

CARING  
FOR  
OUR  
COUNTRY



# **Australian Feral Camel Management Project**

**Monitoring, Evaluation, Reporting and Improvement  
(MERI) Plan**

## Document review details

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### Review of the MERI plan

Date	Key lessons, modifications and responsibilities
Content of draft developed at workshop	Key stakeholders, Mark Ashley, Quentin Hart, Eleanor Dennis and Clear Horizon
Friday 11 <sup>th</sup> Dec 2009	Draft of workshop notes sent to NOL for comment
Friday 12 <sup>th</sup> Dec 2009	First draft of MERI plan sent to NOL for comment
Approx. 26 <sup>th</sup> February 2010	Final draft of MERI plan sent to NOL for comment
3 May, 2010	Final draft of MERI plan sent to Australian Government
1 September, 2010	Amended final to Australian Government

## **Disclaimer**

This report has been produced solely upon information supplied to Clear Horizon by Ninti One Limited (NOL), the management company of the former Desert Knowledge Cooperative Research Centre (DKCRC), and their partners or collected during planning workshops. While we make every effort to ensure the accuracy of this report, any judgments as to the suitability of information for the client's purposes are the client's responsibility. Clear Horizon extends no warranties and assumes no responsibility as to the suitability of this information or for the consequences of its use.

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## 1: Introduction

### **The Australian Government Caring for our Country Monitoring, Evaluation, Reporting and Improvement Program (MERI)**

#### **1.1 Purpose of the Australian Feral Camel Management Project (AFCMP) MERI Plan**

This document is the current MERI plan as it relates to the Australian Feral Camel Management project (AFCMP). Since July 2009, Ninti One Ltd has been working with its partners and MERI consultants, Clear Horizon, to put together the over-arching MERI plan for the project.

The MERI plan is one of the key deliverables for year 1 activities.

The MERI plan for the AFCMP will:

- guide the MERI process for the Caring for our Country AFCMP in accordance with the stated Caring for our Country outcomes and targets (<http://www.nrm.gov.au/me/index.html>) and consistent with the Caring for our Country MERI Strategy (<http://www.nrm.gov.au/me/index.html>)
- provide the basis from which to review progress of the project towards the agreed Caring for our Country targets and outcomes
- provide the data from which we can learn about successful implementation strategies and implement adaptations and modifications in response to lessons learnt.

#### **1.2 Broader MERI Context**

This plan is nested within:

- The NRM MERI framework (<http://www.nrm.gov.au/me/index.html>)
- The Caring for our Country Outcomes 2008-2013 (<http://www.nrm.gov.au/index.html>)
- The Caring for our Country Business Plan 2009-10 (<http://www.nrm.gov.au/index.html>)
- The MERI Strategy for Caring for our Country Strategy 2009-13 (<http://www.nrm.gov.au/me/index.html>)

### 1.3 Principles for an effective MERI plan for the Australian Feral Camel Management Project

The continuous and integrated cycle of monitoring, evaluation, reporting and improvement is referred to as MERI in the Australian natural resource management (NRM) context.

MERI provides a model for assessing program performance and the state of and change over time in assets against planned immediate, intermediate and longer-term outcomes. It provides opportunities to improve program and project design and delivery and to reorient investment at key decision points throughout the life of the investment strategy or policy.

The MERI Framework places the emphasis on assets – both the intrinsic and utilitarian values that people place on the environment and the many resources and opportunities it provides for human consumption and wellbeing. An asset-based approach is most amenable to targeting and measuring outcomes in terms of conservation, repair and replenishment of natural resources. It also enables construction of a logic or theory of change to guide action for improving the state of an asset. This in turn enables the development of measurements to monitor and assess change in the asset over time; the relative effectiveness, efficiency and appropriateness of different interventions; and the extent of change or impact from action.

#### **Evaluation processes can be broken down into four interrelated components:**

- **Monitoring:** the regular collection and analysis of information to assist timely decision-making, ensure accountability and provide the basis for evaluation and learning.
- **Evaluation:** in the NRM context, periodic assessment of the impact, appropriateness, effectiveness, efficiency and legacy of a program or project.
- **Reporting:** communication of the findings associated with the evaluation process.
- **Improvement:** the use of the evaluation findings to inform decision-making about whether and where adjustments might be made to ensure achievement of intended results or the longer-term objectives of the program.

#### Program Logic

All MERI plans must have an underlying Program Logic. Developing a program logic is a key element of the evaluation process because it articulates the rationale behind an initiative. Program logic describes the relationships between activities and the links between activities and their desired outcomes. It shows a series of expected consequences, not just a series of events, at different outcome levels within the program logic hierarchy.

The MERI strategy is underpinned by program logic, against which the key evaluation questions about the initiative can be clearly articulated. While applicable to all types of interventions, regardless of their scope or scale (whether projects, programs, strategies, policies, initiatives or any other type of intervention), the concept of applying logic to describe the expected outcomes of an intervention is referred to in the literature, and throughout this MERI strategy, as program logic.

Program logic is applied at the overall Caring for our Country level, and at the theme and project levels. This enables planning for evaluations at the relevant scale as well as an understanding of the links between project activities, targets and five-year outcomes.

Participants and stakeholders of the Australian Feral Camel Management Project developed a list of principles that they felt needed to be incorporated into their MERI plan. This was done in a participatory manner in a group workshop and integrated a range of stakeholder perspectives. These principles are intended to guide the MERI plan and represent what participants wish the MERI plan to look like. Table 1 shows the key principles and associated details as developed by workshop participants.

**Table 1 Principles to be included in the AFCMP MERI plan.**

What a successful MERI plan looks like for this project: principles	Key principles to be included, as contributed by workshop participants
<b>It must be realistic</b>	<ul style="list-style-type: none"> <li>• must be achievable</li> <li>• based on realistic assumptions</li> </ul>
<b>Must provide clarity of purpose and be clearly written</b>	<ul style="list-style-type: none"> <li>• shared understanding of the target area</li> <li>• it must be easy to understand, easy to implement, and be described in plain English</li> </ul>
<b>Must be consistent</b>	<ul style="list-style-type: none"> <li>• must be consistent</li> <li>• cross-jurisdictional</li> <li>• cross-tenure</li> <li>• include practical and consistent ways to collect information</li> <li>• internally coherent, no inconsistencies</li> </ul>
<b>Must be owned by and relevant to the needs of stakeholders</b>	<ul style="list-style-type: none"> <li>• owned and relevant to needs</li> <li>• include activities that Aboriginal people can be involved with</li> <li>• must be done by stakeholders and include their needs</li> </ul>
<b>It should create awareness and provide for capacity building opportunities</b>	<ul style="list-style-type: none"> <li>• creating increased awareness and capacity on the ground with all stakeholders of benefits of feral camel management</li> <li>• will be a long-term legacy of the project</li> </ul>
<b>It should be comprehensive</b>	<ul style="list-style-type: none"> <li>• must be comprehensive</li> <li>• include all elements: management, communication, removal activities, etc</li> </ul>
<b>It should collect, measure and report on efficiency measures</b>	<ul style="list-style-type: none"> <li>• cost-effective removal of feral camels from landscape</li> <li>• acceptable percentage operational from year 1 to year 4</li> <li>• functional efficiency</li> </ul>
<b>It should enable the development of collaborative data sharing protocols</b>	<ul style="list-style-type: none"> <li>• assist decision making</li> <li>• managing ownership and sharing of data</li> </ul>
<b>It must provide the basis for the evaluation of transparency, accountability and good governance</b>	<ul style="list-style-type: none"> <li>• responsive</li> <li>• authoritative</li> <li>• include safety considerations</li> <li>• include decision-making parameters</li> <li>• community expectations considered, such as animal welfare</li> </ul>
<b>It must measure Impact/ effectiveness</b>	<ul style="list-style-type: none"> <li>• measures – cost/feral camel removed</li> <li>• measure the number of feral camels removed</li> <li>• describe the enduring effects and outcomes of feral camel control</li> <li>• measure the benefits (social, environmental, economic)</li> <li>• help us show results/achievements</li> <li>• needs to measure multiple outcomes – not just NRM</li> </ul>
<b>Meet contract requirements</b>	<ul style="list-style-type: none"> <li>• meet the requirements of the Australian Government</li> <li>• perpetuity of management</li> </ul>



What a successful MERI plan looks like for this project: principles	Key principles to be included, as contributed by workshop participants
<p><b>It must provide the basis for adaptive management</b></p>	<ul style="list-style-type: none"> <li>• time to interpret/make sense of the data</li> <li>• must build on existing/long-term data (removing feral camels may not solve the landscape problems)</li> <li>• baseline surveys of feral camel densities in identified refugia</li> <li>• to be based primarily on generating knowledge to improve feral camel management for protection of biodiversity refuges</li> <li>• MERI data must inform the work plan</li> <li>• identify how quickly refugia respond to management</li> <li>• identify how quickly feral camels respond to management e.g. dispersal/re-invasion</li> <li>• MERI must help us adaptively manage the project</li> <li>• needs to provide management information – landscape scale</li> <li>• needs to be responsive to immediate as well as long-term change</li> <li>• needs to be very adaptable</li> </ul>

## 2: Scope

### 2.1 Project description

Ninti One Ltd (NOL) the management company of the former Desert Knowledge Cooperative Research Centre (DKCRC), was successful in securing funding from the Caring for our Country initiative to reduce the threat of feral camels in identified refuges for biodiversity in northern and remote Australia by reducing the density of the feral camel populations.

The success of the grant application was underpinned by extensive research undertaken by the DKCRC into feral camel numbers, their distribution in desert Australia and many aspects of their impact and control. The feral camel research, 'Managing the impacts of feral camels in Australia: a new way of doing business' (Edwards GP et al. (Eds) 2008) was funded by the Natural Heritage Trust and released late in 2008. The invitation to progress to project development through the Caring for Our Country program demonstrates the value of the approach taken by the DK CRC throughout the research.

Ninti will now work with the Australian, State and Territory Governments, and industry and other partners to develop and implement the 4-year, \$19 million project entitled 'Feral camel Management to increase biodiversity and cultural values in remote Australia.'

This project for the management of feral camels brings together for the first time the state and territory governments of SA, WA, QLD, and NT, Aboriginal organisations, NRM Boards, conservation groups, the pastoral industry, commercial interests and research organisations. The strength and depth of this collaboration is the key to the successful delivery of the project described in this MERI plan.

#### Project rationale

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The rationale for this project is based on the findings in the DKCRC report (Edwards et al. 2008) that feral camels are increasing in number, are highly mobile covering 70 kilometres in a day and are therefore infiltrating areas previously feral camel free. They eat most species of native plants including bushes and trees, selectively eating and removing some larger plants such as quandongs, with a subsequent change in the natural environment. In addition, particularly in summer, feral camels seek access to water at sites that are often refuges for many native animals and plants causing significant degradation of the sites through trampling of vegetation and fouling of the water. Many of these sites are also culturally and spiritually significant sites for Aboriginal communities (Edwards et al. 2008, Chap 5).

Feral camels roam from the Great Australian Bight to the Pilbara, across to the Simpson Desert and everywhere in between. Feral camels range across desert and rangeland areas that are among some of the most fragile environments in the country. In addition many areas are highly significant culturally and spiritually for Aboriginal Australians and also provide livelihoods for many in the pastoral industry. Feral camels cause major damage to areas of environmental significance as well as community infrastructure over a very wide area due to their roaming nature. Management of their populations is therefore essential to curb the damage caused.

## Current estimates of feral camel density

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Current estimates of the number of feral camels across Australia put the total at between 1.0 and 1.2 million animals, increasing at a rate of about 10% per year. This means a doubling of the population every 8–9 years. Estimates suggest that feral camels currently occupy some 3.3 million km<sup>2</sup> of arid and semi-arid Australia. While there are spatial and temporal definitional issues to be resolved in measuring and reporting the actual density of feral camels, the computed mean density from available data across the full feral camel range, is currently 0.3 feral camels/km<sup>2</sup> assuming one million feral camels. Further information including assumptions made and a detailed discussion on the data collected to date, including its limitations, can be found in Edwards et al. (pp.27-31). It is believed that the actual densities of feral camels range from <0.1 to >2.0 feral camels/km<sup>2</sup>. In areas where feral camels exceed a density of 1.0 feral camel/km<sup>2</sup>, their impact on the landscape is significant, particularly to biodiversity refuges, remote communities and the pastoral industry.

## The need for feral camel management

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If no action is taken and assuming current growth trends, by the end of 2013 when funding for this project is due to expire, the feral camel population will be 1.5 million at an overall density of 0.45 feral camels/km<sup>2</sup>.

Management of feral camels must occur at landscape scale, across their entire range to ensure that bioregions and infrastructure are protected. This Caring for our Country project will contribute significantly to the reduction in impact on biodiversity and cultural and spiritual sites of significance. A reduction of feral camel numbers across their range will not only save around \$11 million per annum in replacement costs for damaged infrastructure, feral camel management costs for landholders/managers and the loss of production on pastoral properties (Edwards et al. 2008, p. 163) but has the potential to significantly reduce impact and subsequent damage to a significant number of biodiversity refugia. In particular, as designated in the funding deed (and subject to refinement in the overall 2-4 year project plan), the project should have significant positive impact on:

- 61,000 sq km of SA/NT/QLD Simpson Desert region that includes the following refugia
  - Dalhousie Springs
  - Goyders Lagoon
  - Lake Eyre
  - Lake Eyre Mound Springs
  - Hay River
  - QLD Channel Country
- 116,000 sq km of SA/NT/WA tri-state order region that includes the following refugia
  - Western MacDonnell Ranges
  - George Gill Ranges
  - Uluru-Kata Tjuta
  - Serpentine Lakes
- 103,500 sq km of Pilbara region that includes the following refugia
  - Rudall River

- De Grey River
- Mandorah Salt Marsh
- High Conservation value aquatic ecosystems including:
  - Algebuckina Waterhole
  - Western Finke River Catchment pools
  - Glen Helen Mound Spring
  - Bulloo River and Lake

This list is by no means exhaustive and many other sites of cultural, spiritual and environmental significance will also benefit from a reduction in feral camel density.

Furthermore, many threatened fauna species will be protected through a reduction in feral camel density including the Brush-tailed Mulgara, Crest-tailed Mulgara, Southern Marsupial Mole, Plains Mouse, Black-footed Rock Wallaby, Night Parrot, Great Desert Skink and several undescribed froglets (Ninti One Ltd, Caring for our Country EoI). The list of threatened/vulnerable flora is very extensive and includes many plants, bushes and trees some of which are important bush-tucker plants (e.g. the quandong tree) (Edwards et al, pp. 149-155) and (NOL Caring for our Country EoI).

The Australian Government's investment of \$19 million will enable the removal of an estimated 350,000 feral camels (marginally more than the natural increase over the four years), resulting in a computed mean density of 0.29 feral camels/ km<sup>2</sup> across the full feral camel range. Investment of a further \$19 million by the States/Territory would enable the removal of a further estimated 350,000 feral camels, resulting in a computed mean density of 0.17 feral camels/km<sup>2</sup> across the full feral camel range – although the focus of the project is to achieve much lower densities (<0.1 feral camels/ sq km) around identified key assets.

Consistent with the Caring for our Country Business Plan Target, feral camel removal activities in Years 2, 3 and 4 will be targeted towards the protection of specific refuges for biodiversity, once the Data Collection & Integrity Testing from impact reduction activities in Year 1 is completed. This testing will help to clarify aspects of both feral camel and biodiversity refugia distribution.

## **The aim of the project**

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### **Background**

In December 2008, DKCRC released a research report, 'Managing the impacts of feral camels in Australia: a new way of doing business' (Edwards GP et al. (Eds)). The research report, together with several supplementary reports, provided a comprehensive picture of the feral camel situation in Australia and provided 28 key recommendations for their future management.

In 2009, the Australian Government called for Expressions of Interest (EoI) for large NRM projects under the new Caring for our Country program. Ninti One Ltd, together with 19 partners, submitted an EoI in the 2009-10 round of the Caring for our Country Business Plan round and was successful in obtaining funding to implement the research recommendations under the banner of a cross-jurisdictional feral camel management program.

In May 2009, the Natural Resource Management Ministerial Council (NRM MINCO), directed that a National Feral Camel Action Plan (NFCAP) should be written for the management of feral camels now and into the future. The plan is being developed by a sub-group of the Vertebrate Pests

Committee, three of whom are members of the Steering Committee of the AFCMP, ensuring a high degree of collaboration, continuity and synergy.

This project is an integral component of the plan, providing for the immediate management of the issue.

In taking a collaborative approach and using a number of management strategies this project aims to:

- Protect selected high value biodiversity assets and refugia where feral camel densities can be reduced to and maintained at <0.1/sq km.  
  
through involvement of
- all land managers, ie Aboriginal Traditional Owners and their communities, pastoralists, conservation groups and government departments in actions aimed at protecting identified sites and surrounding lands  
  
and the provision of
- a firm foundation for ongoing and enduring management and monitoring of sites of significance (biorefugia/cultural) within the capabilities of individual land owners/managers into the future in line with the NFCAP.

## 2.2 AFCMP methodologies

A combination of management activities will be used to remove feral camels from the landscape and achieve the project aims. These management activities include:

- aerial shooting of animals in remote areas
- ground-based shooting of animals, for either consumptive or non-consumptive use
- exclusion fencing and trap yards in areas of high biodiversity value
- strategic mustering of animals in high density areas for commercial utilisation
- a combination of the above activities in specific areas.

The project team has decided that management activities should be organised initially around land tenure, as it governs what activities can be done on what land. In year 1 (2009-10 financial year) three targeted control projects will be undertaken on three land tenures: Aboriginal, Crown land (allocated and unallocated) and pastoral leases.

The object is to understand the benefits of three different take-off (feral camel removal) methods; aerial shooting resulting in shoot-to-leave, commercial use and the use of Judas collars combined with aerial shooting. Lessons learned from these three targeted control projects will inform the MERI process and the work plans for the following years.

### Project Partners

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One of the core elements of this project is the collaborative approach. Ninti One has a strong track record managing collaborative projects that span across jurisdictions, organisations, institutions and communities. These partners will all play different roles in delivering, supporting or providing expert advice for this project. These roles are discussed in the Australian Feral camel Management Project Proposal (NOL, 2009).

The partners in the project are:

- Ninti One Ltd (NOL)
- South Australian State Government
  - Department of Environment & Natural Resources (DENR)
  - Department of Primary Industry & Resources SA (PIRSA)
- Western Australian State Government
  - Department of Agriculture and Food Western Australia (DAFWA)
  - Department of Environment and Conservation (DEC)
- Queensland State Government
  - Department of Environment and Resource Management (DERM)
- Northern Territory State Government
  - Northern Territory Department of Natural Resources, Environment, The Arts and Sport (NRETAS)
- Aboriginal organizations
  - Central Land Council (CLC)
  - Anangu Pitjantjatjara Yankunytjatjara Lands (APY Lands)
  - Ngaanyatjarra Council Inc (NC)
  - Kimberley Land Council (KLC)
  - Western Desert Lands Aboriginal Corporation
- Natural Resource Management Boards
  - South Australian Arid Lands NRM Board (SAAL NRM Board)
  - Alinytjara Wilurara NRM Board (South Australia) (AW NRMB)
  - Natural Resource Management Board NT Inc (NRMB NT)
  - Rangelands NRM WA
- MERI and applied research
  - CSIRO
  - Flinders University
- Pastoral Groups
  - Northern Territory Cattlemen's Association (NTCA)
- Conservation Groups
  - Australian Wildlife Conservancy (AWC)

#### Links with industry

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There is a small feral camel industry based on processing wild caught feral camels for pet meat and game meat (human consumption) and some for live export. There is also the potential for a larger, more cohesive industry that could provide an important mechanism for assisting in the reduction of impact in some areas as well as provide training opportunities and jobs for remote areas, especially

Aboriginal communities. However, in the long-term, any feral camel industry cannot be wholly dependent on the harvest of feral camels. The industry must develop a business model that includes managed herds behind wire, and sound export and national markets for meat and by-products.

Although industry development is beyond the scope of this proposal, we recognise that the extraction of feral camels for commercial purposes can help to reduce the number of feral camels and their impacts. To that end, we have established links with various industry players in South Australia, Northern Territory, Western Australia and Queensland, many of whom are members of the recently formed Australian Feral Camel Industry Association Inc (ACIA) and some of whom assisted in the development of the original Expression of Interest (EoI)

### **Monitoring, Evaluation, Reporting and Improvement (MERI) Plan**

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The AFCMP is based on an adaptive management approach whereby the methods used to control and reduce feral camel numbers will be reviewed every year and adapted as needed. This approach will enable a wide range of involvement from various stakeholders and local communities by allowing project flexibility that can accommodate a variety of needs and capacity.

In order to manage the one year project cycles and maximise the adaptive management approach, this project has placed a strong emphasis on MERI. The project will be based on a program logic approach as specified in the Australian Government MERI strategy and involve a number of stakeholders in developing the on-going MERI plan/s and implementing MERI activities.

The following document outlines the MERI plan for the four year life of the project. It includes a statement of the Targets and Outcomes required under the CfoC Business plan 2009-10; a description of the targets; the intended users of the plan; the Key Evaluation Questions with sub-questions, evaluation methods, data sources, timelines and responsibilities; a preliminary budget with timelines; intended MERI; reporting schedule; program logic diagram; MERI risk management analysis; monitoring methods and references and the communication plan.

At the end of each operational year the MERI activities will be analysed and where relevant, the plan will be updated to reflect findings from the previous year. This will then inform the project activities and facilitate the adaptive management approach outlined above.

The key MERI activity to be measured and analysed each year will be the resultant feral camel density from the year's removal activities. The camel density geo-database developed for the DKCRC feral camel research project (Edwards et al. (Eds) 2008) will be the repository for all AFCMP data relating to density changes. The camel density map presented in the DKCRC project final report in 2008 provided the baseline for the AFCMP and is being updated as part of the overall Y2-4 work plan to incorporate the aerial survey data since that time. The new density map will be overlaid with key biodiversity assets to be protected and the expected buffer zone required around each asset to provide protection (i.e. zones around biodiversity refugia where the project is aiming to achieve <0.1 camels per square kilometre). The map will be updated each year to guide removal operations in the following year.

An expert MERI Group has been established, comprising scientists with a diverse range of skills, to oversee and guide the MERI activities.

## 2.3 Caring for our Country targets and outcomes

### Caring for our Country targets and outcomes

The AFCMP contributes directly to the following Caring for our Country 5-year outcomes and targets:

#### Caring for our Country 5-year outcomes (Business Plan 2009–10)

- Reduce the impact of invasive species, i.e. feral camels, 'in at least one priority area'
- Deliver actions that sustain the environmental values of:
  - priority sites in the Ramsar estate, particularly sites in northern and remote Australia
- Assist at least 30% of farmers to increase their uptake of sustainable farm and land management practices that deliver improved ecosystem services
- Increase the number of farmers who adopt stewardship, covenanting, property management plans or other arrangements to improve the environment both on-farm and off-farm

#### Caring for our Country Targets (Business Plan 2009–10)

Biodiversity conservation and natural icons:

- To protect the identified refuges for biodiversity in northern and remote Australia that are under threat from feral camels, by reducing the density of the feral camel population in the surrounding areas to less than 0.1 animal per km<sup>2</sup> over the next 4 years.

Coastal environments and critical aquatic habitats:

- To address the threats posed by invasive plant and animal species to the environmental values of high priority non-Ramsar high conservation value aquatic ecosystems.

Improving land management practices:

- To increase by 42,000 farmers in identified priority regions that have improved their management to reduce the risk of soil acidification and soil loss through wind erosion, water erosion and improve carbon content of soils, or have adopted other improved soil management methods.

Table 2 illustrates the activities that will be undertaken as part of the project to address all of the relevant Caring for our Country targets

Please note that some of these activities might change in the second and subsequent years as a result of outcomes from the MERI processes and the development of the annual work plans, as outlined in the funding deed.



**Table 2: Caring for our Country targets to which the Australian Feral Camel Management Project will contribute**

Caring for our Country Target/s	Funded Activity to be undertaken	Expected contribution by this project
<p>To protect the identified refuges for biodiversity in northern and remote Australia that are under threat from feral camels, by reducing the density of the feral camel populations in the surrounding areas to less than 0.1 animal per km<sup>2</sup> over the next 4 years.</p>	<ul style="list-style-type: none"> <li>• Targeted control activities in restricted areas to test and refine contracting instruments and removal technologies</li> <li>• Establishment of appropriate baseline information on feral camel density and impacts in priority areas, and the refinement of the strategic and spatial basis for feral camel removal works</li> <li>• Development of an overall project plan for years 2-4</li> <li>• Removal of 349,000 feral camels.</li> </ul>	<p>To protect the identified refuges for biodiversity in northern and remote Australia that are under threat from feral camels, by reducing the density of the feral camel populations in the surrounding areas to less than 0.1 feral camel per km<sup>2</sup> over the next 4 years.</p> <p>The indicative feral camel removal numbers with Caring for our Country Funds are as follows, actual feral camel removal targets will be determined in the annual work plans:</p> <ul style="list-style-type: none"> <li>• 2009-10 = 9,000</li> <li>• 2010-11 = 100,000</li> <li>• 2011-12 = 120,000</li> <li>• 2012-2012 = 120,000</li> <li>• Total = 349,000</li> </ul>
<p>To address the threats posed by invasive plant and animal species to the environmental values of high priority non-Ramsar high conservation value aquatic ecosystems, over the next two years</p>	<ul style="list-style-type: none"> <li>• Removal of feral camels as outlined above</li> </ul>	<p>A reduction in the threats posed by feral camels and sustain the environmental values of priority inland high conservation value aquatic ecosystems</p>

Caring for our Country Target/s	Funded Activity to be undertaken	Expected contribution by this project
<p>To increase by 42,000 farmers in identified priority regions that have improved their management to reduce the risk of soil acidification and soil loss through wind erosion, water erosion and improve carbon content of soils, of have adopted other improved soil management methods</p>	<ul style="list-style-type: none"> <li>• Engagement with land managers (including pastoralists and Indigenous people) to increase their awareness of the adverse impacts of feral camels, to assist them to develop on-going feral camel management strategies, and undertake feral camel removal actions</li> <li>• Feral camel removal activities and land manager engagement will be supported by: <ul style="list-style-type: none"> <li>○ an active communication program to promote community awareness of the adverse impacts of excessive numbers of feral camels and the costs and benefits of the various removal options</li> </ul> </li> </ul>	<p>The project will engage with and assist at least 12 pastoral properties across the feral camel range) to recognise the damage that feral camels can do and to adopt active feral camel management strategies</p>

## 2.4 Users of the Plan

In scoping the MERI plan it is important to consider who will use the plan. In this plan the 'Primary Users' and the 'Secondary Users' were identified by a number of stakeholders in a participatory workshop. The 'Primary Users' were understood to be people or organisations who will directly use the MERI plan to reflect on the data and to use the MERI plan to adaptively manage the project. The 'Secondary Users' were understood to be users that may not use the MERI plan directly but need to be aware of it. The 'Secondary Users' may be more interested in the data produced by MERI activities and the story that can be told through this data. Table 3 below shows the 'Primary' and 'Secondary' Users for the Australian Feral camel Management Project as identified by the workshop participants.

**Table 3: Key users of this MERI plan**

Primary users: who will reflect and adapt	<ul style="list-style-type: none"> <li>• Ninti One Ltd Board of Management</li> <li>• Project Steering Committee</li> <li>• Project partners</li> <li>• Land managers in feral camel areas</li> </ul>
Secondary users: who need to be aware of this plan	<ul style="list-style-type: none"> <li>• National NRM committee structures (including Ministerial Councils)</li> <li>• Government and non-government providers of non-NRM services to Indigenous people/communities</li> <li>• emerging feral camel industry and its regulators</li> <li>• service providers (feral camel removal)</li> <li>• researchers</li> <li>• animal welfare interests (such as the RSPCA)</li> <li>• Governments departments with overseas interests (such as Foreign Affairs and Trade)</li> <li>• Australian public</li> </ul>

## 2.5 Key evaluation questions

Key evaluation questions (KEQs) are explicit questions to be answered for the purposes of reporting or improvement. Table 4 shows the KEQs for the Australian Feral Camel Management Project. These questions guide MERI data collection and include questions that directly address Caring for our Country targets and questions that will help to guide adaptive management of the project.

**Table 4: Key Evaluation Questions**

Evaluation purpose	KEQ
<u>Impact</u>	<p>KEQ 1: Has the condition and/or functioning of the biodiversity refugia changed as a result of Caring for our Country investment?</p> <p>KEQ 2: Have critical threats to HCVAE been addressed?</p> <p>KEQ 3: Have pastoralists changed feral camel management practices?</p> <p>KEQ 4: Were there any unexpected outcomes, positive or negative, that resulted from this project?</p>
<u>Effectiveness</u>	<p>KEQ 5: To what extent did the AFCMP contribute to Caring for our Country 5-year outcomes as per the 2009-10 Business plan?</p> <p>KEQ 6: To what extent did the AFCMP achieve Caring for our Country targets?</p>
<u>Appropriateness</u>	<p>KEQ 7: Have the priority biodiversity refugia under threat from feral camels been appropriately and adequately identified as a strategic basis for the AFCMP investments?</p> <p>KEQ 8: Were the community and stakeholders appropriately engaged throughout the project?</p>
<u>Efficiency</u>	<p>KEQ 9: To what extent were the methods used to reduce feral camel density the most efficient and cost effective?</p> <p>KEQ 10: To what extent was the project efficiently managed?</p>

## 2.6 Work plan and budget

Table 5 below shows the activities that will be conducted in the first year as part of the Australian Feral Camel Management Project, how much of the Caring for our Country target they will achieve and when they will be conducted. Table 6 below shows the MERI activities and methods and the budget for each MERI activity. As per the Caring for our Country funding deed, these activities may change after the first year based on additional or more detailed information through the Annual Operational Plans.

Table 5 project activities, timeline and contribution to Caring for our Country target

Activity	Project timeline for activities		Quantity of Target to be achieved														
	Achievement towards Caring for our Country Target	By when															
Feral camel removal/management activities including: <ul style="list-style-type: none"> <li>aerial shooting of animals in remote areas</li> <li>ground-based shooting of animals, for either consumptive or non-consumptive use</li> <li>exclusion fencing and trap yards in areas of high biodiversity value</li> <li>strategic mustering of animals in high density areas for commercial utilisation</li> <li>a combination of above activities in specific areas</li> </ul>	<b><i>Icons:</i></b> To protect the identified refuges for biodiversity in northern and remote Australia that are under threat from feral camels, by reducing the density of feral camel populations in the surrounding areas to <0.1 animals per square kilometre	30 June 2010	<ul style="list-style-type: none"> <li>9,000 feral camels removed of a total of 349,000 feral camels:                Project 1: Target 3,000 feral camels removed                Project 2: Target 3,000 feral camels removed                Project 3: Target 3,000 feral camels removed</li> <li>Further feral camel management activities will follow in 2011-13. The indicative feral camel removal numbers for Caring for our Country States/Northern Territory (see other below) are:</li> </ul>														
	<b><i>Coastal environments and critical aquatic habitats:</i></b> To address the threats posed by invasive plant and animal species to the environmental values of high priority non-Ramsar high conservation value aquatic ecosystems	30 June 2013		<table border="1"> <thead> <tr> <th></th> <th>Caring for our Country</th> <th>Other</th> </tr> </thead> <tbody> <tr> <td>2010/2011</td> <td>100,000</td> <td>100,000</td> </tr> <tr> <td>2011/2012</td> <td>120,000</td> <td>110,000</td> </tr> <tr> <td>2012/2013</td> <td>120,000</td> <td>110,000</td> </tr> <tr> <td>Total</td> <td>349,000</td> <td>326,000</td> </tr> </tbody> </table>		Caring for our Country	Other	2010/2011	100,000	100,000	2011/2012	120,000	110,000	2012/2013	120,000	110,000	Total
	Caring for our Country	Other															
2010/2011	100,000	100,000															
2011/2012	120,000	110,000															
2012/2013	120,000	110,000															
Total	349,000	326,000															

<ul style="list-style-type: none"> <li>• The project will deliver positive biodiversity conservation outcomes to address Caring for our Country targets initially in the following priority areas: <ul style="list-style-type: none"> <li>○ 61,000 sq km of SA/NT/QLD Simpson region including the following refugia: <ul style="list-style-type: none"> <li>▪ Dalhousie Springs</li> <li>▪ Goyders Lagoon</li> <li>▪ Lake Eyre</li> <li>▪ Lake Eyre Mound Springs</li> <li>▪ Hay River, and</li> <li>▪ Queensland Channel Country</li> </ul> </li> <li>○ 116,000 sq km of SA/NT/WA tri-state border region that includes the following refugia: <ul style="list-style-type: none"> <li>▪ Western MacDonnell Ranges</li> <li>▪ George Gill Ranges</li> <li>▪ Uluru-Kata Tjuta, and</li> <li>▪ Serpentine Lakes</li> </ul> </li> <li>○ 103,500 sq km of Pilbara region that includes the following refugia: <ul style="list-style-type: none"> <li>▪ Rudall River</li> <li>▪ De Grey River, and</li> <li>▪ Mandorah Salt Marsh</li> </ul> </li> </ul> </li> </ul>			<ul style="list-style-type: none"> <li>• Review achievements of previous work plan in relation to numbers of feral camels removed; assessment of resulting density particularly in relation to High Value Biodiversity and Cultural assets.</li> </ul>
<p>Yearly Operational plans</p>	<p>May of each year</p>	<p><b>MERI Process</b></p>	

Engagement with land managers (including pastoralists and indigenous people) to increase their awareness of the adverse impacts of feral camels, to assist them to develop on-going feral camel management strategies, and undertake feral camel removal actions.	<b>Improving Land Management Practices:</b> To increase by 42,000 farmers in priority regions adopting activities that contribute to the on-going conservation and protection of biodiversity over four years	2009-2013	<ul style="list-style-type: none"> <li>Engage and assist at least 12 pastoral properties to recognise the damage that feral camels can do and to adopt active feral camel management strategies</li> </ul>
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Table 6 Project MERI activities and budget

<b>Developing MERI plan</b>				<b>Cost \$</b>	
Caring for our Country MERI Plan Development	Involvement of external consultant to conduct a planning workshop to involve stakeholders, writing of workshop notes and co-write the MERI plan				\$15,500
<b>Monitoring Measure</b>		<b>New or existing Method/Data</b>		<b>Responsibility</b>	
<b>Method of collection</b>		<b>Frequency of collection</b>			
Number of studies, research and information projects and/or solutions, and trials and reports delivered	Documentation of any research or studies being undertaken as part of the project.	Existing	Initial collection and then a watching brief for new material	AFCMP staff (Evaluation)	\$2,000
Number of land managers adopting new conservation measures	Collected via landholder surveys (internet or handouts) and phone interviews with landholders.	New	Yearly as part of MERI process	AFCMP staff (Evaluation) and project partners	\$10,000
Area of land (ha) managed by land holders adopting new conservation measures	Collected via landholder surveys (internet or handouts) and phone interviews with landholders. Data may also be reported in partner project reports, which will be collated to show the contribution to this project.	New	Yearly as part of MERI process	AFCMP staff (Evaluation) and project partners	
Number of partnerships established, supported or contributed to	Record of partnerships and details of who the partners are and their contribution to overall targets. This will	New and Existing	Yearly as part of MERI process	AFCMP staff (Evaluation)	\$4,000

	<i>be documented by partners in project progress reports.</i>					
<i>Number of written products such as brochures, newsletters, posters or fact sheets developed and websites developed or significantly enhanced</i>	<i>A media and communications analysis will be conducted by Evaluation and Communications staff at Feral camel Management Project. Documentation in a central database will enable analysis of the products produced as part of this project.</i>	New	Yearly as part of MERI process	AFCMP staff and Media Manager (Evaluation and Communications)	Built into the communication strategy	
<i>Number of media articles released including newspaper, television, radio etc</i>	<i>A media and communications analysis will be conducted by Evaluation and Communications staff at Feral camel Management Project. Documentation in a central database will enable analysis of the media coverage by this project.</i>	New and Existing	Yearly as part of the MERI process	AFCMP staff (Evaluation and Communications)	Built into the communication strategy	
<i>Number of training sessions, workshops, seminars or other skills and training events conducted (this may include training for aerial shooting)</i>	<i>The Feral camel Management Project staff will record details of training events and workshop conducted through this project. Partners will also be asked if they have supplied training as part of this project. This information will be stored in a central database for analysis.</i>	New	Yearly as part of the MERI process	AFCMP staff (Evaluation and Stakeholder Manager)	0.1 FTE	
<i>Area (ha) where pest animal control measures have been implemented</i>	<i>Mapping of area of pest management (feral camel control). Mapping the area will allow detail analysis of the area covered through this project.</i>	New and Existing	Yearly as part of the MERI process	AFCMP staff (On-ground) and project partners	0.5FTE	



Number of feral camels removed from landscape	This measure will include collecting data from each removal activity including via aerial surveys, before and after feral camel counts, pet meat processor returns and records, documentation of contractor counts - verified by rural solutions tool. Data will be collected by Ninti One and partners and stored in a central database.	New and Existing	Yearly as part of the MERI process	AFCMP staff (Evaluation and on-ground) and project partners	0.5FTE
Baseline and change data on the condition <sup>1</sup> of refugia for native plants and animals	<b>Biological Monitoring:</b> This will be collected through surveys of refugia and compared with existing data. New baseline data will also be collected at the start of this project to be compared with data collected at the end.	New	Yearly as part of the MERI process	AFCMP staff (Evaluation and on-ground) and project partners	
Baseline and change data in density of feral camels (animals per km <sup>2</sup> ), as per nationally agreed vertebrate pest species indicators	<b>Feral camel Monitoring:</b> This will be collected via aerial surveys (and other methods to be confirmed) and integrated with available existing data form all jurisdictions	New and Existing	Yearly as part of the MERI process	AFCMP staff (Evaluation and on-ground) and project partners	
Number of actions delivered that sustain the environmental values of priority sites, including sites in northern and remote Australia (and number of ha over which actions were delivered)	<b>Biological Monitoring:</b> Documentation of the area in which environmental values are being sustained. This will be concentrated to the refugia but may also include private land activities were appropriate. Before and after surveys and analysis of EPBC database will	New	Yearly as part of the MERI process	AFCMP staff (Evaluation and on-ground) and project partners	

<sup>1</sup> 'condition' will need to be defined in the context of refugia for native plants and animals

	<i>establish what environmental values are being protected.</i>			
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<b>Developing guidelines and templates for MERI methods</b>				
Create a set of operational guidelines and method notes/templates	<i>This will involve creating templates and guidelines that can be used by the project staff and project partners to guide data collection. It will include interview guides, templates for data collection, timelines and operational notes.</i>	Oct 2011 and ongoing	AFCMP Staff and external client	\$17,000 <sup>2</sup>
<b>Reporting</b>				
<b>Report</b>	<b>Information sources</b>	<b>Timeframe</b>	<b>Responsibility</b>	
<i>Annual case study/Most Significant Change or performance story from the partners</i>	<i>Monitoring and evaluation data. The report will summarise evaluation data each year and can be used to inform the key stakeholders and partners about the progress of the report and will also inform reports to the Australian Government.</i>	Yearly – April/May	AFCMP staff or External Consultant	\$40,000
<b>Improvement</b>				
<b>Activity 1</b>	<b>Methodology</b>	<b>Timeframe</b>	<b>Responsibility</b>	
<i>Reflection workshop</i>	<i>A facilitated session to capture:</i> <ul style="list-style-type: none"> <li>• <i>the achievements</i></li> <li>• <i>the issues or lessons learned</i></li> <li>• <i>recommendations for change, including adaptive</i></li> </ul>	Yearly	AFCMP Staff, Key Stakeholders and external facilitator	\$5000 <sup>3</sup>

<sup>2</sup> Based on proposal from Clear Horizon 2009 ref CH919

<sup>3</sup> This cost is based on a one-day workshop based in Adelaide, the approximate cost of consultants to facilitate this workshop and travel expenses. Rates re approximate and are subject to change depending on the details of the workshop.

	<i>management to inform yearly work plans</i>		
<i>Discussion of MERI results built into quarterly meetings</i>	<i>One (1) hour set aside each meeting to discuss what has been found so far and how the data collection is going</i>	<i>Monthly</i>	<i>AFCMP Staff. Key stakeholders may report on particular achievements or issues arising</i>
			\$0

## 2.7 Reports

The Australian Government (AG) reporting requirements and timeframes as specified in the funding agreement for this project.

Table 7 below sets out an example of the reporting requirements for the project and reports to be provided for other key recipients e.g. community based stakeholders, internal organisation, board of management, co-funders etc.

**Table 7: Mandatory MERI reporting requirements as per the Funding Deed**

Type of report	Requirements	Recipient	Timeframe
<b>MANDATORY CARING FOR OUR COUNTRY REPORTS</b>			
Interim progress report	<ul style="list-style-type: none"> <li>▪ Results to date against targets using Caring for our Country reporting template</li> <li>▪ Summary of expenses</li> <li>▪ For the period July to 30 November of each year that the project is funded</li> </ul>	AG	<ul style="list-style-type: none"> <li>▪ 31 January each year commencing 2011, relating to the 5 month period from 1 July to 30 November</li> </ul>
Yearly progress report	<ul style="list-style-type: none"> <li>▪ Results to date against targets using Caring for our Country reporting template</li> <li>▪ Financial year for period July to June for each year that the project is funded</li> </ul>	AG	<ul style="list-style-type: none"> <li>▪ by 1 September each year, relating to the 12 months period from 1 July to 30 June, until the final Project report is provided.</li> </ul>
Final project report	<ul style="list-style-type: none"> <li>▪ Final compilation and assessment of all the Project data/results (<i>May include information from mid-year reports, annual reports, and other research reports</i>)</li> <li>▪ Summative conclusion on achievements biophysical and /or social, cultural economic or environmental change that has occurred.</li> <li>▪ Final project financial acquittal for the whole of the projects life</li> </ul>	AG	<ul style="list-style-type: none"> <li>▪ within 120 days of the Grantee completing the Project Activities, with a draft report provided within 60 days of the Grantee completing the Project activities.</li> </ul>

OTHER REPORTS

MERI reports from partners

Project Reports

Risk Management

Communications

Financial

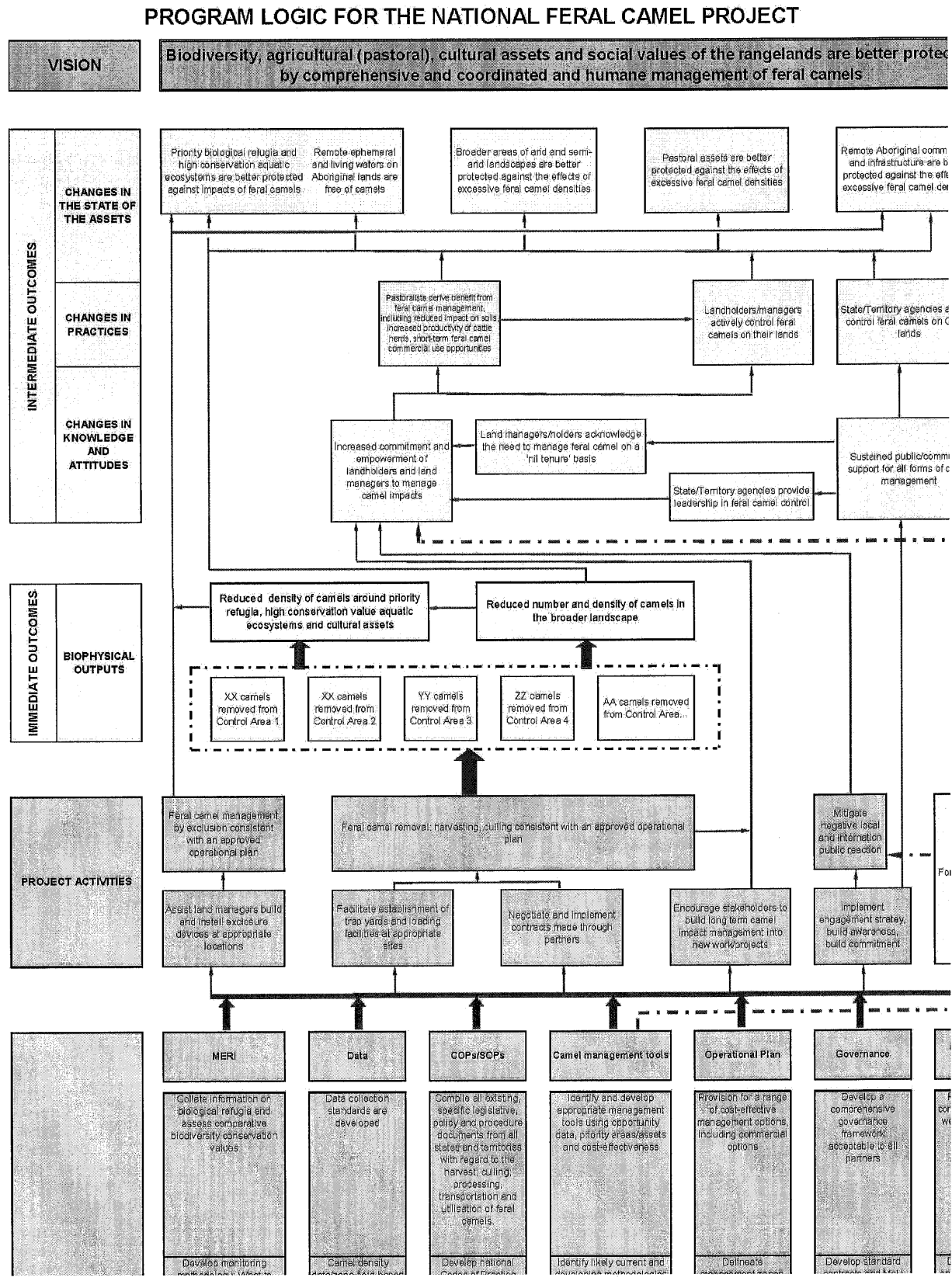
Steering Committee

### 3. Program Logic

Program Logic is a key element of an evaluation process as it shows a series of expected consequences, not just a series of events, at different outcomes levels. The program logic describes the relationships between project activities and desired outcomes.

The overarching Caring for our Country MERI Strategy is underpinned by program logic, against which key evaluation questions about the initiative can be clearly articulated. The outcomes range in type and timing from immediate through to longer-term outcomes, and build on foundations such as plans, frameworks, systems, and agreements for knowledge, communication and partnerships. Figure 1 shows the program logic for the Australian Feral Camel Management Project. This logic model was created using an existing logic model for the project. A number of stakeholders helped to refine the logic in a participatory workshop held on November 16, 2009 in Adelaide.

Figure 1: Program logic for the Australian Feral Camel Management Project



### 3.1 Assumptions within the logic and managing risk


The logic model in Figure 1 and the rationale behind this logic rest on some particular assumptions about how change will occur over time. It is important to be explicit about the assumptions of the logic model as these assumptions might be useful in explaining any unexpected changes that are not documented in the logic model. The assumptions of the Australian Feral Camel Management Project are listed in Table 8 against the relevant level of the logic model (left hand column) along with any evidence supporting these assumptions. A few of assumptions were considered highly important to test because they were ranked almost certainly/ highly likely to be wrong and there are extreme or high consequences on program outcomes if they are wrong. These few assumptions will be tested as part of the MERI plan or through the project management process throughout the project.

Table 8: Managing risk – the assumptions of the Australian Feral Camel Management Project program logic

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
Foundational activities	We assume that the expertise is available to interpret results generated by project	Moderate	Rare	Low	<ul style="list-style-type: none"> <li>Implement a skills audit to understand level of expertise available within the partners</li> <li>Source expertise from other potential collaborative partners</li> </ul>	Unlikely	Medium
Foundational activities	We assume that financial support needed to reduce numbers is adequate	Major	Probable	Significant	<ul style="list-style-type: none"> <li>Ensure operational costs are continually collected and evaluated.</li> <li>Ensure results are communicated and discussed with partners</li> <li>Adapt removal management practices according to results</li> <li>Through demonstrated successful removal operations ensure partners continue to contribute cash and in-kind to the project.</li> </ul>	Almost certain	High



Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
Foundational activities	We assume that the feral camel meat industry has the ability to contribute to targets	Minor	Rare	Low	<ul style="list-style-type: none"> <li>• None</li> <li>• Industry has limited capacity of which we are aware</li> <li>• As capacity changes, it can be evaluated as part of the yearly work plan process</li> </ul>	Unlikely	Low
Foundational activities	We assume that Ninti One has the ability to manage the project and risks	Severe-Ninti commitment and dedicated management processes critical to coordination of project	Unlikely	High	<ul style="list-style-type: none"> <li>• Ninti has an ongoing commitment to coordination of cross-jurisdictional and land tenure activities to improve the cultural, economic and environmental status of remote Australia.</li> <li>• Ninti has a contracted commitment to the project that limits its capacity to “change direction” in this regard.</li> <li>• Recent commencement of a new CRC (for Remote Economic Participation) administered by Ninti further enhances the stability of the organisation.</li> <li>• Ninti has strong staff succession processes to manage changes in the management team. The Managing Director, all Ninti General Managers, the Manager – Corporate Services, and</li> </ul>	Rare	Significant

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
Foundational Activities	Four-year timeframe too short, particularly given potential influence of seasonal conditions	Severe - Not enough time to remove the number of camels required to reduce the density to target	Probable	High	<p>administration staff have various roles in the management and delivery of the AFCMP. This is in addition to the specific Ninti AFCMP staff. These various roles increase the organisational capacity to manage the project during periods of staff change.</p> <ul style="list-style-type: none"> <li>Four-year timeframe has been offered and an assessment will be made during the four year agreement as to whether additional support will be required.</li> <li>Build flexibility into program through rolling 1-year plans.</li> <li>Ensure effective collaboration between partners to maximise resources and the number and efficacy of removal operations.</li> </ul>	Unlikely	
Foundational Activities	Camel removal activities are unverifiable	Severe - Fundamental failure of project resulting in no further funding	Probable	High	<ul style="list-style-type: none"> <li>Adoption of comprehensive MERI</li> <li>Strict verification and audit procedures to be specified in partner agreements.</li> <li>Strict adherence to CoPS and SOPS by partners and sub-contractors</li> <li>CoPs and SOPS to be</li> </ul>	Rare	Significant

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
Project activities	Assumes that states and partners will contribute costs and in-kind in parallel	Major	Probable	Significant	<p>specified/included in all partner/sub-contract agreements/contracts.</p> <ul style="list-style-type: none"> <li>Historical evidence available that states will cost share</li> <li>National Feral Camel Action Plan (NFCAP) endorsed by NRM MC buys <ul style="list-style-type: none"> <li>ministerial support</li> <li>officer level support</li> <li>high level of partners support.</li> </ul> </li> <li>Ensure that operational costs are continually collected, analysed and evaluated.</li> <li>Ensure results are communicated and discussed with partners.</li> <li>Adapt removal management practices according to results obtained.</li> <li>Through demonstrated successful removal operations ensure partners continue to contribute cash and in-kind to the project.</li> </ul>		High
Project activities	We assume that management by aerial	Major	Probable	Significant	<ul style="list-style-type: none"> <li>Develop effective communication strategy that can allay fears and</li> </ul>	Probable	Medium

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
	removal will be socially acceptable (e.g. animal welfare and repugnance about shoot to leave				<p>educate people as to the need to remove camels and the benefits that will ensue.</p> <ul style="list-style-type: none"> <li>• Ensure that animal welfare organisations are actively and positively engaged</li> <li>• Ensure that culling is conducted according to government SOPs or equivalent guidance.</li> <li>• Ensure industry-based removal options are incorporated into integrated management approach</li> </ul>		
Project activities	We assume that aerial removal is safe and efficient	Severe	Rare	Significant	<ul style="list-style-type: none"> <li>• Ensure compliance with relevant COPs and SOPs</li> <li>• Use only accredited personnel, conduct appropriate due-diligence processes to verify accreditation status and adhere to standard operation procedures.</li> <li>• Ensure all contractors have emergency response procedures in place.</li> <li>• Manage communications associated with any incident.</li> <li>• Ensure industry-based removal options are incorporated into</li> </ul>	Rare	Medium

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
					<p>integrated management approach to reduce reliance on aerial shooting where this is effective and efficient at reducing camel impacts.</p> <ul style="list-style-type: none"> <li>• Training – provision of a nationally recognised accreditation scheme for aerial platform shooting and pilot training</li> <li>• Verification processes to ensure compliance with procedures.</li> </ul>		
Project activities	We assume that Aboriginal people will engage positively in this project	Major	Almost certain	High	<ul style="list-style-type: none"> <li>• Resource comprehensive and ongoing consultation and debriefing processes.</li> <li>• Consider industry-based feral camel removal options where culling is not supported or economically sensible.</li> <li>• Engage with Indigenous Land Corporation (ILC), Indigenous Business Australia (IBA) and government agencies that have a strong Aboriginal development focus to consider incorporation of management activities that provide better outcomes for Aboriginal communities in the feral</li> </ul>	Probable	Medium

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
Project activities	We assume all key stakeholder areas will remain engaged in the project even if some do not concur with MERI outcomes	Major	Unlikely	Significant	<p>camel range.</p> <ul style="list-style-type: none"> <li>Implement a strategic and coordinated program.</li> <li>Extensive communication strategy employed to engage stakeholders.</li> <li>Sound governance structure.</li> <li>Ongoing engagement with State and Territory Governments to ensure that jurisdictions do not restrict removal activities unnecessarily</li> <li>Proper consultation and debriefing processes with landholders.</li> <li>Achieve a common vision, tailored to pastoralists and traditional owners separately.</li> <li>Other forms of impact reduction and removal to be undertaken where appropriate.</li> <li>Camels are mobile so can manage around small parcels of land that do not come on board.</li> </ul>	Unlikely	Low
Project activities	We assume that most Australians are aware of feral camel problem and the need to address the problem	Minor	Almost certain	Medium	<ul style="list-style-type: none"> <li>Develop effective communication strategy that can allay fears and educate people as to the need to</li> </ul>		

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
					<p>remove camels and the benefits that will ensue.</p> <ul style="list-style-type: none"> <li>• Ensure that animal welfare organisations are actively and positively engaged</li> <li>• Ensure that culling is conducted according to government SOPs or equivalent guidance.</li> <li>• Ensure industry-based removal options are incorporated into integrated management approach</li> </ul>		

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
Project activities and immediate outcomes	We assume that feral camels can be concentrated at focal points where they can be removed by various methods in accordance with stakeholder/partner requirements	Moderate	Almost certain	Significant	<ul style="list-style-type: none"> <li>Establish networks through partners to obtain good local intelligence combined with aerial survey work pre and post removal activities.</li> </ul>	Probable	Medium
Immediate outcomes	Provision of operational resources/logistics can be supplied e.g. shooters and ammo	Moderate	Probable	Medium	<ul style="list-style-type: none"> <li>Training – provision of a nationally recognised accreditation schemes for aerial platform and ground shooters and pilots.</li> <li>Promote tenders widely and preferably establish a panel of potential providers.</li> <li>Industry advice is that there are enough qualified pilots.</li> <li>Incorporate alternative removal options into the management program where appropriate.</li> <li>Pooling of shooters across states.</li> <li>Ensure all contractors have proper accreditation and training and abide by all rules and regulations.</li> <li>Verification processes to ensure compliance with procedures.</li> </ul>	Probable	Low



Level of the Logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
Immediate outcome	Feral camels can be removed at the average cost as described in the investment proposal	Moderate	Unlikely	Medium	<ul style="list-style-type: none"> <li>Incorporate integrated approach to management to establish most cost-effective approach (that is supported by landholders) for each operational area.</li> <li>Consider Market Based Instrument approach or competitive tender processes to determine the most efficient removal approach for a particular site.</li> <li>Implement strong MERI processes that quickly identify costs (per head removal) and inform Program Management of options that can reduce these costs to the program.</li> </ul>	Unlikely	Low
Immediate outcomes	We assume that the pet meat market will take 100,000 feral camels over 5 years	Minor	Almost certain	Low	<ul style="list-style-type: none"> <li>MERI process to monitor numbers against targets.</li> <li>If the pet meat market fails then other management methods will be increased to meet targets.</li> </ul>	Almost certain	Low
Immediate outcomes and Intermediate outcome	We assume sufficient knowledge of feral camel population and density for effective management	Moderate	Unlikely	Medium	<ul style="list-style-type: none"> <li>Establish networks through partners to obtain good local intelligence combined with aerial survey work pre and post removal activities.</li> </ul>	Unlikely	Low

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
Immediate and intermediate outcomes	Camels quickly repopulate control areas, especially after favourable weather	Major - Ineffective management in some areas	Probable	Significant	<ul style="list-style-type: none"> <li>Ongoing refinement of management strategy through Annual Operating Plan process.</li> <li>MERI to inform any negotiations to extend project both in time and financially.</li> </ul>	Unlikely	Significant
Immediate and intermediate outcomes	Increase in exotic predators or predatory activity that has an unacceptable impact on native species conservation following 'shoot to leave'	Major - Puts pressure on vulnerable species and could therefore compromise management approach in some areas	Probable	High	<ul style="list-style-type: none"> <li>Apply appropriate management as required. Consider carcass disposal.</li> <li>Manage carcass creation so that it is restricted both spatially and temporally (ie: 21 days within an area and no further cull activity in that area for 12 months).</li> <li>Where feasible, avoid shoot to leave activities within proximity of a threatened species population that could be adversely impacted by exotic predators or concentrated native predators (eg Wedge-tailed Eagles) should it/they prey switch from carcasses.</li> </ul>	Unlikely	Significant

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
Intermediate outcomes and vision	Assume that achieving Caring for our Country target will result in the creation of a mechanism for long term management of feral camels	Minor	Unlikely	Low	<ul style="list-style-type: none"> <li>• Ensure the benefit of the program is communicated to all partners/stakeholders</li> <li>• Ensure capacity building programs are part of the operational aspects of the project to enable landholders to manage feral camels over the long term.</li> <li>• Establish management plans for the maintenance of feral camel removal programs.</li> <li>• Establish on-going communications, web-based and print materials to assist with the development of feral camel management programs.</li> <li>• Ensure that the nexus between the AFCMP and the NFCAP are understood by all partners/stakeholders.</li> </ul>	Unlikely	Low

Level of the logic	Nature of Risk	Impact	Likelihood	Risk Category	Mitigation Strategy	Post-mitigation likelihood	Residual Risk Category
Vision and intermediate outcome	We assume we know what biodiversity assets are	Major	Unlikely	Significant	<ul style="list-style-type: none"> <li>Establish MERI Group with biodiversity experts to verify biodiversity assets.</li> <li>Verify biodiversity assets against known national and international parameters , legislative and other standards such as CITES; RAMSAR; EPBC Act</li> </ul>	Rare	Low
Intermediate outcomes and Vision	We assume that removing feral camels will result in a positive ecosystem response and protect biodiversity assets without off-target implications	Major	Probable	Significant	<ul style="list-style-type: none"> <li>Establish MERI processes to measure biodiversity responses from a few carefully chosen sites.</li> <li>Assess available literature and methodologies for references and examples of successful similar projects.</li> <li>Assess historical and anecdotal data available from partner projects in SA.</li> </ul>	Probable	Medium

## 4. Evaluation questions

Table 9 below illustrates the key evaluation questions (KEQs) and the other evaluation questions that relate to them.

*Key evaluation questions* are the high-level questions that the evaluation wants to answer. These may be based on the Caring for our Country targets or other focused questions that form the basis of data collection for an evaluation study.

*Other questions* are sub-questions of the KEQs that are developed to help us answer the KEQs. These other questions often can be answered with a direct measure or set of measures i.e. did the number of participants change due to the funded activities?

The KEQs will be addressed through evidence from various sources, such as:

- reviews of existing documentation and reports baseline and follow up surveys
- project progress reports
- survey of landholders
- phone interviews with landholders and key stakeholders
- face to face interviews with landholders, indigenous communities and key stakeholders
- anecdotal evidence
- commissioned studies (e.g. external audits).

Not all evaluations will require specially commissioned studies.

Table 9 presents the KEQs and related other questions and the data sources or methods that will be used to address these questions.

EVALUATION METHODS	DATA SOURCES	NEW or EXISTING DATA	TIMEFRAME	RESPONSIBILITY
Area (sq km) surrounding priority biological refugia where the camel density is <0/1 camel/sq km	Annual Work Plans delineating target areas Pre-treatment camel survey data Post-treatment camel survey data	P P P	End of project Annual Performance Review	National Ops Team
Comparison of pre- and post-treatment condition for selected aquatic and terrestrial sentinel sites	Pre-treatment biological refugia survey data Post-treatment biological refugia survey data Historic biological refugia survey data	E & P P E	End of project Annual Performance Review	National Ops Team
Comparison of impacted selected aquatic and terrestrial sentinel sites with otherwise comparable unimpacted (inaccessible?) sites	Survey data from impacted sites Survey data from comparable sites	E & P E & P	End of project Annual Performance Review	National Ops Team
Number/proportion of camels removed from land surrounding priority biological refugia	Historic camel survey data Pre-treatment camel survey data Post-treatment camel survey data Project operations records Waybill, transport, abattoirs records	E E & P E & P P P	End of project Annual Performance Review	National Ops Team
Area (sq km) surrounding priority HCVAE where the camel density is <0/1 camel/sq km	Annual Work Plans delineating target areas Pre-treatment camel survey data Post-treatment camel survey data	P E & P P	End of project Annual Performance Review	National Ops Team
Area (sq km) surrounding priority HCVAE treated	Annual Work Plans delineating target areas Project operations records	P P	End of project Annual Performance Review	National Ops Team
Changes in selected water quality parameters at selected HCVAEs (Must account for seasonal/climatic variations)	HCVAE indicators?		End of project Annual Performance Review	Agency (water) staff?
Number/proportion of camels removed from land surrounding priority HCVAE	Annual Work Plans delineating target areas Project operations records Waybill, transport, abattoirs records	P P P	End of project Annual Performance Review	National Ops Team
Number of managers of pastoral properties vulnerable to camel invasion that have changed their camel management practices (from.... To ...)	Annual Work Plans delineating target areas Project operations records	P P	End of project Annual Performance Review	National Ops Team
Aggregation of the area (sq km) of pastoral properties vulnerable to camel invasion and aggregation of the area of those properties where the managers have changed their camel management practices	Annual Work Plans delineating target areas Project operations records	P P	End of project Annual Performance Review	National Ops Team
Analysis of pastoral property costs (financial and other) attributable to feral camels	Landholder survey	N	End of project	National Ops Team/Agency staff
camel	Project operational records Landholder survey	P P		
pastoral m the				

**EVALUATION METHODS**

refer Table 10 for additional detail

**NEW or EXISTING DATA**

**TIMEFRAME**

**RESPONSIBILITY**

**DATA SOURCES**

EVALUATION METHODS	DATA SOURCES	NEW or EXISTING DATA	TIMEFRAME	RESPONSIBILITY
External Audit	Annual Work Plans Stakeholder survey	P N	End of project	Consultant
External Audit	Annual Work Plans Project operations records National Camel Action Plan Code of Practice/Standard Operating Procedures	P P E P	End of project Annual Performance Review	Consultant/Expert Panel
External Audit	Annual Work Plans Project operations records Project financial reports and records Management Committee minutes, papers and other records MoUs with project partners, Contracts with project service providers Funding Deed with AG	P P P P P E	End of project	Consultant

E = exists prior to project  
P = to be created in the course of the operational component of the project

*Definitions/ methodology for assessing ecosystem condition and functioning (or replacement terms) required*

**Table 10: Details of the methods that will be used to collect data against the KEQ**

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References— including but not limited to:
<p>Assess and aggregate pastoral properties on the basis of their vulnerability to camel invasion in a particular region.</p> <p>Divide into two groups those who have changed and those who have not changed their management practices in relation to feral camel management for further analysis.</p>	<ul style="list-style-type: none"> <li>• Appropriate properties to be identified by regional coordinators/pastoral bodies or other relevant organisations (NRM Boards for eg)</li> <li>• Telephone and or email survey to engage with landholders and qualify their willingness to participate in change management program</li> <li>• Aggregate properties by region</li> <li>• Identify properties that have/have not changed their practices</li> <li>• Devise a feral camel management strategy in conjunction with the landholders</li> <li>• Devise and implement a relevant monitoring program and reporting tools to enable qualitative and quantitative evaluation of the data collected</li> </ul> <p>Evaluation to include assessment of costs for control</p>	<p>See Edwards et al 2008, <i>Managing the impacts of feral camels in Australia: a new way of doing business</i>. DKCRC Report 47 for extensive reference list at the end of each chapter.</p> <p>Zeng B and Edwards GP 2008a. <i>Key Stakeholder perceptions of feral camels : pastoralists survey</i>. In Edwards et al (Eds), <i>Managing the impacts of feral camels in Australia: a new way of doing business</i>. DKCRC Report 47. Desert Knowledge Cooperative Research Centre, Alice Springs. Pp 35-62.</p>



Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
<p>Analysis of costs (financial and other) attributable to feral camels – pastoral and community</p>	<ul style="list-style-type: none"> <li>• Re-engage landholders (Aboriginal, Conservation, Pastoral) that participated in the research for Edwards et al 2008, Managing the impacts of feral camels in Australia: a new way of doing business. DKCRC Report 47.</li> <li>• Consult with additional landholders/managers and community groups to gauge willingness to be involved in collecting data for the life of the project</li> <li>• In conjunction with above stakeholder groups develop an appropriate template for the collection of agreed data</li> <li>• Include input from relevant specialists eg accountants, economists to ensure data can be analysed with some rigour post collection</li> <li>• Include input from other organisations that are also impacted eg Power Water Corporation in NT and the cost of repairing/replacing a bore in a remote area; health agencies; police; other govt departments</li> </ul>	<p>As above as well as Zeng B and Edwards GP 2008b.</p> <p><i>Key Stakeholder perceptions of feral camels :Conservation manager survey. In: Edwards et al (Eds), Managing the impacts of feral camels in Australia: a new way of doing business. DKCRC Report 47. Desert Knowledge Cooperative Research Centre, Alice Springs. Pp 63-78.</i></p> <p>And Vaarzon-Morel P. 2008. <i>Key Stakeholder perceptions of feral camels: Aboriginal community survey. DKCRC Report 49 Desert Knowledge CRC Alice Springs.</i></p>

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
Analysis of project operational records	<ul style="list-style-type: none"> <li>External audit of project operational records by relevant professionals : records and document management; accountants; auditor; MERI/Most significant change</li> </ul>	<p>As per relevant requirements under the Commonwealth Tax Assessments Acts;</p> <p>Corporations Law 2001(Cth) for a company limited by guarantee.</p> <p>Project Management: Australian Institute of Project Management</p> <p>Governance:</p> <p>Australian Securities and Investments Commission</p> <p>Australian Institute of Company Directors</p> <p>The Australian Institute of Management.</p> <p>Removal techniques: Australian Pest Animal Strategy.</p> <p>Vertebrate Pests Committee</p> <p>Relevant Animal Welfare legislation/regulations</p> <p>RSPCA</p> <p>MSC – Clear Horizon</p>
Analysis of anecdotal information	<ul style="list-style-type: none"> <li>Qualitative evaluation techniques based on the participatory monitoring and evaluation process of Most Significant Change (MSC) as articulated in the significant body of work by Rick Davies and Jess Dart.</li> </ul>	<p>The work of Davies and Dart is extensive and covers the period 1998 to present time and ongoing. Please see:</p> <p>MSC Clear Horizon. 2008. <i>MSC Publications</i>. Clear Horizon. <a href="http://www.clearhorizon.com.au/publications/publications-overview/">http://www.clearhorizon.com.au/publications/publications-overview/</a> accessed 4 August 2010.</p>

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
Media and Communications analysis	<ul style="list-style-type: none"> <li>• Undertake media monitoring – already underway.</li> <li>• Record the number of media hits and classify them according to type, subject and time frame.</li> <li>• Analyse activity in relation to the timing of project activities related to camel management such as cull events, industry comment, carbon issues</li> <li>• Conduct baseline attitudinal and one or two follow-up public surveys to evaluate and understand community attitudes and the subsequent change in attitude over time (include qualitative and quantitative methods)</li> <li>• Qualitative evaluation – MSC methodologies.</li> </ul>	<p>Media Monitors</p> <p>(Media monitoring service currently used by Ninti One Ltd)</p> <p>McGregor Tan (Market Research Company for baseline and ongoing research)</p> <p>MCS Methodologies: Clear Horizon – Dr Jess Dart</p>

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
<p>Assessment of area (sq km) surrounding priority biological refugia where the camel density is &lt;0.1 camels/sq km</p>	<p>Specific monitoring and evaluation methodologies will be decided upon once the priority areas have been identified and agreed but will include some of all of the following: aerial surveys pre and post removal to assess feral camel densities; assessment of existing data and published evaluation reports from previous or continuing monitoring projects, assessment of suitability of priority sites based on available data, camel impacts and subsequent biological/biodiversity impacts. See references.</p>	<p>Quinn GP, Keough Michael J, 2002. <i>Experimental Design and Data Analysis For Biologists</i>. Cambridge University Press UK</p> <p>Kershaw KA, Looney HH (1985). <i>Quantitative and Dynamic plant Ecology</i>, 3<sup>rd</sup>. Ed. London UK: Edward Arnold.</p> <p>Extensive references in the Edwards et al (2008)</p> <p>Report 47 in particular Chapters, 2 &amp; 7. (already referenced)</p> <p>McLeod SR and Pople AR. 2008. <i>Modelling management options for management of feral camels in central Australia</i>, DKCRC Research Report 48. Desert Knowledge CRC, Alice Springs.</p> <p>Lamb D and Saalfeld K. 2008. <i>A multiple criteria decision support framework for the management of feral camels</i>, DKCRC Report 53. Desert Knowledge CRC, Alice Springs.</p> <p>Mitchell, B. and Balogh, S. (2007) NSW DPI Orange. <i>Monitoring Techniques for Vertebrate Pests – Feral Goats</i></p>

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
<p>Assessment of area (sq km) surrounding priority HCVAE treated</p>	<p>Specific monitoring and evaluation methodologies will be decided upon once the priority areas have been identified and agreed but will include some of all of the following: aerial surveys pre and post removal to assess feral camel densities; assessment of existing data and published evaluation reports from previous or continuing monitoring projects, assessment of suitability of priority sites based on available data, camel impacts and subsequent biological/biodiversity impacts. See references.</p>	<p>There is a significant body of work by Jayne Brim box in particular, that will be referenced. Jayne will also form part of the MERI planning teams for water related activities. Some of the work to be referenced will include :</p> <p>Barker P and Brim Box J. 2008 <i>Central Australian Wetlands Monitoring Framework parts I and II; water quality and aquatic sampling</i>, Prepared for the Central Australian Water for LIFE Project. Greening Australia NT.</p> <p>Box JB, Duguid A, Read R, Kimber RG, Knapton A, Davis J and Bowland AE. 2008. Central Australian waterbodies: the importance of permanence in a desert landscape. <i>Journal of Arid Environments</i> 72, pp. 1395-1414.</p> <p>Duguid A, Barnetson J, Clifford B, Pavey C, Albrecht D, Risler J and McNellie M. 2005. <i>Wetlands in the arid Northern Territory: a report to the Australian Government Dept of the Environment and Heritage on the inventory and significance of wetlands in the arid NT</i>. Northern Territory Government Department of Natural Resources, Environment and the Arts, Alice Springs.</p> <p>The articles listed above are NT centric but material from other jurisdictions will be accessed.</p>

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
<p>Area (sq km) surrounding priority HCVAE where the camel density is &lt;0/1 camel/sq km</p>	<p>Specific monitoring and evaluation methodologies will be decided upon once the priority areas have been identified and agreed but will include some of all of the following: aerial surveys pre and post removal to assess feral camel densities; assessment of existing data and published evaluation reports from previous or continuing monitoring projects, assessment of suitability of priority sites based on available data, camel impacts and subsequent biological/biodiversity impacts. See references.</p>	<p>See above</p>
<p>Changes in selected water quality parameters at selected HCVAEs</p>	<p>Specific monitoring and evaluation methodologies will be decided upon once the priority areas have been identified and agreed but will include some of all of the following: aerial surveys pre and post removal to assess feral camel densities; assessment of existing data and published evaluation reports from previous or continuing monitoring projects, assessment of suitability of priority sites based on available data, camel impacts and subsequent biological/biodiversity impacts. See references.</p>	<p>See above</p>

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
<p>Comparison of impacted selected aquatic and terrestrial sentinel sites with otherwise comparable unmatched (inaccessible?) sites</p>	<p>Specific monitoring and evaluation methodologies will be decided upon once the priority areas have been identified and agreed but will include some of all of the following: aerial surveys pre and post removal to assess feral camel densities; assessment of existing data and published evaluation reports from previous or continuing monitoring projects, assessment of suitability of priority sites based on available data, camel impacts and subsequent biological/biodiversity impacts. See references.</p>	<p>See above</p>
<p>Comparison of pre- and post-treatment condition for selected aquatic and terrestrial sentinel sites</p>	<p>Specific monitoring and evaluation methodologies will be decided upon once the priority areas have been identified and agreed but will include some of all of the following: aerial surveys pre and post removal to assess feral camel densities; assessment of existing data and published evaluation reports from previous or continuing monitoring projects, assessment of suitability of priority sites based on available data, camel impacts and subsequent biological/biodiversity impacts. See references.</p>	<p>See above</p>

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
<p>Comparison of relevant Caring for our Country Business Plan OUTCOMES with results of evaluation of KEQ1, 2 and 3:</p> <ul style="list-style-type: none"> <li>• Biodiversity and Natural Icons</li> <li>• Coastal environments and critical aquatic habitats</li> <li>• Sustainable farm practices</li> <li>▪ Northern and Remote Australia</li> </ul>	<p>Written report comparing and contrasting the outcomes resulting from the evaluation of KEQ 1,2,3.</p>	<p>Quinn GP, Keough Michael J, 2002. <i>Experimental Design and Data Analysis For Biologists</i>. Cambridge University Press UK</p> <p>Kershaw KA, Looney HH (1985). <i>Quantitative and Dynamic plant Ecology</i>, 3<sup>rd</sup>. Ed. London UK: Edward Arnold.</p> <p>Southwood T.R.E, Henderson P.A., 2002. (third ed) <i>Ecological Methods</i>. Blackwell Science</p> <p>McDonald R.C, Isbell R.F, Speight J.G, Walker J., Hopkins M.S. (1984) <i>Australian Soil and Land Survey Field Handbook</i>. Inkata Press</p> <p>Gunn R.H., Beattie J.A., Reid R.E, van de Graff R.H.M.(1988) <i>Australian Soil and Land Survey Handbook – Guidelines for Conducting</i></p>
<p>Comparison of relevant Caring for our Country Business Plan TARGETS with results of evaluation of KEQ1, 2 and 3</p> <ul style="list-style-type: none"> <li>• Biodiversity and Natural Icons</li> <li>• Coastal environments and critical aquatic habitats</li> <li>• Sustainable farm practices</li> </ul>	<p>Written report evaluating the outcomes against the Business Plan targets resulting from the evaluation of KEQ 1,2,3.</p>	<p>Quinn GP, Keough Michael J, 2002. <i>Experimental Design and Data Analysis For Biologists</i>. Cambridge University Press UK</p> <p>Kershaw KA, Looney HH (1985). <i>Quantitative and Dynamic plant Ecology</i>, 3<sup>rd</sup>. Ed. London UK: Edward Arnold.</p> <p>Southwood T.R.E, Henderson P.A., 2002. (third ed) <i>Ecological Methods</i>. Blackwell Science</p>
<p>Cross-checking of project work areas with known patterns of camel invasions of pastoral properties.</p>	<p>To be included as part of monitoring process, where applicable and relevant, and then analysed using qualitative techniques and where possible quantitative analysis.</p>	<p>Quinn GP, Keough Michael J, 2002. <i>Experimental Design and Data Analysis For Biologists</i>. Cambridge University Press UK</p> <p>Kershaw KA, Looney HH (1985). <i>Quantitative and Dynamic plant Ecology</i>, 3<sup>rd</sup>. Ed. London UK: Edward Arnold.</p> <p>Southwood T.R.E, Henderson P.A., 2002. (third ed) <i>Ecological Methods</i>. Blackwell Science</p>



Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
Cross-checking of identified biological refugia with project work areas, and comparison with other listings of priority/high value sites	To be included as part of monitoring process, where applicable and relevant, and then analysed using qualitative techniques and where possible quantitative analysis.	<p>Quinn GP, Keough Michael J, 2002. <i>Experimental Design and Data Analysis For Biologists</i>. Cambridge University Press UK</p> <p>Kershaw KA, Looney HH (1985). <i>Quantitative and Dynamic plant Ecology</i>, 3<sup>rd</sup>. Ed. London UK: Edward Arnold.</p> <p>Southwood T.R.E, Henderson P.A., 2002. (third ed) <i>Ecological Methods</i>. Blackwell Science</p>
Cross-checking of identified high conservation value aquatic ecosystems with project work areas, and comparison with other listings of priority/high value sites	To be included as part of monitoring process, where applicable and relevant, and then analysed using qualitative techniques and where possible quantitative analysis.	<p>Quinn GP, Keough Michael J, 2002. <i>Experimental Design and Data Analysis For Biologists</i>. Cambridge University Press UK</p> <p>Kershaw KA, Looney HH (1985). <i>Quantitative and Dynamic plant Ecology</i>, 3<sup>rd</sup>. Ed. London UK: Edward Arnold.</p> <p>Southwood T.R.E, Henderson P.A., 2002. (third ed) <i>Ecological Methods</i>. Blackwell Science</p>
External Audit	<ul style="list-style-type: none"> <li>▪ Audit to be undertaken by an appropriately experienced/qualified consultant/expert not immediately connected with the project</li> <li>▪ Task specifications to be drafted/approved by the Project Management Committee</li> <li>▪ Contract to be let by Ninti One Ltd with a formal report back to Ninti One</li> </ul>	

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
<p>Number of managers of pastoral properties vulnerable to camel invasion that have changed their camel management practices</p>	<ul style="list-style-type: none"> <li>▪ Identification and mapping of those properties Appropriate properties to be identified by regional co-ordinators/pastoral bodies or other relevant organisations (NRM Boards for eg)</li> <li>▪ Telephone and or email survey to engage with landholders and qualify their willingness to participate in change management program</li> <li>▪ Aggregate properties by region</li> <li>▪ Identify properties that have/have not changed their practices</li> <li>▪ Devise a feral camel management strategy in conjunction with the landholders</li> <li>▪ Devise and implement a relevant monitoring program and reporting tools to enable qualitative and quantitative evaluation of the data collected.</li> <li>▪ Evaluation to include assessment of costs for control</li> </ul>	<p>See Edwards et al 2008, <i>Managing the impacts of feral camels in Australia: a new way of doing business</i>. DKCRC Report 47 for extensive reference list at the end of each chapter.</p> <p>Zeng B and Edwards GP 2008a. <i>Key Stakeholder perceptions of feral camels : pastoralists survey</i>. In Edwards et al (Eds), <i>Managing the impacts of feral camels in Australia: a new way of doing business</i>. DKCRC Report 47. Desert Knowledge Cooperative Research Centre, Alice Springs. Pp 35-62.</p>

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
<p>Number/proportion of camels removed from land surrounding priority biological refugia</p>	<p><b>Aerial surveys for verification of densities pre and post-cull:</b></p> <ul style="list-style-type: none"> <li>▪ Aerial surveys: pre and post removal activities with appropriate maps designating survey areas, transects, measuring techniques, height flown above ground, number of observers.</li> <li>▪ Results analysed to correct for observer bias and seasonal variation</li> </ul> <p>Pet –Meat or mustering operations:</p> <ul style="list-style-type: none"> <li>▪ Waybills for pet-meating/mustering operations</li> <li>▪ Maps and GPS records of the areas where pet-meating/mustering is occurring with numbers recorded either manually against GPS points or electronically on a suitable software program/tool such as Cybertracker.</li> </ul> <p>Aerial survey data to be made available to landholders engaged in mustering and pet-meat removal activities to enable them to plan operations and to record numbers removed against designated hot spots and/or high value biodiversity areas.</p> <p>Evaluation methods to include seasonal factors/variations.</p>	<p>Quinn GP, Keough Michael J, 2002. <i>Experimental Design and Data Analysis For Biologists</i>. Cambridge University Press UK</p> <p>Kershaw KA, Looney HH (1985). <i>Quantitative and Dynamic plant Ecology</i>, 3<sup>rd</sup>. Ed. London UK: Edward Arnold.</p> <p>Extensive references in the Edwards et al (2008)</p> <p>Report 47 in particular Chapters, 2 &amp; 7. (already referenced)</p> <p>McLeod SR and Pople AR. 2008. <i>Modelling management options for management of feral camels in central Australia</i>, DKCRC Research Report 48. Desert Knowledge CRC, Alice Springs.</p> <p>Lamb D and Saalfeld K. 2008. <i>A multiple criteria decision support framework for the management of feral camels</i>, DKCRC Report 53. Desert Knowledge CRC, Alice Springs.</p> <p>Mitchell, B. and Balogh, S. (2007) NSW DPI Orange. <i>Monitoring Techniques for Vertebrate Pests – Feral Goats</i></p>

Outcome/action to be evaluated	Monitoring/Evaluation Methods	References– including but not limited to:
<p>Number/proportion of camels removed from land surrounding priority biological refugia ...continued</p>	<p><b>Aerial culling operations.</b></p> <ul style="list-style-type: none"> <li>▪ Aerial survey data to be used as the basis for planning activities</li> <li>▪ Flight plan/path records</li> <li>▪ Records of numbers shot per day mapped to GPS points</li> <li>▪ Photographic records with GPS records digitally embedded.</li> <li>▪ A % of aerial cull sites to be selected for independent audit post cull from the air and the ground to verify numbers removed.</li> </ul> <p>Seasonal variation to be accounted for and included in the evaluation of results.</p>	
<p>Number/proportion of camels removed from land surrounding priority HCVAE</p>	<p>As above</p>	<p>As above plus reference to Jayne Brim Box' work and the extensive bibliographies in Edwards et al (2008) as cited previously.</p>

## 5. Improvement

### 5.1 Reviewing the MERI plan

Regular reflection on data, strategies, management processes and progress informs an adaptive management approach for continuous quality improvement of the project.

Table 11 provides a plan for the review of the MERI plan, associated program logic and for recording changes to achieve improvements in project implementation.

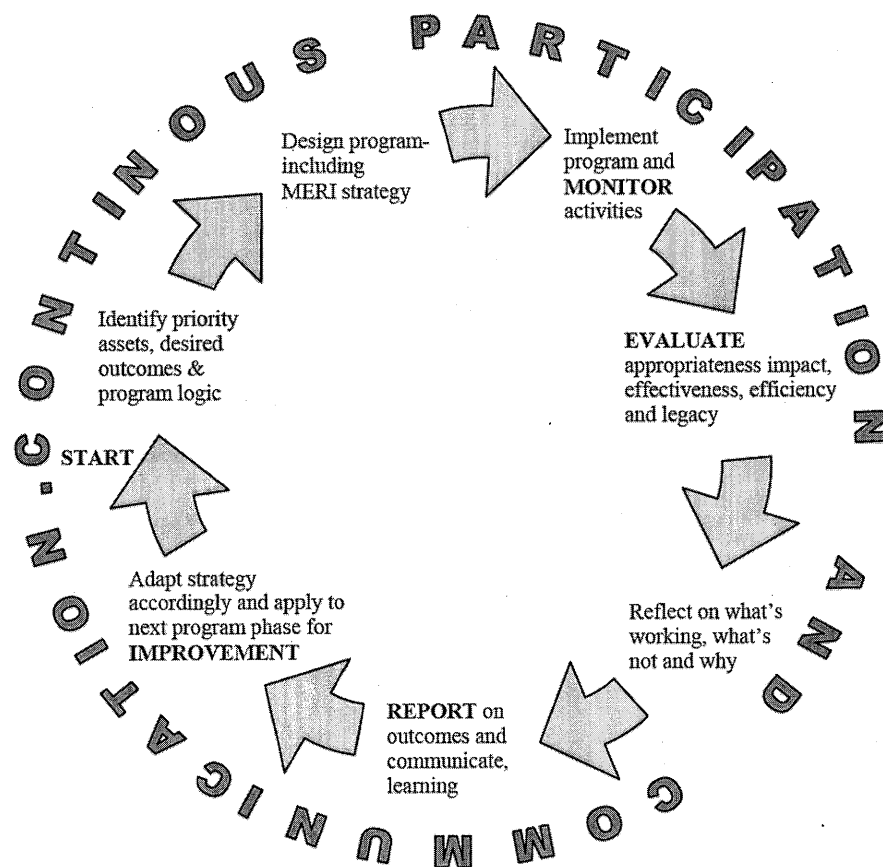
Table 11: MERI Plan Review Schedule

Date	Participants	Type of review	Resources/materials required	Agreed adaptive management strategy	Communicate results
	<ul style="list-style-type: none"> <li>Feral camel Management Project Staff</li> <li>Key Partners and Stakeholders</li> <li>Representative from Australian Government</li> </ul>	<p><b>Reflection Workshop</b> A facilitated session to capture:</p> <ul style="list-style-type: none"> <li>the achievements</li> <li>the issues or lessons learned</li> <li>recommendations for change, including adaptive management to inform yearly work plans</li> </ul>	<ul style="list-style-type: none"> <li>Monitoring and Evaluation Data</li> <li>Program Logic</li> </ul>	<p>This will be the central activity to document recommendations for adaptive management. It will provide the opportunity for the project staff, partners and stakeholders to address issues, celebrate achievements and develop an improvement plan. Data collected and analysed in this workshop can be used for reporting to government.</p>	<ul style="list-style-type: none"> <li>Internal communication of workshop notes</li> <li>Reports to Australian Government</li> <li>Relevant data communicated to general public and key stakeholders</li> </ul>
	<ul style="list-style-type: none"> <li>Feral camel Management</li> </ul>	<p><b>MERI team meeting:</b> one (1) hour set aside each meeting to discuss what has been found so far and</p>	<ul style="list-style-type: none"> <li>Monitoring and Evaluation Data</li> </ul>	<p>This regular meeting will make it easier to collate data and to identify issues or gaps in the data</p>	<ul style="list-style-type: none"> <li>Internal meeting minutes</li> <li>Communication of relevant</li> </ul>

	<p>Project Staff</p> <ul style="list-style-type: none"> <li>Key Stakeholders should participate when appropriate or if particular issues or achievement warrant discussion</li> </ul>	<p>how the data collection is going. This will make it easier to collate data and to identify issues or gaps in the data set.</p>	<ul style="list-style-type: none"> <li>Program Logic</li> </ul>	<p>set on a continually basis. Without regular discussion it is easy for MERI to go 'off track'.  Report requirements and any changes to MERI data collections should be discussed in the context of the data presented at these meetings.</p>	<p>data to stake holders and general public where appropriate</p>
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## 5.2 The feedback cycle

The feedback cycle documents how the project influences the project plan and informs key users and other stakeholders of the plan. Figure 2 shows a general feedback cycle where monitoring and evaluation occur alongside project activities and enable continuous learning and improvement within the project. It is important to consider MERI in this way so that MERI activities are embedded in the project cycle and are not 'tacked on' in order to fulfill reporting requirements.



### 5.3 Communicating results

It is essential for any monitoring and evaluation work that strategies are developed to communicate evaluation results to maximise learning and improvement within the project and more broadly within the community. There is also use in communicating the results to promote the work done by the project and to encourage support and involvement for the project.

The Australian Feral Camel Management Project has an extensive communications plan. This plan covers a wide range of communications approaches (see Table 12 below) and the MERI data collected via this MERI plan will be used to inform these approaches. As this project is large, crosses a number of jurisdictions and involves a large number of stakeholders it essential that the results of MERI are communicated regularly. This will ensure maximum ownership by all stakeholders and encourage support for the project in the wider community. It is envisaged that the results of monitoring and evaluation for the AFCMP will be communicated within the project team and to the wider community on a regular basis.

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Table 12 Communication methods under the Australian Feral Camel Management Project

**Objective 1: Raise and maintain community understanding and support**

Action	Target audience (s)	Timing	Responsibility	Comment
Development of Australian Feral Camel Management project website	Various	Ongoing	NOL	An interim website has been developed: . Final website to contain content for different audiences – media, students, etc.
Produce a brochure/fact sheets on the damage/impact caused by feral camels	Will probably need two products: one for Aboriginal people and one for general public	July 10	NOL	To demonstrate the seriousness of the problem and the need to take action – available online initially. To include information that allays the fears of animal welfare groups and specifically addresses the steps and protocols to ensure that camels receive humane treatment.
Produce a CamelScan scheme brochure	Travellers, transport operators, outback workers, small scale aviation operators, and defence personnel	July 10	NOL	Print a simple, inexpensive brochure outlining the camel problem, how travellers can take part in the 'report a camel' scheme, and the action being taken by the program's partners. To be placed in road houses, petrol stations, police stations, Main Roads and local government offices along the main outback routes where camel sightings are likely in SA, WA, Qld, and NT.
Establish a CamelScan website	Travellers, transport operators, outback workers small scale aviation operators and defence personnel	Aug 10	NOL	To report via email where travellers see significant numbers of camels, engaging travellers in the issue and allowing them to take action. With all information stressing the importance of reporting camels only, not taking direct action, e.g. shooting.
Interaction with key groups including face-to-face meetings, presentations at seminars and events, and briefings with key animal welfare and rights groups	Animal welfare groups and organisations	Ongoing	NOL	Aim is to provide animal welfare groups and organisations and seek their acceptance for rationale behind project and to allow us to demonstrate that protocols are in place
Social networking sites	Younger audiences	as required	NOL	To be used only if there is a need to communicate with younger audiences on specific issues, e.g. backpackers.

## Objective 2: Media management

Action	Target audience (s)	Timing	Responsibility	Comment
Effective day-to-day media management	Australian and international media	ongoing	NOL	Early and effective responses to media queries
Develop media website information	Australian and international media	ongoing	All partners	Start with development of media FAQs, adding high quality photographs and video footage
Continually update media database and contact list and include relevant state and regional media outlets	Reporters and media agencies requesting information and identified major media players	ongoing	NOL	Use email address list to disseminate information. Ask Steering Committee reps to assist with identification of relevant state and regional media outlets
Develop a communications crisis management strategy	Media, partners, stakeholders, local communities	July 10	NOL	To ensure an effective and coordinated response to a major accident, poisoning of cattle or other incidents
Commission and build a library of stock professional quality footage and pictures	Australian and international media	July 10	NOL with assistance from partners	Important in demonstrating the nature and size of the problem
Develop a media kit and organise a media tour to inspect first-hand the impact of the camel problem	Selected Australian media outlets	Sept 2010	NOL	Media kit to include background information, key messages, contact details for spokespersons An opportunity to brief and educate key journalists, including environment and science writers
Develop a kit for prospective film and documentary makers	Australian and international film and documentary makers	Aug 2010	NOL	The kit to include background information, details about travelling in Australia, a summary of the resources available and assistance that can be provided
Targeted media management in geographic regions as required	Major media outlets in geographic regions	as required	NOL	Strategic response to media in specific regions

**Objective 3: Effective communication and stakeholder relations**

Action	Target audience (s)	Timing	Responsibility	Comment
Establish a government communicators' forum	Communications managers in SA, WA, Qld, and NT govt	Monthly	NOL with partners	Following an initial face-to-face meeting (if possible), convene a monthly phone hook-up of senior communications staff
Develop an agreed media protocol between the partners	Partners	Now	NOL with partners	To ensure that early notice of media activities is provided and agreement to major media announcements and decisions is coordinated
Monthly email newsletter	Partners and stakeholders	Monthly	NOL with partners	An important mechanism in sharing information, acknowledging successes and maintaining contact, with for local organisations / partners encouraged to include contributions.
Develop information for pastoralists and landholders toolkit and an online forum to exchange ideas and advice	Pastoralists and landholders	July 10	NOL	Support the work of the pastoral engagement working group and investigate a partnership with the appropriate representative organisations in each state e.g. NT Cattlemen's Association, SA Farmers Federation, AG Force.
Support feral camel education material	Aboriginal organisations and communities	July 10	NOL with partners	Working with the Feral Animals Project Officer to review the feral camel education material, and where possible assist in disseminating information to increase community awareness. Provide the opportunity for on the ground consultations, discussions and workshops, using effective existing material such as the Camel Book produced by Tangentyere Landcare.
Review communication support for NRM Boards and facilitators	NRM Board members, communicators and facilitators	Aug 10	NOL	The NRM network has credibility, is very effective in maintaining strong community links and communication, and is working with NRM stakeholders in the regions

Effective internal communication	Ninti One staff	Ongoing	NOL with partners	Informed and knowledgeable staff can be a powerful advocate for the project
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**Objective 4: Prepare and disseminate targeted information**

Action	Target audience (s)	Timing	Responsibility	Comment
Develop and regularly update website	Stakeholders and media	Aug 10	NOL with partners	Important also for Objective 2: media management
Fact sheet	Stakeholders and media	Aug 10	NOL	Updated regularly. New ones produced in response to issues
Online newsletter	Aboriginal communities, partners, media industry organisations	Monthly	NOL	Important to develop a stakeholder list and keep up-to-date
Annual report	Decision-makers, ministers and government partners	Ongoing	NOL with partners	Limited print run. Available online.
Technical information and reports	Scientists, pastoralists and industry	Ongoing	NOL with partners	Made available online via Australian Feral Camel Management Project website and other relevant websites e.g. partners

**Objective 5: Recognise the partners' investment in the Australian Feral Camel Management Project**

Action	Target audience (s)	Timing	Responsibility	Comment
Ministerial announcements and events	Various	Regularly	NOL	Ensure advance notice is given to get these events in Ministers' diaries
Produce a style manual	Partners and stakeholders	Sept 10	NOL with partners	To ensure an agreed and common approach to branding, signing and acknowledgement
Produce a regular communications 'Annual Report' type progress report	Federal and local Ministers, MPs and Senators and their staff	To be determined	NOL	To report on progress being made towards the productive return on investment
Ensure that state/territory governments that have specific communication strategies/plans for their own jurisdictions and projects are consistent and compatible with the National Project Communication Strategy.	Partners and stakeholders	As soon as possible	NOL with partners	To ensure consistent messages and common approach.

**Evaluation**

The communication strategy will be reviewed quarterly to assess progress against agreed timelines, the effectiveness of the current approaches, and the need for revised or new communication activities