



# Northern Agricultural Region NRM Strategy 2015 – 2020

Aspirations, Goals and Strategic Actions

Supporting people to support the natural environment



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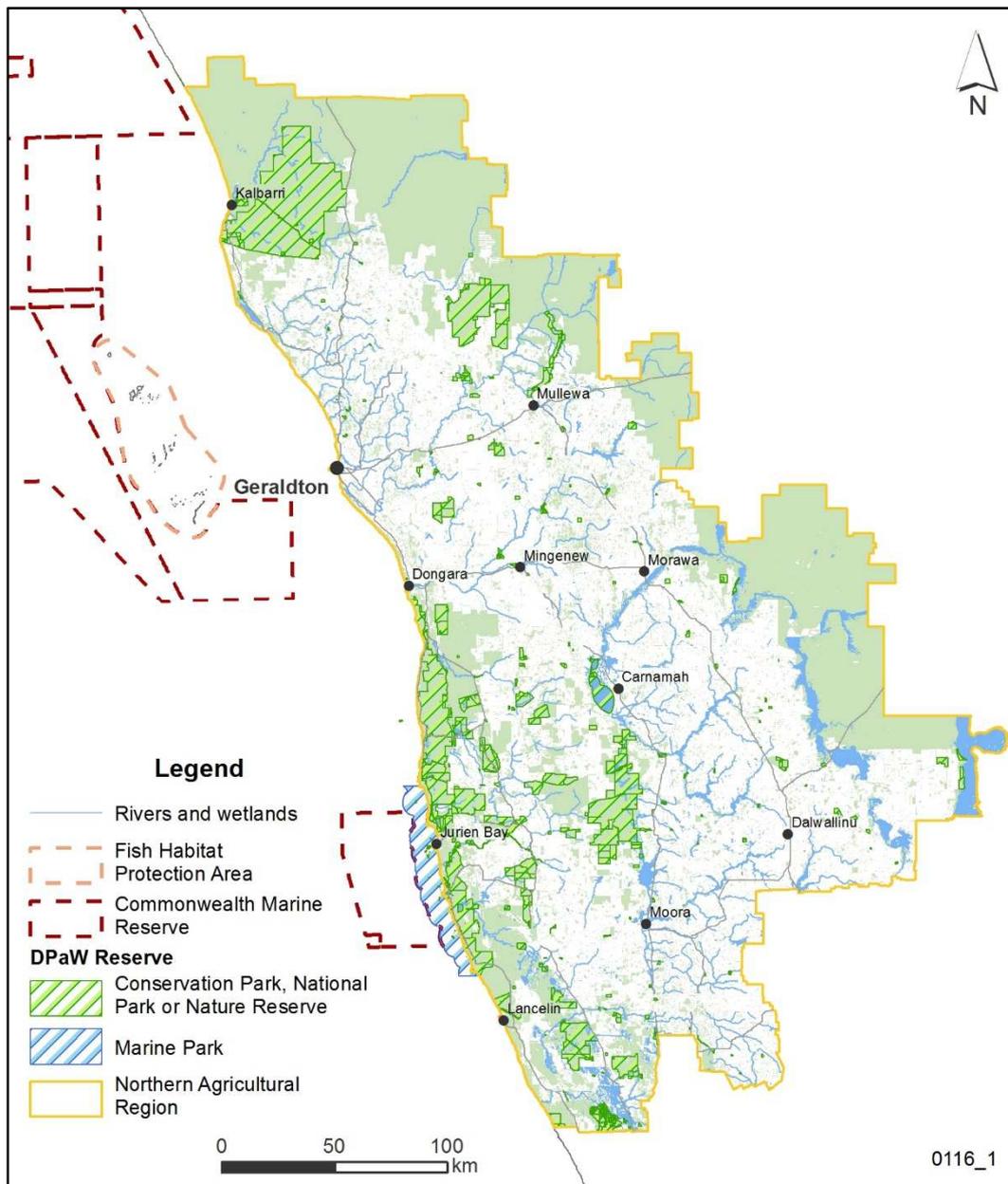
# 1. Background

The Northern Agricultural Catchments Council (NACC) is one of Australia's 56 regional natural resource management (NRM) organisations working to accomplish nation-wide management, restoration and protection of Australia's natural environment, by addressing national environmental priorities at the regional level.

NACC delivers activities and programs in combination with community groups, business and industry, non-government organisations, and all levels of government to conserve and enhance natural assets and advance sustainable outcomes in the region.

## 1.1 Regional Overview

NACC is a representative group of the catchments in the Northern Agricultural Region (NAR) of Western Australia, a unique area which encompasses over 7.5 million hectares, stretching across valuable agricultural land and environmental assets.



## 1.2 Project Overview

Along with the other regional NRM organisations around Australia, NACC received funding in 2012 under Stream 1 of the Federal Government's NRM Planning for Climate Change Fund to update the regional NRM strategy with respect to climate change.

The updated regional strategy has been presented as an interactive website called NARvis or the Northern Agricultural Region Vision. NARvis has been designed as a tool for all stakeholders in the region to identify and prioritise NRM investment, and to promote collaboration across all levels

The goals and regional aspirations identified in NARvis have been drawn from the extensive research and effort that went into developing the previous 2005 Strategy. These goals were refined with input from state agency and subject matter experts, workshopped through a series of community events, and the draft outcomes presented in this document.

One of the main differences from the previous strategy is that the regional goals are grouped under aspirations rather than by theme (water, land, biodiversity etc.), as it was felt that landscape scale benefits were more likely to be achieved using this framework.

## 2. Regional Aspirations, Goals and Strategies

There are seven aspirations that have been described for the Northern Agricultural Region, which are long term goals, or a vision of how the community would like the region to be in fifty years' time, for example. The goals are medium term (about five years) which are statements about what we as a regional community hope to achieve, while the strategies are shorter term actions that contribute to achieving these goals.

These aspirations, goals and associated strategic actions are presented as per the format below:

Aspiration	
1.	Goal 1
2.	Goal 2

- Strategic actions

## A. Production systems in the NAR are resilient\*, diverse and proactively managed utilising environmentally sensitive practices.\*Economically, environmentally and socially

1. All agricultural land managers are undertaking sustainable land use practices by 2020.
2. The area of cleared agricultural land (approx. 4 000 000 ha) managed using sustainable land use practices increases by 20 000 ha per year for the five years to 2020.  
  
Sustainable management includes whole farm management of the following issues:
 

<ul style="list-style-type: none"> <li>- Wind erosion</li> <li>- Salinity</li> <li>- Non-wetting soils</li> <li>- Acidity</li> <li>- Pests, weeds and disease</li> </ul>	<ul style="list-style-type: none"> <li>- Water erosion</li> <li>- Surface water quality</li> <li>- Soil compaction</li> <li>- Soil organic carbon</li> <li>- Water use efficiency</li> </ul>
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- Develop and implement programs to build community skills and capacity in sustainable land use management, including the capture, documentation and dissemination of local and expert knowledge on appropriate practices.
  - Promote local success stories.
  - Identify how sustainable practices can increase food quality.
  - Reduce financial risk exposure through sustainable land use.
  - Develop and promote appropriate technology, tools and practices for sustainable land use management.
  - Incorporate sustainable land use management in school curriculums.

## B. Biodiversity and ecosystem integrity are maintained and improved at a landscape scale.

1. An additional 50 000 ha of high conservation value native vegetation (not on existing reserves) protected by 2020\*
2. Appropriate fire regimes for biodiversity conservation adopted and maintained in areas of native vegetation by 2020.
3. Populations of all threatened plants, animals and ecological communities are maintained or increased\*\*
4. 10 000 ha of revegetation\*\*\* undertaken in the NAR by 2020.
5. 500 ha of coastal and island vegetation protected and enhanced\*\*\*\* by 2020.
6. Conservation of coastal, marine and estuarine biodiversity ecosystem function, including fish stocks, in a changing environment.
7. Reduction of marine debris.

\* Native vegetation in priority landscapes, with listed species and threatened ecological communities (TECs) particularly in riparian vegetation. Protected as per International Union for Conservation of Nature (IUCN)<sup>1</sup> guidelines, a ten year management agreement, covenant, etc.

<sup>1</sup>Dudley, N. (Editor) (2008). Guidelines for Applying Protected Area Management Categories. Gland, Switzerland: IUCN. x + 86pp. WITH Stolton, S., P. Shadie and N. Dudley (2013). IUCN WCPA Best

\*\* Includes TEC, priority ecological communities (PECs), etc., State and Commonwealth Government listed species.

\*\*\* Consider: connectivity; endemic species; buffering; climate resilient species, etc. Includes protection for both biodiversity and carbon capture (preferably both).

\*\*\*\* E.g. infill planting, stabilisation, invasive species control, etc.

### **Populations of all threatened plants, animals and ecological communities are maintained or increased.**

- Facilitate the planning and implementation of priority actions for threatened species across all regional stakeholders.
- Improve knowledge about species for which conservation status is inadequate.
- Identify and undertake conservation activities for at least five threatened species.

### **10 000 ha of revegetation undertaken in the NAR by 2020.**

- Undertake research into revegetation techniques including provenance, climate change resilience, etc.
- Identify, promote and undertake strategic protection and revegetation works (for example buffers, corridors, riparian, etc.).

### **Appropriate fire regimes for biodiversity conservation adopted and maintained in areas of native vegetation by 2020.**

- Develop and implement fire management zones with principles to guide appropriate fire regimes\*. \* Department of Parks and Wildlife (DPaW): includes excluding fire through use of fire breaks, buffers, etc. Overall aim is to ensure that fire occurs at the right time, scale, frequency, intensity, and seasonality.
- Provide generic guidance (mapped) with triggers, criteria and guidance notes to consider when undertaking a burn.
- Take into account the impacts of external factors such as weeds, weather (for example rainfall) and pests.
- Undertake additional research to determine which species are present and identify the appropriate fire regime for fire management zones.

### **500 ha of coastal and island vegetation protected and enhanced by 2020.**

- Conduct community awareness raising and education programs.
- Provide support for coastal local government authorities (LGAs) and community groups to undertake management activities.
- Plan project evaluation prior to commencement of coastal NRM projects and develop indicators of success that include ecosystem benefits.
- Identify target areas for development of Off Road Vehicle (ORV) areas.
- Identify priority areas or 'hotspots' for invasive species control and revegetation works.
- Conduct base line assessments and demonstrate connections between past projects and current or future projects.
- Implement on-ground works and activities to:
  - Control invasive species (in particular weeds).
  - Revegetate with native species.
  - Reduce or eliminate marine debris.
  - Control the impacts of off-road vehicles.

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Practice Guidance on Recognising Protected Areas and Assigning Management Categories and Governance Types, Best Practice Protected Area Guidelines Series No. 21, Gland, Switzerland: IUCN. xxpp.

### **Conservation of coastal, marine and estuarine biodiversity ecosystem function, including fish stocks, in a changing environment.**

- Establish baseline data and address knowledge gaps by conducting research and monitoring activities (for example identification of ‘focal’ or indicator species).
- Promote and share the outcomes of long-term monitoring projects in order to increase understanding of ecosystem change and inform management.
- Support the creation, maintenance and strategic management of marine reserves in order to decrease fishing pressures.
- Maintain and implement aquatic biosecurity programs and utilise technology, management, prevention and compliance strategies for aquatic pests and diseases.

### **Reduction of marine debris.**

- Identify and monitor sources of marine debris by 2020 and carry out activities to raise community and industry awareness and promote behaviour change in regards to the sources of marine debris.
- Partner with all relevant stakeholders (on all scales, from regional to global) to develop strategies to reduce source material and debris.
- Support and implement beach clean-up and data collection events.
- Support and undertake research on the impacts of marine debris.

## **C. Invasive species – (animal and plant pests, diseases) are effectively managed both at a local and regional scale.**

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|----|---|
| 1. | Reduce the impact of priority invasive species* on native biodiversity * Priority invasive species to be defined        |
| 2. | 75 per cent of land managers engaging in coordinated management of invasive species (animal and plant pests, diseases). |

- Identify and communicate the impact of, and management options for, priority invasive species.
- Support the creation and implementation of recognised biosecurity groups (RBGs) across the NAR.
- Support and educate land managers to ensure biodiversity co-benefits when managing invasive species for agricultural purposes.
- Support the creation and implementation of relevant invasive species management schemes.
- Work collaboratively to plan, implement and communicate priority actions for invasive species research, management and control.
- Implement effective control measures at a local scale where priority biodiversity assets are being threatened.

## **D. Communities in the NAR (urban and rural) are able to maintain economic and population viability, through effective adaptation to a changing climate.**

1. Coastal hazard risk management and adaptation plans (CHRMAP) undertaken in LGAs for all coastal communities by 2020.
2. Increase adoption of climate adaptation and mitigation activities in the region.

### **Coastal hazard risk management and adaptation plans (CHRMAP) undertaken in LGAs for all coastal communities by 2020.**

- Undertake community empowerment and capacity building activities that enable informed decisions.
- Develop partnerships and collaboration between LGAs and relevant stakeholders.
- Promote the benefits of undertaking CHRMAP.
- Develop a regional policy about climate adaptation on the coast; Seek support from Western Australian Local Government Association (WALGA) and at a ministerial level.
- Support funding opportunities for LGAs to undertake CHRMAP.
- Undertake and update risk assessments and incorporate outcomes into relevant management plans and related policy.
- Plan all coastal infrastructure in such a way as to minimise impact on the natural environment.
- Ensure all coastal infrastructure is assessed with a changing environment taken into account.

### **Increase adoption of climate adaptation and mitigation activities in the region.**

- Promote recognition of the benefits of sustainable NRM practices, incorporation of natural assets and assessment of environmental risk into business practices.
- Undertake and update risk assessments and incorporate outcomes into relevant management plans and related policy.
- Investigate, promote and implement the use of alternative species / varieties, technologies and practices in agricultural production to encourage diversification and flexibility as a means of managing climate-related risk.
- Decrease atmospheric carbon emissions through implementation of a range of practices, such as:
  - Reduction in the consumption of fossil fuels.
  - Increase in the use of renewable energy.
  - Capture emissions from waste facilities for reuse.
  - Promote and implement low emissions and carbon capture practices.
- Undertake awareness raising and capacity building activities to increase the willingness and technical capacity of the community to undertake climate adaptation and mitigation activities.
- Support sustainable innovations in key industry and community sectors to address climate change.
- Promote and implement climate change tools, policies and guidelines.

## **E. The community has a sufficient level of knowledge, ability and willingness to contribute to effective NRM.**

1. Increased community participation and capacity in the conservation of the region's natural resources.
2. Increased Aboriginal participation in NRM and working on country.
3. Promote and facilitate sustainable urban design and implement practices that utilise best-practise urban water management techniques, minimise non-renewable energy use, promote native gardens, encourage walking and cycling, support public transport and reduce landfill.
  - 10% decrease in per capita scheme water usage.
  - 50% municipal waste recovery rate (waste to landfill) by 2020, in accordance with Western Australian Waste Strategy<sup>2</sup>.

### **Increased community participation and capacity in the conservation of the region's natural resources.**

- Actively engage with a range of stakeholders including schools, tertiary institutions (both educators and students), LGAs, community groups and individuals and raise awareness of the region's natural values and the threats and opportunities for management:
  - Instigate hands-on learning by doing / outdoor activities to promote a direct connection with natural assets.
  - Develop citizen science partnerships, for example, in setting up monitoring programs.
  - Develop and implement education packages.
- Develop and implement a regional NRM communication and collaboration strategy to explore new avenues, promote partnerships and increase awareness of what is happening across the region.
- Promote and encourage the use of existing sources of information.
- Undertake research and development and support innovations in activities that result in sustainable industries, organisations, individuals and associated standards.
- Implement a scholarship program to support regional students studying NRM.
- Organise collaborative regional NRM capacity building events.
- Support community to attend regional capacity building workshops.

### **Increased Aboriginal participation in NRM and working on country.**

- Support and encourage the development of opportunities and programs for Aboriginal people to participate in NRM / work on country. Through a range of programs such as:
  - Develop and implement an Aboriginal ranger program.
  - Implement NRM Capacity Building programs for Aboriginal prison inmates.
  - Where possible utilise Aboriginal contractors and businesses in NRM-related works.
  - Partner in learning on / reconnection to country projects.
  - Utilising Aboriginal properties and facilities.
  - Promotion / support of Aboriginal employment in NRM.

<sup>2</sup> Waste Australian Waste Authority 2012, *Western Australian Waste Strategy*, Western Australian Waste Authority, Perth.

- Develop and implement education and social support programs.
- Partnerships with industry.

**Promote and facilitate sustainable urban design and implement practices that utilise best-practice urban water management techniques, minimise non-renewable energy use, promote native gardens, encourage walking and cycling, support public transport and reduce landfill.**

- Liaise and partner with LGAs to support and develop policies around sustainable initiatives and assist with capacity and uptake.
- Raise household and industry awareness about the adverse impacts of unsustainable practices.
- Develop and undertake education and training activities about sustainable behaviour changes.
- Develop a leadership and mentoring program and promote 'local champions' to encourage uptake of sustainable practices.
- Implement new and existing initiatives that promote sustainable practices.
- Work collaboratively to undertake regular events that promote sustainable practices.

## **F. Aboriginal cultural heritage is protected and valued by the wider community**

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|----|--|
| 1. | 25 management activities undertaken on sites of cultural and heritage significance by 2020.  |
| 2. | Undertake five traditional knowledge projects by 2020.   |
| 3. | The most significant heritage sites protected* by 2020. *Protection needs to be site specific and may not always include physical structures (such as fences). |
| 4. | Increased knowledge and respect of Aboriginal heritage and culture.  |

**25 management activities undertaken on sites of cultural and heritage significance by 2020.**

- Undertake recommendations listed in Yamaji and Noongar site audits.
- Set up and support an ongoing regional ranger program to undertake management at sites.

**Undertake five traditional knowledge projects by 2020.**

- Establish and maintain partnerships with relevant regional stakeholders.
- Capture and / or share traditional ecological knowledge (TEK) and oral history in a culturally-appropriate manner.
- Incorporate TEK into existing publications.
- Develop and maintain an Aboriginal resource contact directory, to include land tenure, listed sites and potential partners.
- Develop a regional engagement plan.
- Develop a guidance resource that details what has already been done, to promote sharing of information, partnerships, and to prevent repetition.
- Support the development of Aboriginal enterprises utilising TEK.

**The most significant heritage sites protected\* by 2020**

- Build partnerships with regional stakeholders.
- Maintain list of acknowledged heritage sites, both registered and proposed.
  - Promote process of how heritage sites can be registered or recorded.
  - Determine and prioritise regionally significant sites based on threat and significance.
- Support and undertake protection and/or restoration works on priority sites.
- Establish a custodian program to undertake ongoing monitoring and maintenance activities on priority sites.

### **Increased knowledge and respect of Aboriginal heritage and culture.**

- Capture / gather and distribute (where appropriate, and in a culturally sensitive manner) information on Aboriginal heritage and culture.
- Seek cultural interpretation services for events, workshops and projects.
- Map areas, sites and plant species of cultural significance.
- Develop and implement regionally specific Aboriginal language and education resources.
- Facilitate learning on country to create opportunities for intergenerational sharing of knowledge.
- Community communication and awareness strategies.
  - Promote successful Aboriginal leaders and role models.
  - Incorporate Aboriginal information into communication to landholders and community.
  - Promote awareness and application of protocols / processes for working in heritage areas.
- Support the creation and implementation of Reconciliation Action Plans (RAP) for organisations within the NAR.

## **G. Water resources are valued and support water dependent communities and ecosystems.**

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|----|--|
| 1. | Water resources are managed sustainably*. * To be defined                                    |
| 2. | Public drinking water sources are protected to ensure future water quality and availability. |

### **Water resources are managed sustainably.**

- Develop and implement appropriately resourced, science-based water allocation plans with community consultation.
- Ensure allocation plans take into account observed and projected impacts of a changing climate.
- Investigate and implement sustainable alternate sources of water.
- Develop and maintain partnerships between government, non-government, industry and community.
- Identify and document the condition of priority water assets in the region.
- Assess, report on, and maintain long-term river health.

- Promote the importance and value (environmental, social and economic) of local and regional ground and surface water resources.
- Ensure data is presented in a format that is easily accessible and understood by the general public.
- Assist the community (in particular landholders) to protect and improve surface and ground water resources in their area.

**Public drinking water sources are protected to ensure future water quality and availability.**

- Protect catchment areas of drinking water reservoirs and bore-fields through Department of Water (DoW) proclaimed public drinking water source areas (PDWSA).
- Inform and assist stakeholders to access PDWSA information.