

5. MANAGEMENT ACTIONS AND PERFORMANCE INDICATORS

AIM 1 – MANAGE AND ADMINISTER COMMERCIAL OPERATORS VIA LICENSING

In order to ensure that viable populations of *macropods* are maintained throughout their ranges, the commercial *macropod* industry in Queensland is regulated via a range of licensing and tag procedures provided for under the *Nature Conservation Act 1992*, *Nature Conservation (Administration) Regulations 2006* and the *Nature Conservation (Macropod) Conservation Plan 2005*. The legislative basis for licensing and licensing procedures, are described in detail in Section 2.2.

ACTION 1 – All relevant activities are licensed in accordance with the applicable Queensland legislation and EPA policy.

All applications for licenses relating to Queensland commercial *macropod* industry operations are to be assessed, processed and issued in accordance with the provisions of the *Nature Conservation (Administration) Regulation 2006*.

Performance Indicator:

1.1 - All licences across Queensland are assessed, processed and issued in accordance with Queensland legislation and Environmental Protection Agency Policy.

A select audit of licences issued will be undertaken on an annual basis to ensure that licences are being issued in accordance with the relevant legislation and policy, EPA procedures are being followed correctly, accurate information is being entered into appropriate databases and that licences are being assessed and issued appropriately.

AIM 2 – ENSURE HUMANE TREATMENT OF KANGAROOS

Animal welfare is of prime concern to EPA. The *Code of Practice for The Humane Shooting of Kangaroos* is the current nationally-endorsed animal welfare standard for the commercial harvest of *kangaroos*. Accordingly, compliance with this Code is required of the commercial *macropod* industry. Any approved subsequent code(s) will similarly be adopted as the animal welfare standard for the commercial harvest of *kangaroos* in Queensland.

ACTION 2 – EPA will work with Queensland institute of TAFE or other accredited provider to ensure that all harvesters are competent to achieve the standards set out in the Code of Practice for the Humane Shooting of Kangaroos.

- In order to ensure that the *kangaroo* harvest is humane, *kangaroo harvesters* are required to demonstrate their competency in relation to the *Code of Practice for the Humane Shooting of Kangaroos* prior to obtaining their licences. The accreditation program is currently conducted by the Queensland Institute of TAFE and includes both a written test and a firearms accreditation course. The applicant will also be required to attend and pass a refresher firearms accreditation course every five years from the commencement of this management plan or five years from the shooters last accreditation, whichever comes earlier.

Performance Indicator:

2.1 – All successful applicants for *harvester's* licences have completed the approved accreditation and their accreditation is current.

ACTION 3 – EPA staff will monitor compliance with the *Code of Practice for the Humane Shooting of Kangaroos* by commercial *macropod* industry operators.

EPA authorised officers undertake regular and opportunistic inspections of *kangaroos* taken by licensed *harvesters* and all premises registered by licensed *dealers*. EPA does not tolerate breaches of the Code of Practice, and where *kangaroos* have been found to be taken other than in accordance with the Code, Warning Notices, Penalty Infringement Notices (PIN) are issued or licensees are prosecuted as appropriate. The EPA will be further enhancing its commitment to the 'Zero' tolerance by introducing legislation during the life of this plan making it illegal to 'buy' or sell macropod carcasses or skins with a body shot in them.

Performance Indicator:

3.1 – All licensees who are found to have breached licence conditions relation to animal welfare are issued with, Warning Notices, Penalty Infringement Notices (PIN) or are prosecuted as appropriate.

ACTION 4 - EPA will contribute to nationally focused research in improving animal welfare outcomes.

EPA will work with external research organisations to identify and investigate animal welfare issues relevant to the commercial harvest of *kangaroos*. Such research may include aspects of the biology and ecology of *macropods* as they relate to the commercial harvest, or harvest techniques. Contributions by EPA may include funding and/or in-kind support such as the provision of harvest data.

AIM 3 - MONITOR INDUSTRY COMPLIANCE

Monitoring commercial macropod industry compliance with the provisions of Queensland legislation, EPA policy, the goal and aims of the Queensland Wildlife Trade Management Plan 2008-2012 and licence conditions is essential to effectively maintaining viable populations of *kangaroos* throughout their ranges and to ensuring public confidence in the management of *macropods* in Queensland

ACTION 5 – EPA and Safe food Queensland staff will undertake both regular and opportunistic monitoring of compliance by commercial *kangaroo* industry operators.

In order to assess industry compliance, authorised officers of EPA will, on both a regular and opportunistic basis, inspect *kangaroos* taken by licensed *harvesters* and all premises registered by licensed *dealers*. The inspecting officers will check to ensure that the *macropods* have been taken in accordance with the NCA Act and Regulations, and Conservation Plan the Queensland Wildlife Trade Management Plan 2008-2012 and licence conditions. Assessments to ensure compliance with the current *Code of Practice for the Humane Shooting of Kangaroos* will be a priority.

In addition, EPA will develop a Memorandum of Understanding (MoU) with the Safe Food Queensland in relation to the inspection of premises used to store *kangaroo carcasses*. Under the terms of this MoU, issues pertinent to EPA will continue to be examined by Safe Food Officers during their inspection of *harvesters* and licensed premises, and referred to EPA for investigation if required. Authorised EPA officers will reciprocate. This MoU will be developed and implemented during the life of this plan

Performance Indicators:

5.1 – On receipt of *harvesters* licence applications the authorised EPA officer assessing the applications will ensure that applicants have both a valid and current Queensland accreditation and a current Firearms Licence.

5.2 – All chiller premises are inspected on average every three months during the life of this plan by Queensland Parks and Wildlife Staff and/or staff of the Safe-food Queensland to ensure compliance with Queensland legislation and licence conditions.

5.3 – All *macropod* processing works in Queensland are inspected by Queensland Parks and Wildlife staff and/or staff of Safe-food Queensland to ensure compliance with Queensland legislation and licence conditions. This will be contingent on the MoU being signed and agreed to by both parties.

5.4 – During the life of this plan *harvesters* vehicles loaded with *macropod carcasses* are inspected opportunistically to ensure compliance with Queensland legislation and licence conditions and the results of these inspections are documented.

ACTION 6 – Activities not in accordance with the Queensland legislation and Queensland Wildlife Trade Management Plan will be investigated and where an offence has been committed and it is appropriate, prosecute.

Investigation and prosecution of activities not in accordance with the Queensland Wildlife Trade Management Plan 2008-2012 and Queensland legislation is essential for the delivery of the plan and for maintaining public, industry and stakeholder confidence in the effectiveness of the plan as a mechanism for maintaining the viability of *macropod* populations, and thus the commercial *macropod* industry.

Performance Indicator:

6.1 – Reports of unlicensed activities and activities in breach of legislation are investigated to the fullest extent possible, and where sufficient evidence is available offenders are issued with, Warning Notices, Penalty Infringement Notices or prosecuted as appropriate.

ACTION 7 – The accuracy of industry returns will be continually monitored during the life of this plan.

It is a licence condition that commercial *macropod* industry operators submit regular returns to EPA. The data obtained from these returns is essential for monitoring whether industry is harvesting *macropods* within approved quotas and for reporting to the Commonwealth Government, industry and the public. In addition, the data from industry returns is utilised in indirect monitoring of *kangaroo* populations.

Performance Indicator:

7.1 – During the life of this plan, incoming industry returns are scrutinised and discrepancies are investigated and resolved.

Auditing of industry returns encompasses manual assessment of returns, application of the customised licensing database utilised by EPA which includes numerous validation rules that assist in ensuring the integrity of data, and extensive verbal and written communication between EPA staff and industry operators.

ACTION 8 – A compliance database will be maintained to support investigations, inspections and audits.

A compliance database for use in kangaroo management investigations, inspections and audits will be maintained for use by staff involved with macropod management. The database facilitates compliance reporting to the Commonwealth Government and other stakeholders and also easy access to information for relevant authorised EPA officers.

Performance Indicator:

8.1 - A compliance database is maintained.

Relevant compliance information stored in the customised database includes reports of alleged breaches of the *Nature Conservation Act 1992* and/or licence conditions, investigation activities undertaken and outcomes of investigations. Data input is accurate and timely.

AIM 4 – MONITOR MACROPOD POPULATIONS

ACTION 9 – Population surveys will be conducted for each of the zones using the transect survey method.

Kangaroo population estimates from surveys (direct monitoring) will be used as the basis of setting commercial quotas following the procedures set out in this management plan.

Across the harvest zones of Queensland helicopters are used to survey *macropod* populations annually. Transect survey lines have been established at regular intervals across this region and the same lines are surveyed in accordance with the Table 1 in Appendix B. Surveys are conducted at the same time every year to allow comparison of results between years.

Full details of survey techniques and data analysis protocols will be contained in a separate document provided to the Commonwealth.

For the three species currently harvested commercially – *M. rufus*, *M. giganteus*, and *M. robustus* – the quota will be adjusted based on the most recent population estimate and therefore account for all *macropod* mortalities, including those unrelated to commercial use.

Performance Indicator:

9.1 – Macropod population estimates are obtained using standard transect survey method throughout the life of this plan.

There are three standard survey techniques that may be employed for direct monitoring of kangaroo populations:

1. Broad-scale aerial surveys using fixed wing aircraft (fixed strip-width transect survey methods) were last used in 2001 to verify the results of the medium/small scale surveys.
2. Medium/small-scale surveys using a helicopter (line transect survey method). (Survey times are between May and July of each year and the areas surveyed are carried out on a rotational basis, eastern block one year and a western block the following.)
3. Small-scale surveys conducted on foot (line transect survey method). This technique is rarely employed in this context due to the high associated costs.

ACTION 10 – Commercial *macropod* harvest quotas will be set in accordance with the provisions of the Queensland Wildlife Trade Management Plan 2008-2012.

The commercial quota for a species is the maximum number that can be utilised commercially in a calendar year. Quotas will be set for each commercially harvested *macropod* species for which current population estimates are available in specific Queensland Harvest Zones (Figure 1 illustrates Queensland Kangaroo Harvest Zones: QHZ). The Commonwealth Government will be advised of the quotas prior to implementation. Any changes to the commercial QHZ boundaries will be advertised on the Queensland Kangaroo Management Program web page and described in the quota report to the Commonwealth.

Unless undertaken as part of an approved adaptive management experiment (see Action 15), commercial quotas will be set at a maximum 15% of the population estimate for eastern grey kangaroos and wallaroos and a maximum 20% of the population estimate for red kangaroos. Not all *kangaroo* species are harvested in each Queensland Harvest Zones. It is important to note that the most recent scientific information available is considered when determining annual quotas and that analysis of this information may result in quotas being decreased in order to maintain the viability of *macropod* populations.

Based on the population dynamics of the *macropods*, quotas set at 10 to 20% are considered sustainable in the long-term. It is expected that *macropod* populations will continue to fluctuate primarily in response to seasonal conditions.

Performance Indicators:

10.1 – All commercial *macropod* harvest quotas are set in accordance with the provisions of the Queensland Wildlife Trade Management Plan 2008-2012 throughout the life of the plan.

10.2 – The Commonwealth Government is advised of commercial harvest quotas for the following calendar year by 31st October.

The Quota Report will contain the following information:

- population estimates for each species in each zone and method of survey used;
- quotas calculated as proportion of population estimate as per the approved Commercial Kangaroo Harvest Management Plan (including Special Quota);

- any proposed changes to quotas;
- any new commercial zones and justification based on survey;
- charts showing trends in population/quota/take.

10.3 – If Commonwealth approval is required for quotas set above the rates specified in the plan as part of an adaptive management experiment, such approval is obtained before the additional quota is implemented.

10.4 – The Quota Report is made available to the public via the Environmental Protection Agency web page.

ACTION 11 – Special *kangaroo* harvest quotas will be set in accordance with the provisions of the Queensland Wildlife Trade Management Plan 2008-2012.

A **special quota** for commercial QHZ's will be set annually at **maximum of one and a half percent (1.5%) of the population estimate of each *macropod* species**. The special quota for a specific region can be higher but the total special quota for that species cannot be greater than 1.5 percent

The sole purpose of special quota allocations is to provide for commercial utilisation of *kangaroos* that would be shot and left in the field under the normal non-commercial licensing system. The special quota will therefore minimise the number of *macropods* shot under non-commercial licences. The special quota can only be considered for release when the commercial quota for a particular QHZ has been fully issued. The use of this quota will depend on **one or more** of the following:

- climatic trends and local conditions;
- exceptional circumstance declarations; and
- *macropod* population trends.

The decision on whether or not to make the special quota available at any particular time will be made by the EPA following consultation with the Ministers Management Advisory Council or the Minister directly and consideration of these factors.

Special quota allocations and the use of the special quota will be reported to the Commonwealth in the Quota Report and Annual Report.

Performance Indicator:

11.1 Special *macropod* harvest quotas are set and utilised in accordance with the provisions of the Queensland Wildlife Trade Management Plan 2008-2012.

ACTION 12 – *Macropod* populations will continually be monitored indirectly throughout the life of this plan.

Indirect data on *macropod* populations will be obtained continuously throughout the life of this plan from commercial *macropod* industry returns. Licensee returns detail the number of each species taken and date, average carcase weights, sex and location of take, depending on the type of the licence.

Ongoing monitoring of licence returns by the EPA macropod Management Program will identify significant changes in the average weights of harvested *macropods*, which, for example, can provide an indication of population health.

Performance Indicator:

12.1 – Where a region showed greater than 40 percent female take, and then it was investigated through the analysing and monitoring of returns, then appropriate action would be taken.

If the percentage of females taken is greater than 40 percent in any calendar quarter possible contributing factors will be examined. If necessary, management action will be taken to ensure the sustainability of the *macropod* population. Actions may include reducing or suspending the commercial harvest for that species in that zone, or increasing survey intensity at next survey.

AIM 5 - FACILITATE ADAPTIVE MANAGEMENT AND RESEARCH

Adaptive management experiments and studies using historical data from *macropod* industry returns and population data are essential to improving our understanding of *macropod* and their interaction with environmental, social and economic systems and thereby effectively maintaining viable populations of *macropods* throughout their ranges. Research into particular aspects of *kangaroo* ecology or harvest management can also assist in ensuring that the commercial harvest is sustainable in the long term. While there has been a large body of research on the ecology and management of *macropods*, there are information gaps which, when filled, may lead to more effective management of the commercial harvest.

ACTION 13 – Historical data relating to the commercial *macropod* harvest in Queensland will be analysed during the life of this plan to identify trends; this analysis will be considered in future *kangaroo* management programs.

Previous *macropod* management programs have obtained a wide range of information relating to the commercial harvesting of *macropods* in Queensland. This information will be analysed to provide data on trends in *macropod* populations, utilisation rates, average weights and other specific information relating to either the commercial harvest or *macropod* populations generally.

The historical data relating to the commercial harvest of macropods in Queensland will be made available to researchers for analysis on request throughout the life of this plan.

Performance Indicators:

13.1 – Analysis of historical *macropod* harvest and management data is undertaken during the life of this plan.

Data analysis research proposals must be accompanied by a project plan that clearly identifies the goals and objectives of the proposed research and outlines performance indicators that enable an assessment of the success (or otherwise) of the research.

13.2 – The results of analysis and research using historical *macropod* harvest and management data are published in an appropriate forum.

Consideration of research findings and the results of any analysis are essential in not only the development of future Commercial Kangaroo Harvest Management Plans, but also for facilitating the adaptive management of *macropod* populations, which in turn will aid in maintaining viable populations of *kangaroos* throughout their ranges. The appropriate forum will vary according to the type of research or analysis. At a minimum, the results of any research undertaken using EPA data should be provided to EPA

ACTION 14 - Where practicable experiments will be performed to test deliberate management interventions during the life of this plan.

Under active adaptive management, management activities are conducted as a deliberate experiment. Alternative strategies are viewed as treatments and are implemented through statistically valid experimental design; monitoring is the data-collection step of the experiment. Active adaptive management can establish cause-and-effect relationships between activities and changes in ecological conditions.

All proposals to undertake active adaptive management experiments will be reviewed by the Ministers Macropod Management Advisory Committee and will be critically assessed by EPA with reference to the following criteria

- the proponents' awareness of relevant background information;
- whether the proposal considers alternative models and hypotheses;
- whether the proposal is scientifically rigorous and statistically valid;
- whether the proposal incorporates a monitoring program;
- that there is substantial evidence that the risk of permanent damage to *macropod* populations is low;
- that the proposal is consistent with the goal of the Queensland Wildlife Trade Management Plan 2008-2012 and relevant Queensland legislation; and
- that the proposal includes consideration of how management may be modified to accommodate the new knowledge gathered from the intervention.

All experiments that affect the commercial utilisation of *macropods* must also demonstrate how the experiment provides for reasonable business planning and investment.

Performance Indicators:

14.1 – All proposals to undertake active adaptive management experiments are reviewed and assessed by EPA in accordance with the criteria outlined in this plan.

14.2 – All necessary approvals are obtained prior to experiments testing deliberate management interventions commence.

In certain situations EPA will seek approval from the Commonwealth Department of the Environment and Water Resources. Experiments requiring such approval may comprise a harvest rate in excess of the harvest rates set out in this plan.

14.3 – All adaptive management experiments are continuously monitored and conducted

according to approval conditions.

As per the criteria outlined above all active adaptive management experiment proposals must have monitoring programs incorporated. Monitoring programs must be maintained during the life of the experiment. All monitoring must be conducted in accordance with any conditions imposed with the approval.

14.4 – Results of all experiments testing deliberate management interventions are published in an appropriate forum.

The appropriate forum for dissemination will vary according to the type of research and the target audience. However, it is expected that any research conducted as an active adaptive management experiment in accordance with the provisions of this plan will be made available to the Ministers Macropod Management Advisory Committee (MMAC – see Aim 6) or the Minister directly and to EPA for inclusion on the EPA web page.

ACTION 15 – EPA will facilitate research into the ecology and harvest management of kangaroos.

EPA will work with external research organisations to identify and investigate issues relevant to the commercial harvest of *macropods*. Such research may include aspects of the biology and ecology of *macropods* as they relate to the commercial harvest, or harvest techniques. Contributions by EPA may include funding and/or in-kind support such as the provision of harvest data. During the life of this plan, priorities for research will include relationship between the commercial harvest and introduced and native animals.

Performance Indicator:

15.1 – Issues associated with the ecology of harvested species and the management of the commercial harvest are identified and a research prospectus is prepared and distributed to universities and other research institutions during the life of this plan.

AIM 6 – UNDERTAKE PROGRAM REPORTING AND REVIEW

Regular program review and concomitant reporting is essential to effectively maintain viable populations of *macropods* throughout their ranges as it ensures that management outcomes remain consistent with the goal and aims of the plan and that management is fully informed.

ACTION 16 – An annual report on the Queensland Wildlife Trade Management Plan 2008-2012 will be prepared and submitted to the Commonwealth.

An annual report detailing the operation of the Queensland Wildlife Trade Management Plan 2008-2012 for the previous calendar year will be prepared and submitted to the Commonwealth. This report will provide information on the previous year's quotas and harvest rates, any use of special quota and details of surveys conducted. This report will also identify whether any adaptive management experiments were undertaken and provide details about compliance actions undertaken with the auspices of this plan. Finally, this report will audit plan aims against performance indicators so that progress towards achieving the goal of the management plan can be measured.

Performance Indicators:

16.1 – An annual report on the operation of the Queensland Wildlife Trade Management Plan 2008-2012 for the previous calendar year is submitted to the Commonwealth by the end of March of the following year.

The Annual Report will include the following information:

- Actual harvest, by zone and species, compared to quota;
- Any Special Quota utilised;
- Sex bias, average carcase weights and skins for each species in each zone;
- Non-commercial cull statistics within the commercial harvest zone;
- Compliance statistics:
 - number of premises inspected;
 - number of Penalty Infringement Notices (PIN) issued and reason for issue;
 - number of alleged offences investigated and outcomes;
 - number of prosecutions undertaken (offence and outcome); and
 - any surveillance/enforcement activities completed.
- Any unusual situations that arose (e.g.: flood/disease outbreak; market factors);
- Any experiments or research where EPA assisted or were sponsored by EPA.

16.2 – All annual reports prepared during the life of this plan are posted on the Environment Protection Agency web page.

ACTION 17 – The review of the Queensland Wildlife Trade Management Plan 2008-2012 will commence no later than twelve months prior to the expiry of this plan.

The review of the Queensland Wildlife Trade Management Plan 2008-2012 will commence no later than twelve months prior to the expiry of this plan in order to assess the success of the plan in achieving its goal. The review will be conducted with the aim of improving on the current plan in the development of subsequent plans.

Performance Indicators:

17.1 – The Schedule of the Queensland Wildlife Trade Management Plan review activities initiated no later than 12 months prior to the expiry date of this plan will include, but is not limited to:

- strategic planning prior to a full review of the program;
- compilation of reports including review of relevant literature;
- public exhibition of new draft program; and

17.2 – The success of the current plan in achieving its goal is assessed by measuring performance indicators.

17.3 – The results of the plan review are presented to the Commonwealth and are placed on Kangaroo Management Program web page.

AIM 7 - PROMOTE COMMUNITY AWARENESS AND PARTICIPATION

The public profile of *macropod* management in Queensland is high, in part due to the sometimes contentious nature of the commercial harvest, and in part due to the large number of stakeholders involved in the commercial *macropods* industry. Consequently community awareness of and participation in *macropods* management is considered a key component to the success of the program, and thus the maintenance of viable populations of *macropods*.

ACTION 18 – Relevant public documents will be made available on the Environment Protection Agency web page.

The provision of information to members of the public promotes understanding of the Queensland Wildlife Trade Management Plan and allows members of the community to form better-educated opinions regarding *macropod* management issues.

Performance Indicator:

18.1 – Throughout the life of this plan the Environment Protection Agency web page contains the following information as a minimum standard:

- The current and previous Wildlife Trade Management Plans;
- Monthly tag issue and commercial harvest statistics;
- Historical harvest statistics;
- Population survey reports;
- Current population estimates;
- Current commercial quotas;
- Ratified minutes of recent MMAC meetings;
- Contact information for the Environmental Protection Agency Macropod Management Program; and
- Current forms for commercial *macropod* licences.

Additional relevant information will be posted on the Environment Protection Agency web page as available and appropriate.

ACTION 19 – Publicly available information will be provided to interested parties on request.

The provision of information to members of the public promotes understanding of the Queensland Wildlife Trade Management Plan and allows members of the community to form better-educated opinions regarding *macropod* management issues.

Performance Indicator:

19.1 – Publicly available *macropod* management information is distributed to interested parties as soon as practicable after such a request.

ACTION 20 – Where appropriate relevant EPA Macropod Management Program staff will participate in media interviews and prepare media releases.

Participation in media interview and preparation of media releases can be an effective mechanism for communicating information regarding *macropod* management to a broad audience and moreover improves program transparency and accountability and therefore public confidence.

Performance Indicators:

20.1 – EPA staff participate in interview with the media where appropriate.

The Manager, Macropod Management Program, Director, Wildlife Conservation Branch Conservation Services Brisbane and other senior macropod management program officers participate in appropriate interview on request from media agencies.

20.2 – Media releases are prepared when appropriate for issues of interest to the community such as population surveys and the release of quota for the next calendar year.

ACTION 21 – Relevant information regarding licensing arrangements will be developed as required and distributed to all licensees.

Licensees and operators will be provided with written information relevant to their licensing arrangements to assist in achieving a high level of compliance with the licensing framework.

Performance Indicators:

21.1 – A copy of the current Harvest Period Notice and current Code of Practice for the Humane Shooting of Kangaroos is issued with every *harvesters and dealers licence* throughout the life of this plan to ensure that licensees are apprised of relevant licensing requirements and responsibilities.