemes that encourage bio-sequestration, using the carbon storage capacity of vegetation and soils, will exceed the 2015 baseline.

A4. Regional initiatives to reduce greenhouse gas emissions and atmospheric carbon releases will exceed 2015 levels.

**Coastal and Marine**

*Strategic direction: Coastal, estuarine and marine resources and their processes:*

- *are healthy and resilient*
- *are appreciated for their value and vulnerability to changes in climate and human activity*
- *underpin our community's industries and lifestyles.*

*Physical and biological processes*

CM1. Critical ecological connections (interactions) and processes are identified.

CM2. Surface water and groundwater flows are measured and maintain ecological connections that underpin coastal values.

CM3. Geomorphological processes (including riverine and shoreline) maintain or restore sediment transport that sustains beaches and coastal dunes.

*Coastal, estuarine and marine habitats*

CM4. The extent of all coastal, estuarine and marine benthic habitats will be known and a baseline created.

CM5. The function and value of all coastal, estuarine and marine benthic habitats are improved or maintained.

CM6. There is no net loss of the extent of natural wetlands.

CM7. There is an improvement in the ecological processes and environmental values of natural wetlands.

*Coastal, estuarine and marine plants & animals*

CM8. There is no adverse change in biological diversity in coastal, estuarine and marine species.

CM9. Plants and animals of ecological, economic, conservation or iconic value are identified and, where possible, actions are implemented to improve or sustain their populations.

CM10. Actions identified in the Burnett Mary Water Quality Improvement Plan are implemented to achieve water quality targets to maintain coastal, estuarine and marine ecosystem health.

## **Freshwater**

*Strategic direction: Freshwater ecosystems of the region are healthy; their protection and management is underpinned by an increased public appreciation of their value and vulnerability to changes in landscape features, climate and human activity.*

### *Function*

F1. The ecological function of water dependent ecosystems is improved from the 2015 baseline.

### *Connectivity*

F2. The ecological connectivity within and between freshwater habitats (both aquatic and terrestrial) and the marine interface is improved from the 2015 baseline.

### *Understanding*

F3. The ecological importance and sensitivities of the region's freshwater assets is better understood, more widely appreciated and more thoroughly considered in planning.

### *Water quality*

F4. The quality of riverine, coastal, estuarine and marine waters will improve in order to, at least, meet accepted water quality objectives.

## **Land and Soils**

*Strategic direction: Land condition and soil health within the region will be maintained or improved.*

### *Soil salinity*

LS1. Salinity extent and severity is maintained at the 2015 baseline. MODERATE

### *Soil acidification*

LS2. Soil acidification is maintained at the 2012 baseline for agricultural land. LOW

### *Soil organic matter*

LS3. Soil Organic Matter is maintained at the 2012 baseline for agricultural land. MODERATE

### *Erosion*

LS4. Sheet erosion risk, stream bank erosion risk and gully erosion extent and severity do not exceed 2015 baseline levels. HIGH

### *Acid sulfate soils*

LS5. The extent of acidification caused by the disturbance of Acid Sulfate Soil does not exceed the 2015 baseline. LOW

### *Cropping Land*

LS6. The extent of suitable Cropping Land (i.e. cropping, horticulture and plantation forestry) is maintained at the 2015 baseline. HIGH

### *Grazing Land*

LS7. Ground cover of grazing lands is maintained at the 2015 baseline. HIGH

## **Plants and Animals**

*Strategic direction: Healthy vegetation communities, associated landscape processes and habitat values are maintained across the region.*

### *Extent*

PA1. The extent of the region's vegetation communities will be maintained at the 2013 baseline.




### *Diversity*

PA2. The diversity of vegetation communities will be maintained at 2013[1] levels and opportunities for sustaining species' populations, particularly those that are threatened[2], will be improved.

### *Landscape function*

PA3. Landscape function is enhanced through activities that address threatening processes.



| ABORIGINAL CULTURAL HERITAGE - Land and sea country values that focus the guardianship of Aboriginal people in the Burnett Mary region are widely acknowledged across the entire community. |   |   |  |  |
|---|---|---|--|--|
| Target  | Knowledge   | On-ground action  | Working relationships  | Recognition  |
|   | <b>ACH1.</b> The knowledge base of Aboriginal cultural heritage is documented and informs land and sea cultural management plans.   | <b>ACH2.</b> Traditional Owners undertake on-ground assessment, protection and management of areas of cultural significance.  | <b>ACH3.</b> Regional Councils, State Government agencies and other major land and sea -management agencies recognise and respect cultural heritage values in their urban planning and NRM related processes and have established working relationships with Traditional Owners. | <b>ACH4.</b> The cultural values and caring for country aspirations of regional Aboriginal people are promoted by an increased number of the region’s educational, research, tourism and government organisations.   |
| <b>Recommended activities</b>   | Derived from meetings of Traditional Owners of the Burnett Mary region  |  Priority 1 (highest)   |  Priority 2   |  Priority 3   |
| <u>Planning &amp; Governance</u>  | <b>ACH1.1</b><br>Aboriginal input to local government planning schemes: Communicate key triggers for involvement in Planning Scheme reviews; Identify key representation for planning scheme input through registered Cultural Heritage bodies; Engage Local Government Association of Queensland to encourage increased engagement with Traditional Owners in planning scheme reviews and development.   | <b>ACH 2.1</b><br>Internal group workshop to prioritise specific areas: Supporting the development of management plans for areas of cultural significance. Support participation of TO's in decision making bodies for areas of cultural significance.  | <b>ACH 3.1</b><br>Traditional Owner input to local government planning at an early stage: Develop cultural heritage planning triggers (These may relate to criteria used in predictive modelling). Explore the use of the BMRG cultural database to inform land use planning.    | <b>ACH 4.1</b><br>Cultural awareness education and cultural interpretations. School resource packages developed by TO groups built into school curriculum or activities where possible. Communications plan developed to ensure projects and activities within this regional plan are well known and understood. |
|   | <b>ACH1.2</b><br>Elevate the importance of local knowledge and incorporate in the development assessment process: Ensure/promote effective engagement with Traditional Owner representatives regarding development assessment. This links with ensuring compliance with the ABORIGINAL CULTURAL HERITAGE ACT 2003; Support connecting with appropriate representatives, and access to cultural knowledge. | <b>ACH 2.2</b><br>Cultural Heritage Group / Elders decide on protection and management requirements (e.g. through elders meetings): Protocols for on-ground site protection works developed by individual TO groups or by regional TO group. This could include general agreement for fencing, revegetation or other nrm activities that support the protection of sites. | <b>ACH 3.2</b><br>Change legislation to mandate TO / local Aboriginal input into planning on all levels by State and Local government:<br><br><b>ACH 3.3</b><br>Use the Wide Bay Burnett Planning Advisory Group to promote the interests of Aboriginal people:                  |  |
| <u>On-ground</u>  |   | <b>ACH 2.3</b><br>Support and facilitate investment into Aboriginal heritage rehabilitation projects throughout the region. Prioritisation for areas that have cultural heritage management plans developed.  | <b>ACH 3.4</b><br>On-ground partnership development through the implementation of cultural heritage management plans.  | <b>ACH 4.2</b><br>Interpretive and communications products distributed. BMRG Cultural Database used as a communication and educational tool.   |
| <u>Community capacity building</u>  | <b>ACH 1.3</b><br>Increase capacity of groups to map, record and keep their significant places: Explore options for groups to map and record significant sites. Increase capacity for groups to develop and implement cultural heritage management plans.   | <b>ACH 2.4</b><br>Foster partnerships with other organisations who can assist with the protection of significant sites. This could involve training, governance support, planning assistance or on-ground works.  | <b>ACH 3.5</b><br>Local partnership delivery between Traditional Owners, Aboriginal organisations, NRM organisations/groups, Governments and Registered Training Organisations to build capacity for cultural heritage and nrm activities.                                       | <b>ACH 4.3</b><br>The tourism industry promotes Aboriginal values in its advertising and guiding. Ensure that appropriate local Aboriginal input informs tourism industry promotions:  |
|   |   | <b>ACH 2.5</b><br>Cultural heritage training – traditional knowledge / succession planning activities: Support the development of training programs for Traditional Owners, focusing on Conservation and Land Management - Indigenous Land Management stream.   | <b>ACH 3.6</b><br>Indigenous Awareness training for non-Indigenous groups and individuals.   | <b>ACH 4.4</b><br>Incorporate local and area-specific Aboriginal tribal knowledge into the school curriculum   |

|                |   |  |  |  |
|----------------|---|--|--|--|
|                |   | <b>ACH 2.6</b><br>Explore funding opportunities to assist groups maintain and protect significant sites                      |  | <b>ACH 4.5</b><br>Ensure broad understanding that Aboriginal knowledge is specific to local Aboriginal people and that there are many different tribes and customs |
|                |   |  |  | <b>ACH 4.6</b><br>Source funding to support local Aboriginal people to engage with schools and other organisations.  |
| <u>Science</u> | <b>ACH 1.4</b><br>Develop a strategy about how to use the knowledge: Science investigating the application of TEK to contemporary nrm/land and sea management. Develop a clearer definition and understanding of what TEK is. | <b>ACH 2.7</b><br>Explore the use of predictive modelling to prioritise areas for cultural heritage assessments              |  |  |
|                |   |  |  |  |
|                | NLP: Building Indigenous Capacity- dissemination of relevant planning documents and legislation changes to Indigenous groups  | NLP: Building Indigenous Capacity- cultural heritage site assessment and protection  | NLP: Building Indigenous Capacity- Indigenous Awareness for non-Indigenous organisations     | NLP: Building Indigenous Capacity- Indigenous Awareness for non-Indigenous organisations, including schools  |
|                | NLP: Building Indigenous Capacity- opportunity for groups to obtain funding to develop and implement cultural heritage plans  | All BMRG programs- Indigenous group engagement for activities that fall within category 4 and 5 of the Cultural Heritage Act | NLP: Keeping it Great- Buchulla representatives are members of the stakeholder group         | NLP: Building Indigenous Capacity- intergration of locally relevant tribal knowledge into school cirriculum  |
|                | NLP: collection of Traditional Ecological Knowledge   | BMMR program- On-ground works to maintain grassland balds on the Bunya Mountain  | Reef: System Repairs- Gidarjil representative on the Baffle System Repair Steering Committee | Indigenous Heritage Program- Interpretive signage highlighting cultural significance on the Bunya Mountain   |
|                |   | Indigenous Heritage Protection- Cultural assessment of the Bunya Mountain  |  | Indigenous Heritage Program-FINIA- check with Sue S  |
|                |   | Indigenous Heritage Protection- FINIA work on Fraser- see Sue S  |  | BMMR- Kids on Country program, Interperative tours of the Bunya Mountain, reestablishing the cultural footprint on the Bunya Mountain                              |
|                |   |  |  |  |

AIR & CLIMATE - The region makes its contribution to mitigation measures that reduce atmospheric carbon releases and address state and national air quality targets.







| Target                             | Air contaminants  | Community education  | Carbon storage   | Greenhouse gas release  |
|------------------------------------|---|--|--|---|
|                                    | <b>A1.</b> The effect of air contaminant levels on the community will be maintained at or below 2015 levels.  | <b>A2.</b> Education and extension initiatives that improve the community’s understanding of climate change causes, effects and mitigation measures are delivered.   | <b>A3.</b> Participation in schemes that encourage bio-sequestration, using the carbon storage capacity of vegetation and soils, will exceed the 2015 baseline.                    | <b>A4.</b> Regional initiatives to reduce greenhouse gas emissions and atmospheric carbon releases will exceed 2015 levels.                                   |
| <b>Suggested activities</b>        |  Priority 1 (highest)  |  Priority 2  |  Priority 3   |   |
| <u>Planning &amp; Governance</u>   | <b>A1.1</b><br>Use available local government strategies and projects to address activities adversely impacting air quality, especially those activities below regulatory thresholds. | <b>A2.1</b><br>Ensure that plans and strategies across the region that address matters impacted by climate change are underpinned by current, best-available climate projections and supporting information. | <b>A3.1</b><br>Ensure relevant plans across the region encourage, rather than discourage or are neutral to, activities that increase carbon storage in soils and vegetation.       | <b>A4.1</b><br>Ensure relevant plans across the region encourage, rather than discourage or are neutral to, activities that minimise greenhouse gas releases. |
| <u>On-ground</u>                   | <b>A1.2</b><br>Pursue and deliver incentives programs aimed at reducing air contaminant levels arising from both urban and non-urban activities.                                      | <b>A2.2</b><br>Support the adoption of measures to mitigate the effects of climate change.   | <b>A3.2</b><br>Deliver initiatives, and support landholders engaged in activities, that increase carbon storage in soils and vegetation.   | <b>A4.2</b><br>Support initiatives and landholders engaged in activities that reduce the release of greenhouse gases.   |
| <u>Community capacity building</u> | <b>A1.3</b><br>Deliver community education programs that focus on improved understanding of the adverse health implications of poor air quality.                                      | <b>A2.3</b><br>Deliver activities targeting improved understanding, at all community levels, of the systems that drive weather and climate, and how they are changing.                                       | <b>A3.3</b><br>Raise awareness of the programs available to support projects that increase carbon storage, in soils and vegetation.  | <b>A4.3</b><br>Raise awareness of the programs available to support projects that reduce the release of greenhouse gases.                                     |
| <u>Science</u>                     | <b>A1.4</b><br>Support initiatives to capture local air quality data, to complement regional National Pollutant Inventory data.   | <b>A2.4</b><br>Ensure best-available, current climate change science underpins relevant education materials.   | <b>A3.4</b><br>Encourage and support participation in research projects relating to biosequestration, especially those with potential to better inform region-specific activities. | <b>A4.4</b><br>Encourage and support participation in research projects relating to locally-relevant greenhouse gas abatement strategies.                     |
|                                    |   |  |  |   |
|                                    |   |  |  |   |
| <b>Program</b>                     |   |  | Carbon Farming Solutions Project (Carbon Extension & Outreach)   | Carbon Farming Solutions Project (Carbon Extension & Outreach)  |
|                                    |   |  |  | Pulse Rotation demonstration project, Monto   |
|                                    |   |  |  |   |
|                                    |   |  |  |   |

TABLE TO BE INSERTED

FRESHWATER - Freshwater ecosystems of the region are healthy; their protection and management is underpinned by an increased public appreciation of their value and vulnerability to changes in landscape features, climate and human activity.



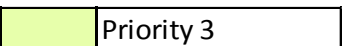
| Target  | Function  | Connectivity  | Understanding  | Water quality   |
|---|---|---|--|---|
|   | <b>F1.</b> The ecological function of water dependent ecosystems is improved from the 2015 baseline.  | <b>F2.</b> The ecological connectivity within and between freshwater habitats (both aquatic and terrestrial) and the marine interface is improved from the 2015 baseline.   | <b>F3.</b> The ecological importance and sensitivities of the region's freshwater assets is better understood, more widely appreciated and more thoroughly considered in planning. | <b>F4.</b> The quality of riverine, coastal, estuarine and marine waters will improve in order to, at least, meet accepted water quality objectives.  |
| <b>Activities recommended by expert panel</b> |  Priority 1 (highest)  |  Priority 2   |  Priority 3   |   |
| <u>Planning &amp; Governance</u>              | <b>F1.1</b><br>Improve recognition in other planning documents  | <b>F2.1</b><br>Enforce existing legislative requirements related to connectivity  | <b>F3.1</b><br>Broaden legislative responses to managing threats to Groundwater Dependent Ecosystems (currently addressed in WRPs under Water Act)                                 | <b>F4.1</b><br>Finalise Water Quality Objectives (draft values in WQIP) for inclusion in EPP Water  |
|   | <b>F1.2</b><br>Encourage other groups to maintain implementation focus for organisations other than BMRG  | <b>F2.3</b><br>Review current legislative arrangements pertaining to riparian maintenance and establish a jurisdiction to co-ordinate administration  | <b>F3.2</b><br>Influence local government to incorporate planning scheme and development assessment measures that better protect sensitive freshwater resources                    |   |
|   | <b>F1.3</b><br>Monitor alignment of activities (by all groups) with plan targets  | <b>F2.4</b><br>Influence LG activities related to connectivity, in particular - planning schemes and development assessment   |  |   |
| <u>On-ground</u>                              | <b>F1.4</b><br>Protect existing WDE's through threat reduction (protecting and enhancing what's there, recreating what's missing) (see MR Threat spp recovery plan) | <b>F2.5</b><br>Implement biopassage strategy - identify priority barriers for fishways / remove identified barriers in areas with barrier assessments. Undertake barrier assessments in areas without an existing assessment that have been prioritised for action. |  | <b>F4.2</b><br>Adopt practices to reduce sediment, pesticide and nutrient loads in targeted reaches (as per WQIP)   |
|   |   | <b>F2.6</b><br>Measure the effectiveness of connectivity improvements   |  |   |
|   |   | <b>F2.7</b><br>Increase the extent of connected riparian vegetation   |  |   |
|   |   | <b>F2.8</b><br>Maintain revegetated areas and structures facilitating biopassage  |  |   |
| <u>Community capacity building</u>            | <b>F1.5</b><br>Deliver awareness activities (field days, education programs, PAG-type meetings, development of ed packages/modules...)                              | <b>F2.9</b><br>Deliver awareness activities (field days, education programs, PAG-type meetings, development of ed packages/modules...)  | <b>F3.3</b><br>Target activities that raise awareness of known threats in relevant communities   | <b>F4.3</b><br>Promote improved understanding of the water quality impacts of European land use change  |
|   | <b>F1.6</b><br>Support existing active groups delivering relevant on-ground activities  | <b>F2.10</b><br>Improve the capacity of key State (DTMR) and local government officers responsible for road construction and maintenance, regarding the importance of biopassage-friendly design  |  | <b>F4.4</b><br>Develop and disseminate education materials that highlight the links between water quality issues and their implications for species, especially those that are 'threatened' |
|   | <b>F1.7</b><br>Improve regional access to and understanding of, Blue Maps   |   |  |   |

|                |  |   |  |  |
|----------------|--|---|--|--|
| <u>Science</u> | <b>F1.8</b><br>Establish baseline data (identifying data gaps and criteria for function) | <b>F2.11</b><br>Establish baseline data, particularly data gaps | <b>F3.4</b><br>Establish baseline data on extent, quality and distribution of GDEs   | <b>F4.5</b><br>Prioritise remediation reaches of streams / catchments based on investment impact and landholder adoption   |
|                | <b>F1.9</b><br>Identify threats and prioritise groundwater dependant ecosystems          |   | <b>F3.5</b><br>Improve knowledge of processes affecting GDEs   | <b>F4.6</b><br>Establish the effectiveness for water quality improvements from changed management practices, in sectors <u>other than</u> grazing and sugar production   |
|                | <b>F1.10</b><br>Maintain and renew Blue Maps   |   | <b>F3.6</b><br>Assess levels of risk for GDEs to identify threats  |  |
|                |  |   | <b>F3.7</b><br>Improve mapping and ground-truthing of GDEs   |  |
| <b>Program</b> | Wetland assessment program (Paddock to Reef), M&E  | System Repair projects (Burrum/Tinana & Baffle Creek)           | Draft EV/WQOs for Baffle, Burnett, Kolan and Elliot catchments review and EPP scheduling (late 2015/early 2016)                        | Reef Rescue program / Reef Programme - cane, grazing, dairy & horticulture: Reef Water Quality Grants and extension to reduce sediment, nitrogen and pesticide loads into the GBR  |
|                | Healthy Waterways (protecting and improving wetland sites)                               | <b>CHECK WITH KIRSTEN &amp; ROD</b>                             | WQIP supportin reports: Freshwater Conceptual Model for Reef Plan Priority Pollutant Effects (incomplete); GBRMPA Ecosystem Calculator | Sugarcane nitrogen and herbicide landholder surveys (Paddock to Reef):<br>- Annual surveys to collect data on changing cultural practices and chemical usage to identify the drivers of these changes & identify opportunities to mitigate the risks of off farm pollution, compatible with more economically efficient and sustainable crop management practices.<br>- Aimed at larger growers, representing 20-40% of area under sugarcane in the region (Bundaberg to Maryborough). |
|                | System Repair projects (Burrum/Tinana & Baffle Creek)                                    |   |  | Pesticide monitoring in the Mary River & Tinana Creek (MRCCC) - <b>NEED TO SPEAK TO FRED ABOUT THIS ONE.</b>   |
|                |  |   |  | System Repair Projects - Burrum/Tinana & Baffle Creek.   |
|                |  |   |  | BMP - Sugarcane and Beef (QG-supported; WQ not primary focus)  |

Appendix 6. Land and Soils – targets, recommended activities and current initiatives

| LAND & SOILS - Land condition and soil health within the region will be maintained or improved. |   |  |  |  |   |  |   |
|---|---|--|--|--|---|--|---|
| Target  | Soil salinity   | Soil acidification   | Soil organic matter  | Erosion  | Acid sulfate soils  | Cropping Land  | Grazing Land  |
|   | LS1. Salinity extent and severity is maintained at the 2015 baseline. <b>MODERATE</b> | LS2. Soil acidification is maintained at the 2012 baseline for agricultural land. <b>LOW</b> | LS3. Soil Organic Matter is maintained at the 2012 baseline for agricultural land. <b>MODERATE</b> | LS4. Sheet erosion risk, stream bank erosion risk and gully erosion extent and severity do not exceed 2015 baseline levels. <b>HIGH</b>  | LS5. The extent of acidification caused by the disturbance of Acid Sulfate Soil does not exceed the 2015 baseline. <b>LOW</b> | LS6. The extent of suitable Cropping Land (i.e. cropping, horticulture and plantation forestry) is maintained at the 2015 baseline. <b>HIGH</b>  | LS7. Ground cover of grazing lands is maintained at the 2015 baseline. <b>HIGH</b>  |
| Activities recommended by expert panel  | Priority 1 (highest)  | Priority 2   | Priority 3   |  |   |  |   |
| Planning & Governance   | LS1.1 Incorporate baseline data into (town) planning                                  | LS2.1 Incorporate baseline data into development of BMP for all                              | LS3.1 Incorporate baseline data into development of BMP  | LS4.1 Incorporate baseline data into development of BMP for  | LS5.1 Incorporate baseline data into (town) planning  | LS6.1 Incorporate baseline data into (town) planning   | LS7.1 Incorporate baseline data into development  |
| On-ground   | LS1.2 Improve ground cover / vegetation and crop and                                  | LS2.2 Implement BMP.   | LS3.2 Implement BMP.   | LS4.2 Implement BMP  | LS5.2 Avoid development or implement BMP.   | LS6.2 Avoid inappropriate development  | LS7.2 Implement BMP and appropriate fire  |
|   | LS1.3 Ensure infrastructure does not exacerbate salinity                              |  |  |  | LS5.3 Ensure infrastructure does not exacerbate ASS   |  |   |
|   |   |  |  |  | LS5.4 Manage groundwater to avoid exposing  |  |   |
| Community capacity building   | LS1.4 Ongoing education re salinity processes and                                     | LS2.3 Ongoing education re soil acidification processes and                                  | LS3.3 Ongoing education re the benefits of   | LS4.3 Ongoing education re soil erosion processes and  | LS5.5 Ongoing education re ASS processes and  |  | LS7.3 Ongoing education re BMP and management   |
|   | LS1.5 Provide / maintain extension services.  | LS2.4 Provide / maintain extension services.   | LS3.4 Provide / maintain extension services.   | LS4.6 Provide / maintain extension services.   | LS5.6 Provide / maintain extension services.  |  | LS7.4 Provide / maintain extension services   |
| Science   | LS1.6 Complete baseline data – salinity extent and                                    | LS2.5 Implement Monitoring & Evaluation program.   | LS3.5 Implement Monitoring & Evaluation program.   | LS4.7 Accumulate existing information into relevant format.  | LS5.7 Complete baseline data – ASS disturbance  | LS6.3 Complete baseline mapping.   | LS7.5 Implement Monitoring & Evaluation program.  |
|   | LS1.7 Implement Monitoring & Evaluation program.                                      |  |  | LS4.8 Implement Monitoring & Evaluation program.   | LS5.8 Implement Monitoring & Evaluation program.  | LS6.4 Implement and M&E  |   |
| Program   |   | Wide Bay Burnett Soil Acidification & Soil Organic Matter project (DNRM)                     | Wide Bay Burnett Soil Acidification & Soil Organic Matter project (DNRM)                           |  |   |  | Grazing BMP in the Burnett Mary Region; across the whole region to:<br>- benchmark performance in relation to agreed practice standards on NRM, animal health, people and business management and welfare and animal production<br>- specific training, extension and practice improvement for individual businesses & action plan for improvement. |
|   |   |  |  | Flood Recovery 2013-2015, Riverbank Stabilisation program<br>- On-ground works addressing the highest risk sites on the Burnett River, Kolan River and Mary Catchment<br>- Addressed highest value agriculture, for bank slumping and scouring issues.<br>- Education & extension through one-on-one property visits, workshops & field days<br>- Developed guidelines for revegetation and bank battering |   | Better Catchments (National Landcare Programme) cropping practice change, one-on-one assistance and extension to farmers on red soils of the South Burnett to assess current farming practices against the Grains BMP framework and make changes that improve soil health and improve sustainability.    | Better Catchments: one-on-one extension for graziers in the inland Burnett (non-Reef priority subcatchments)  |
|   |   |  |  | Streambank Erosion Monitoring and Evaluation Project, Burnett & Kolan Rivers (DNRM)<br>- Facilitate the collection of baseline data for the Land Resources Asset indicator on streambank condition<br>- Establish baseline condition of a suite of riverbank erosion rehabilitation sites (undertaken by BMRG as part of the Flood Recovery program 2013-2015).  |   | State Investment program - cropping grants to assist croppers in the inland Burnett to   | State Investment - grants for graziers to improve practices for   |
|   |   |  |  | State Investment: conserving soils - erosion mitigation through treating gully erosion;<br>- locations in North Burnett, South Burnett and Gympie regions<br>- outcomes to improve landholders knowledge and best management of gully erosion sites & reduce discharge of sediments to significant inland or coastal waterways   |   | State Investment program; cropping demonstration site in the South Burnett (Kingaroy) to showcase strip tillage to reduce tillage operations & demonstrate use of annual soil tests in managing nutrient inputs.<br>- Comprehensive field monitoring, 6 monthly.<br>- Field days to communicate results. | State Investment grazing benchmarking surveys to establish current management practice information for landholders involved in Grazing BMP and BMRG's State Investment funded projects for grazing.   |
|   |   |  |  | State Investment: conserving soils erosion mitigation through extension and property management planning   |   | Property management planning (State Investment) and cropping surveys to benchmark to establish current management practice information.  | Property management planning with graziers (State Investment)   |
|   |   |  |  | Catchment scale gully erosion mapping in Queensland - Reef catchments (DNRM/DSITI in progress)   |   | Soil and Land Resource assessment activities capturing agricultural land class information in data gap areas of the WBB.   | Soil and Land Resource assessment activities capturing agricultural land class information in data gap areas of the WBB.  |
|   |   |  |  |  |   |  | State Investment: Grazing demonstration site, South Burnett:<br>-   |

PLANTS & ANIMALS - Healthy vegetation communities, associated landscape processes and habitat values are maintained across the region.

| Target                                 | Extent   | Diversity  | Landscape function  |
|--|--|--|---|
|  | PA1. The extent of the region's vegetation communities will be maintained at the 2013 baseline.  | PA2. The diversity of vegetation communities will be maintained at 2013 <sup>[1]</sup> levels and opportunities for sustaining species populations, particularly those that are threatened <sup>[2]</sup> will be improved.                              | PA3. Landscape function is enhanced through activities that address threatening processes.  |
| Activities recommended by expert panel |  Priority 1 (highest)   |  Priority 2   |  Priority 3  |
| Planning & Governance                  | PA1.1<br>Promote the use of current and relevant spatial datasets such as species data, vegetation mapping, wetlands mapping, and condition based assessment e.g. biodiversity planning assessment.      | PA2.1<br>Provide best-available advice to planning and policy reviews related to the management of terrestrial ecosystem and biodiversity.   | PA3.1<br>Ensure future planning and related actions are informed by a clear understanding of ecosystem condition and threatening processes.   |
| -                                      | PA1.2<br>Support activities that increase compliance and enforcement of existing regulations, e.g. through surveys of high value regrowth areas and promotion of the value of these areas.               | PA2.2<br>Promote and use computer based decision support tools to provide an unbiased prioritisation method for regional investment.   | PA3.2<br>Work with other NRM groups to develop projects across regional boundaries to provide consistency and improved outcomes.  |
| -                                      | PA1.3<br>Provide best-available advice to all planning processes that potentially impact the ecological connectivity of terrestrial environments.  | PA2.3<br>Establish a list of scheduled and significant regional species, considering the Back on Track prioritisation process, to target research funding opportunities.   | PA3.3<br>Promote connectivity and function through local corridors and retention of vegetation (including regrowth) for maintained or improved landscape function.                  |
| -                                      | PA1.4<br>Support local government to address identified threatened and/or significant environmental values in planning schemes and other strategic land use documents.                                   |  |   |
| On-ground                              | PA1.5<br>Encourage the retention of high value regrowth and support planting projects in priority areas, identified in broader assessments, e.g. biodiversity planning assessments, corridor studies,... | PA2.4<br>Establish a baseline and associated method required for monitoring terrestrial biodiversity, e.g. significant vegetation communities, threatened species and ecosystems.  | PA3.4<br>Undertake field based activities to determine the actual level of threat to biodiversity and use this to inform future planning and prioritisation of resource investment. |
| -                                      | PA1.6<br>Support projects and data collection that improve Regional Ecosystem mapping at the local scale.  | PA2.5<br>Address data gaps, particularly for threatened and/or significant species through "ground truthing" activities to improve existing data and knowledge. This includes confirmation of probable habitat mapping and actual threatening processes. | PA3.5<br>Compile existing data sets to establish a baselines to maintain ecological connectivity.   |
| -                                      |  | PA2.6<br>Promote on-ground management techniques aimed at maintaining biodiversity values, including connectivity and condition of priority Broad Vegetation Groups.   | PA3.6<br>Deliver programs to mitigate threatening processes identified as having an impact on biodiversity values. Program to be developed irrespective of tenure or jurisdiction.  |



|                                    |  |   |  |
|------------------------------------|--|---|--|
| -                                  |  |   | <b>PA3.7</b><br>Support landholders to understand relevant legislation and to further adopt industry Best Management Practice.   |
| <u>Community capacity building</u> | <b>PA1.7</b><br>Support and build the capacity of community groups and relevant organisations to deliver on-ground biodiversity activities.  | <b>PA2.7</b><br>Develop and deliver awareness raising activities that target the region's threatened species and ecosystems e.g. school "sponsorship" of high value bushland patches.                   | <b>PA3.8</b><br>Promote better understanding of the nature of threatening processes and this effects biodiversity or landscape function - through delivery of workshops, web portals and other mechanisms. |
| -                                  | <b>PA1.8</b><br>Increase community and land manager understanding of the biodiversity assets that occur on their properties, in the region and across jurisdictions e.g. rural fire brigades, utility providers, other land management agencies... | <b>PA2.8</b><br>Facilitate training for groups and individuals in survey techniques and data upload to recognised databases such as WildNet (species records), Wetland Info and Koala Tracker.          | <b>PA3.9</b><br>Improve stakeholder understanding by delivering workshops and using other mechanisms such as property management planning for biodiversity outcomes.                                       |
| <u>Science</u>                     | <b>PA1.9</b><br>Maintain and update spatial datasets, e.g. biodiversity planning assessments, regional ecosystems and Queensland wetlands.   | <b>PA2.9</b><br>Improve spatial data reliability through groundtruthing (targeted assessment using standard methods) and other activities that confirm species/communities presence and /or viability.  | <b>PA3.10</b><br>Develop and maintain an inventory of threatening processes, specific to the Burnett Mary region.  |
|                                    | <b>PA1.10</b><br>Continue to streamline data sharing arrangements for spatial information.   | <b>PA2.10</b><br>Develop management guides for specific Broad Vegetation Groups, e.g. preferred burning regimes suited to enhancing identified component species, as well as entire ecosystems.         | <b>PA3.11</b><br>Review codes of practice, BMP statements and biodiversity-related management recommendations to ensure they reflect current evidence-based findings.                                      |
|                                    | <b>PA1.11</b><br>Support projects that identify or provide new insight into the projected vulnerability of ecosystems to threatening process under a changing climate e.g. grazing, fire, weeds.   | <b>PA2.11</b><br>Revise regional biodiversity planning assessments to ensure most recent information is captured and that recommendations are evidence-based.   | <b>PA3.12</b><br>Support the development, review and implementation of ecosystem, single and multi species recovery plans and associated recommendations.  |
|                                    | <b>PA1.12</b><br>Identify vulnerability thresholds for terrestrial asset groups with the aim of defining areas of greatest risk (within and between assets).   | <b>PA2.12</b><br>Promote and implement projects that aim to identify species-level response to fire regime and how this relates to life history response, long term persistence and/or extinction risk. | <b>PA3.13</b><br>Promote and support projects that aim to identify ecosystem functional response to threatening processes under a changing climate.  |
|                                    |  | <b>PA2.13</b><br>Promote and implement projects that aim to identify ecosystem level response to fire regime and how this relates to species and supporting habitat persistence.                        | <b>PA3.14</b><br>Revise the 'vulnerability assessment' method used within this plan to integrate new data and improve the knowledge of the potential risk to target assets.                                |
|                                    |  | <b>PA2.14</b><br>Identify species and ecosystems that are not listed as threatened but are either significant, or at threat at the regional scale.  | <b>PA3.15</b><br>Model regional fragmentation/connectivity to identify priority areas for investment (i.e. retain and promote regeneration, biodiverse plantings, avoid deforestation) to meet PA3.        |
|                                    |  | <b>PA2.15</b><br>Establish a diversity baseline consistent with the prioritisation method used to assess the climate change vulnerability of the region's BVGs.   |  |

|                       |   |  |  |
|-----------------------|---|--|--|
| <p><b>Program</b></p> | <p>Reef System Repair: riparian/wetland biodiverse plantings, riparian buffer width increase</p> <p>20 million Trees Wedgewood, Tinana Creek riparian rainforest restoration</p> <p>State wetlands: Estuarine wetland restoration</p> | <p>Healthy Habitats: improved fire management, vegetation surveys, targeted flora and fauna surveys / monitoring, threatened plant species propagation / genetics / reintroduction</p> <p>Keeping it Great: Water mouse surveys Great Sandy Region, shorebird surveys Ramsar site</p> <p>Back on Track (State Gov): priority species conservation activities</p> | <p>Healthy Habitats: Public access management coastal sites, improved fire management, pest species control/mgmt.</p> <p>Keeping it Great: public access mgmt. Ramsar wetland, pest species control/mgmt.</p> <p>Reef System Repair: connectivity maintenance/restoration, buffer maintenance, sediment reduction</p> <p>State wetlands: stock exclusion fencing from wetlands</p> <p>Reef System Repair: pest species control/mgmt., stock exclusion fencing riparian/wetlands</p> <p>Source to Sea and Reducing Threats to GSS: Aquatic fauna biopassage restoration</p> |
|                       |   |  | <p>Flood Recovery (2013) weed management:<br/> - Chemical management of weeds in the North Burnett and Bundaberg Regional Councils for: Giant Rat's Tail, Parthenium, Cat's Claw Creeper, Madeira Vine, Hymenachne, Rubber Vine, Salvinia &amp; water hyacinth. - - Established biocontrol facilities and releases for Salvinia, Cat's Claw Creeper and Parthenium (North Burnett &amp; Bundaberg).</p>  |
|                       |   |  | <p>State investment program - Invasive species - weeds &amp; pests - FOR LYNDA TO COMPLETE.</p>  |