

# Deer Management Plan for Royal National Park

## 2008 - 2009 Annual Report

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**2008 - 2009**

### **1. OVERVIEW**

The Plan of Management for Royal National Park (February 1999) required the preparation of a *Deer Management Plan* for the reserve. Following a series of public meetings and the considerations of public comments, the *Royal National Park Deer Management Plan* was approved in February 2002. The plan covered the 3 year period 2002-2005. In 2005 a second Deer Management Plan was approved (2005-2008). It is intended to update this plan and seek approval to cover a longer period.

The *Deer Management Plan* and subsequent revisions were prepared by the Royal National Park Deer Working Group. This group was made up of representatives of: Sutherland Shire and Wollongong City Councils, RSPCA, Nature Conservation Council of NSW, Australian Deer Association, NSW National Parks Association, NSW Animal Welfare League, University of Sydney, Rural Lands Protection Board (Moss Vale), and the Department of Environment and Conservation which includes the National Parks and Wildlife Service (NPWS).

A number of research programs over the last 10 to 15 years have indicated that large numbers of deer are damaging vegetation within Royal National Park (RNP). The damage is most pronounced in the coastal rainforests, heathlands and some of the threatened vegetation communities such as the Littoral Rainforest. This is supported by more recent research by the University of Wollongong and the Department of Environment and Conservation <sup>1</sup>. Deer also increased soil erosion, grazing and browsing has a negative impact on seed production and survival of young seedlings.

The working group provides support and advice to the NPWS and monitors the implementation of the Deer Management Plan.

The *Deer Management Plan* requires that an annual report be prepared each year and this report covers the progress of works between July 2008 and June 2009.

The *Deer Management Plan* identifies six (6) key objectives:

- review the operation of the program and identify options for improving future efficiency of the program,
- reducing deer numbers,
- fostering cooperative approaches for the management of deer;
- improve community and stakeholder appreciation of the impacts of large numbers of deer;
- fostering research into deer;
- monitoring and evaluating the program.

<sup>1</sup> Keith, D. and Pellow, B. (2004). Effects of Javan rusa deer (*Cervus timorensis*) on native plant species in the Jibbon-Bundeena area, Royal National Park, New South Wales. Proceedings of the Linnean Society of New South Wales.

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### 2. 2008 – 2009 ACHIEVEMENTS

This report addresses each of the six key objectives for management of deer as outlined in the *Deer Management Plan*.

#### ***Objective 1 – Review the operation of the deer management program over the years (2005-2008) and identify options for improving future efficiency of the program***

In 2005 the revised program makes a commitment to a number of initiatives to increase the rate at which deer are removed, notably:

- To support applied scientific research with potential to improve operational performance;
- To develop additional cull sites within Royal National Park;
- To investigate the feasibility of other alternative control techniques; and
- To expand the program southwards into the Illawarra.

The NPWS has continued to commit to these initiatives. See details within the following points below.

The program in the Illawarra State Conservation Area commenced in August 2007 and the program has continued with success in co-operation with the Rural Lands Protection Board.

During late 2007 NPWS staff took over the shooting program from Rural Lands Protection Board staff within the Royal National Park Area. The shooting program within the Illawarra State Conservation Area has continued to be conducted by Officers of the Moss Vale Rural Lands Protection Board, under direction of NPWS officers and in accordance with the NPWS policy requirements.

As specified in the *Deer Management Plan*, the method of deer management has been through ground based shooting. During this period the shooting protocol has been reviewed by Sutherland Local Area Command of the NSW Police and endorsed. This review included a field inspection of operational procedures.

#### ***Objective 2. - Reduce the number of deer in populations which impact negatively on the natural environment of Royal National Park and other reserves managed by the NPWS Sydney South Region.***

During the period 1<sup>st</sup> July 2008 to 30<sup>th</sup> June 2009 in accordance with an approved shooting plan and protocols as outlined in Appendix 2 of the *Deer Management Plan*. 81 deer were removed from the Royal National Park and adjacent areas under this program. The RSPCA have undertaken audits of the shooting activity and continue to be invited to attend each operation.

During the period 1<sup>st</sup> July 2008 to 30<sup>th</sup> June 2009 41 deer were removed from the Illawarra Escarpment State Conservation Area and adjacent areas.

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Due to the ongoing shooting program and numbers observed at normal shooting sites there has been a noticeable reduction in the population within NPWS managed lands particularly within Royal National Park.

**Disposal of carcasses** – The *Deer Management Plan* requires that, wherever possible deer carcasses are gutted and frozen prior to being transported to various zoo's where they are fed to the zoo's endangered tigers and other large cats. Internal organs and other items are disposed of to a Waste Management Centre.

**Animal Welfare Audits** – Both the RSPCA and the NSW Animal Welfare League are represented on the Deer Working Group. These organisations continue to provide advice to the NPWS on the deer program especially with regard to animal welfare issues.

RSPCA inspectors have continued to audit shooting operations within the Royal National Park Area during this period and will continue to undertake random audits of the program.

### ***Objective 3. - Foster cooperative approaches for the management of deer on and adjacent to the reserves managed by the NPWS Sydney South Region.***

Sutherland Shire Council adopted a Feral Animal Policy during 2004-05. The development of this document was in response to community concern. The NPWS assisted in the development of the policy in accordance with the objective of fostering co-operative management regimes.

Sutherland Council and NPWS have collaborated to address community concerns in the Grays Point with the development of a joint deer control program for the sporting fields leased by Council from NPWS. Sutherland Council officers were provided with details of all of the relevant operational procedures and were mentored in the field for a 6-month period prior to the commencement of independent operations by Council.

A Memorandum of Understanding between the NPWS and Sutherland Council was finalised in 2007 allowing even closer integration of the two programs.

Wollongong Council is yet to collaborate to address deer management in the Illawarra. The NPWS is continuing to attempt to develop a co-operative program with Wollongong Council.

### ***Objective 4. - Improve community and stakeholder appreciation of the issues related to the management of introduced animals and the urgent need to manage deer populations in conservation areas.***

Rusa Deer populations are not confined to Royal National Park. Research conducted by the University of Western Sydney between 1999 - 2001 found that deer extended from the Hacking River in the north to Ulladulla in the south. In fact, approximately 70% of the population were outside the park.

NPWS has continued to participate in the Wollongong Pest Animal Advisory Group (PAAG) and during 2006 - 2007 assisted in the development of the draft Wollongong

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Wild Deer Management Plan. This draft plan is currently on hold while Wollongong City Council finalises the Vertebrate Pest Animal Policy. The NPWS will continue to assist Council with this process.

### ***Objective 5. - Foster research on deer including studies on effective, humane and safe methods of population control.***

The NPWS has continued to try and implement research programs with CSIRO and the Universities with particular emphasis on population dynamics however due to funding issues no programs have commenced.

### ***Objective 6. - Establish mechanisms for monitoring and evaluating the plan.***

The establishment of long-term monitoring of vegetation as an indicator of the success of the Deer Management Plan is a priority for the NPWS.

Monitoring of vegetation impacts and deer population numbers is conducted by park visitors, bush regeneration volunteers and staff until such time as funding or university research projects become available. Information received from the above mentioned sources, since 2008, indicate that regeneration is occurring within particular plant communities. Key areas include Burning Palms, North and South Era valleys. Information received also indicate there is a noted drop in deer population numbers.

Additional deer exclusion fencing continue be installed in key vegetation communities to enable additional monitoring of vegetation impacts. Vegetation communities fenced include Coastal Heath and Rain Forest at Burning Palms. Both these sites have been developed with the assistance of community involvement.

## **3. BUDGET**

The most significant cost has been in labour associated with the night time-shooting program. While salary costs of the program are high, ensuring public safety is of utmost importance. Adequate staff and time need to be allocated to each shooting activity to ensure that public safety is not compromised. Shooting is normally conducted at night, when deer are active and public safety can be appropriately managed.

Operational costs include vehicle running costs, tip fees for the disposal of organs removed from carcasses prior to freezing, electricity costs associated with freezer operation and installation of deer exclusion fencing.

The Royal National Park Area over all costing out comes for the 2008-2009 year was \$25,000 with 81 animals being removed with a cost per animal of \$308. This cost is reduced when on costs and freezer repairs by contactors are deducted from the total.

The cost per animal continues to improve compared to the early days of the program. Eg. 2003 at \$490 per animal, 2004 at \$478 per animal.



#### **4. CONCLUSION**

The program is focussed on three (3) key areas: public safety, an effective culling program and ensuring animal welfare issues are managed appropriately. The current focus is directed towards improving the efficiency of the operation and investigating new treatment areas.

The NPWS will continue to seek additional funding and resources to undertake an assessment of current population levels and to implement a scientifically based vegetation monitoring program.

Over the past six (6) years, there has been a marked improvement in the operational aspects of the deer management program. These include a better understanding of deer movements under particular environmental conditions, significant improvement in the effectiveness of the shooting program and more effective teamwork.

Working relationships with the various agencies involved with the program have been very positive. The NPWS continues to acknowledge the expertise and on going advice provided by the members of the *Deer Working Group* and in particular the Rural Lands Protection Board, RSPCA and NSW Police.

NPWS will continue to direct substantial effort over to co-operative programs with Sutherland Shire Council and Wollongong City Council.

Bill Sullivan  
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