Final Expert Report – 19 February 2008

Background

The Commissioner for Sustainability and the Environment sought our expert opinion regarding a number of matters relating to her investigation into the natural temperate grassland (the Grassland) and threatened species within the secure area at the Belconnen Naval Transmission Station at Lawson (BNTS). References to the BNTS in this report refer only to the secure area unless otherwise stated.

We were provided with numerous documents relating to issues associated with the Grassland and threatened species. A list of these documents is at **(Attachment A)**.

On 25 January 2008 we inspected the Grassland at BNTS and as a panel met to discuss matters associated with their protection. Our recommendations in this regard are set out in this report which we provide to the Commissioner to assist her with her investigation.

Secretariat assistance in respect of preparation of our report was provided by the Office of the Commissioner.

Why the Grasslands are Important

Under the *Nature Conservation Act 1980* (the Act) the Minister for the Environment, on the recommendation of the Flora and Fauna Committee, has declared that the Grassland is an endangered community. The Grassland is described as a naturally occurring grassland of the temperate zone, dominated by native perennial tussock grasses, with associated native herbs and native fauna. The Grassland is also listed as an endangered ecological community under the *Environment Protection and Biodiversity Conservation Act 1999* (the Commonwealth Act).

At BNTS the Grassland is the habitat of the Perunga Grasshopper (which the Minister, on the recommendation of the Flora and Fauna Committee, has declared to be a vulnerable species), the Golden Sun Moth and the Ginninderra Peppercress (both of which the Minister, on the recommendation of the Flora and Fauna Committee, has declared to be endangered species). Another vulnerable species, the Striped Legless Lizard, occurs immediately outside the secure area and was most likely present there in former years.

In order for these declarations to be made under the Act various criteria had to be satisfied (see Disallowable Instrument 99 of 1995). An endangered community is either a community presumed extinct or a community subject to current and continuing threats or other processes likely to lead to premature extinction as demonstrated by one or more matters.

An endangered species must meet one of three criteria: first, the species is known or suspected to occur in the ACT region and is already recognized as endangered or presumed extinct in an authoritative international or national listing or second, the species is observed, estimated, inferred or suspected to

be at risk of premature extinction in the ACT region in the near future as demonstrated by one or more matters or thirdly, the species is presumed extinct in the ACT region.

A vulnerable species is either a species known or suspected to occur in the ACT region and is already recognized as vulnerable in an authoritative international or national listing or the species is observed, estimated, inferred or suspected to be at risk of premature extinction in the ACT region in the medium-term future, as demonstrated by one or more matters.

Under the Commonwealth Act the Golden Sun Moth is listed as critically endangered and the Ginninderra peppercress and Striped Legless Lizard are listed as vulnerable.

The Nature Conservation Strategy made under the Act (Disallowable Instrument 263 of 1997) provides under the heading *Conservation of Threatened Species and Communities* that the *Objective* is to enable species and communities that are threatened with extinction to survive and thrive in their natural habitats. This objective applies with equal force to the Grassland, Perunga Grasshopper, Golden Sun Moth and Ginninderra Peppercress.

The Act provides for the preparation of action plans which are to include proposals to ensure, as far as is practicable, the identification, protection and survival of the species, or the ecological community which is the subject of a declaration. Action Plan 28 called *A Vision Splendid of the Grassy Plains Extended* (Disallowable Instrument 84 of 2005) provides the following protection goal for the Grassland:

> Conserve in perpetuity all remaining core conservation sites and other viable areas of the natural temperate grassland ecological community in the ACT.

In relation to the Grassland flora and fauna the Action Plan has the following protection goal:

> Conserve in perpetuity, viable, wild populations of all native grassland flora and fauna species in the ACT, and support local, regional and national efforts towards conservation of these species.

Background to the Grassland at BNTS

The Grassland at BNTS has a botanical significance rating of 2 (see paragraph 3.4.6 of the Action Plan). This means that the Grassland has high botanical significance (see table 3.1 of the Action Plan).

The Grassland at BNTS is the only known site of the Ginninderra Peppercress.

The BNTS site has a kangaroo population held captive by the security fence. The security fence prevents most emigration and protects the population from disturbance, accidents and any potential predation (e.g. from domestic dogs). This has contributed to a rapid growth in the enclosed kangaroo population to some 588 kangaroos at the last count on 10 December 2007, at a density of approximately 5 per ha. Approximately 60 female kangaroos in this population are tagged and are being used for fertility research purposes. Of these 60 kangaroos, 40 have been subject to trial fertility control measures

and the remaining 20 have been used as controls. None of the research kangaroos are subject to permanent fertility control.

The reference condition for the current state of the Grassland at BNTS is that of pre-European settlement. While much of its character has to be inferred, this is an important point of reference, as the various plants and animals in the Grassland would be adapted to the conditions prevailing then.

> In the absence of local data on the pre-European settlement condition its nature can be inferred from historical records, remnant populations still at the site, and from similar but less modified systems elsewhere. Kangaroos are likely to have been in relatively low numbers at that time, being prey for dingoes and for local people with a hunter gatherer mode of life; this predation is no longer present.
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> Following settlement, the Grassland was used for pastoral purposes, being grazed by sheep and cattle. The woodland areas on higher ground were partly cleared, and many non-indigenous species were introduced, some becoming weeds. After the removal of sheep, the combination of Grassland and woodland patches on the site, together with the almost complete absence of predators, favoured rapid growth of the eastern grey kangaroo population. What is now on the site is thus a consequence of its pre-European state and its subsequent history.

The current state of the Grasslands at BNTS

Important ecological processes associated with the reference condition of the Grassland that no longer persist today are: dingo and aboriginal predation of native herbivores, a fire regime, and small-scale soil disturbances associated with small mammal digging. While the pre-European settlement conditions cannot be fully restored, current management practises need to take into account the conditions under which the various plants and animals in the Grassland may have evolved. On-going management will always be required to substitute for the elements and processes that are now missing from the system. As far as possible, these should seek to preserve and restore the composition, structure and function of the Grassland as it was prior to European settlement.

A key element of the pre-European settlement condition of the Grassland is that it would have conserved vital resources: to some extent water, but particularly nutrients and organic matter. If soil, nutrients and organic matter are washed out of the landscape as dissolved nutrients, soil particles and loose plant litter, the ecosystem as a whole is actively eroding and not functioning as a stable entity.

While the recent good rain has provided an opportunity for many plants in the Grassland community to grow and flower (Fig. 1), the condition of the Grassland over much of the BNTS is still poor (Fig. 2). Total biomass is still relatively low over much of the area. Unlike its pre-European condition, the ground between the grass tussocks is no longer stabilized by the presence of plant litter, mosses or lichens, allowing for rapid rainfall runoff and creating conditions for further soil loss. Evidence of soil erosion at the site includes the presence of scalds, sheeting, small gullies and terracettes. There are also extensive areas where pedestals are present. These are soil columns

associated with persistent plant bases remaining after the surrounding soil has eroded away (Fig 3). Together these signs indicate that the natural resource base of the Grassland has been and continues to be damaged and the productive potential of the Grassland is in decline.

Figure 1.
Kangaroo enclosure on right showing response to resting over spring/summer 2007-8. Area on the left continues to be grazed. In the centre of the picture is an eroded area with scalding between the tussocks. Note the growth response of this patch is limited even with grazing removal. This is due to the condition of the soil restricting rainfall infiltration and the phenomenon that short-growing, low productivity species are most

persistent in eroded areas (January 2008).
Figure 2. Historical grazing pressure at the BNTS has resulted in dominance by low-growing species. Combined with continuing grazing pressure, these small plants have failed to produce good grass cover despite favourable growing conditions (January 2008).

Figure 3. Evidence of soil erosion: bare scalded areas between tussocks, individual tussocks remain raised while surrounding soil has washed away, leaving a lowered soil surface (January 2008).

The sustainable management of a grassland requires that sufficient plant material (biomass) be present to provide habitat for the range of species associated with it. Biomass provides the primary food source for herbivores, including large grazers and invertebrates, which in turn provide a food source for other organisms in the grassland food web. In addition, the physical presence of the grass sward provides the means of protection of soil and the physical structure necessary for the shelter, foraging and breeding requirements of all Grassland species.

Except when grazing is very heavy and relatively non-selective (such as is currently the case in BNTS), large herbivores tend to create a mosaic of different types of patches in pastures which reflects variation in grazing pressure across the landscape. Plant species composition varies under these different grazing pressures because plants (including native plants) exhibit a range of grazing tolerances.

The animals living in the grass sward also vary in their requirements, and variation in Grassland structure thus provides a means by which the maximum number of species can persist. For example, the need for large tussocks with accompanying thick litter might be associated with the provision of shelter (e.g. for lizards, insects), structure for foraging (e.g. the use of tall flowering stems to attach spider webs) or for food supply (e.g. thick litter providing a damp organic layer for invertebrates). A short grass sward may be essential to provide open foraging areas or particular food plants for some fauna.

Grassland structure is therefore intimately associated with the grazing effects of large herbivores. Little or no grazing allows for the accumulation of biomass and selects for tall-growing grazing-intolerant plant species (e.g. *Themeda triandra,* a major component of Striped Legless Lizard habitats). Moderate grazing allows the herbivores to graze selectively and, in native grasslands, this creates patchiness - areas of both tall and short grass swards.

Heavy grazing pressure results in non-selective grazing - the herbivores eat virtually all plants on offer and the resulting grass sward is very short and lawn-like. Plants selected for under heavy grazing pressure (e.g. *Austrodanthonia carphoides*, *Chloris truncata*) are grazing tolerant and short-growing (even when ungrazed).

The relative amounts of different patch structures is an important consideration in the sustainable management of the Grassland. The high priority for soil protection means that tall and medium height patches are essential over the majority of the Grassland area. In commercially grazed native pastures, the maximum recommended area of short patches (lawn areas grazed non-selectively) is one third of the grassland area. The short patch structure observed at BNTS exceeds this threshold and tall species such are *Themeda* are highly restricted on the site.

Ginninderra Peppercress, Perunga Grasshopper, Golden Sun Moth

The requirements of these three species are poorly understood at this time. The Ginninderra Peppercress appears to have some soil disturbance and/or bare ground requirement. Disturbance-dependent plants are not necessarily tolerant of severe defoliation, even though they may benefit from the open habitat created by high levels of grazing. In the future, it will be important to investigate the effects of different disturbance and grazing combinations on the reproduction and recruitment of Ginninderra Peppercress.

The Perunga Grasshopper shelters in grass tussocks and appears to be associated with *Chrysocephalum apiculatum*. In the case of both these resources, extreme grazing pressure such as occurs at BNTS is likely to be detrimental to the persistence of the Perunga Grasshopper.

The *Austrodanthonia* species that the Golden Sun Moth associates with are quite grazing tolerant and in some cases probably grazing-dependent as well. However, the geographic range of the plants far exceeds the geographical range of the moth, so there are some significant unknown factors controlling the moth's distribution. While grazing is clearly associated with the moth's habitat, it is most unlikely that extreme grazing pressure that results in soil erosion is a vital element of the moth's habitat requirements. Experimental investigations into the active management requirements of these threatened insect species is also needed.

While the three threatened species above have some considerable tolerance of grazing, we have insufficient knowledge to know what will allow them to thrive.

The cause of the current state of the Grassland at BNTS

In relation to the reference pre-European state of the Grassland, it is quite clear that the Grassland has lost condition, as evidenced from the soil erosion indicators described above and the relative paucity of tall tussock species such as *Themeda triandra*. The cause of this is grazing pressure. The lack of burning is not currently an issue for the site due to the low level of biomass. If biomass is allowed to build up, the re-introduction of fire could be an appropriate management practice to trial at the site.

It is likely that much of the poor condition of the Grassland in terms of soil condition and Grassland community composition (e.g. the presence of exotic species, loss of tall tussock structure) was brought about through pastoral management practices.

Following the removal of domestic livestock during the 1990's, the BNTS site has been under a post-pastoral regime that has not allowed recovery of the Grassland but has contributed to its continuing deterioration. Severe drought may also have been a factor. Sustainable management involves the adjustment of grazing pressure to match the variation in plant productivity associated with varying rainfall. With appropriate limits to grazing pressure, a Grassland should be able to survive droughts with minimal loss of condition.

The current dense kangaroo population is preventing the recovery of the Grassland by impeding biomass accumulation, preventing re-colonization by less grazing tolerant, more productive Grassland plants and preventing the re-establishment of a soil crust of cryptogams (mosses, algae and lichens) on the bare ground between the grass tussocks.

As the current growing season tapers into autumn then winter, the impact of kangaroos on the Grassland is expected to increase substantially. The summer rain in 2007-8 will allow current pouch young to survive and more breeding is anticipated in Nov-Feb 2008-09. It is therefore to be expected that grazing pressure on the Grassland will rise dramatically in winter and early spring 2008 and the ecological condition of the Grassland will further decline due to low levels of biomass accumulation that are currently being observed. Thus in the foreseeable future, without any intervention, there will be more bare ground, more erosion, and more pressure on the entire Grassland ecosystem, including the threatened species.

Recommendation No. 1.

We recommend that urgent action be taken to restore the ecological condition of the Grassland, and provide opportunities for the Perunga Grasshopper, Golden Sun Moth and Ginninderra Peppercress to survive and thrive at BNTS.

Supplementary feeding of kangaroos

We have considered whether supplementary feeding of the kangaroos would ensure the protection and long-term sustainability at BNTS of the Grassland and threatened species. In our opinion supplementary feeding would not stop overgrazing of the Grassland by the kangaroos. Kangaroos will continue to preferentially graze the Grassland even when supplementary feed is provided.

The main effects of supplementary feeding will be to maintain the condition of kangaroos at times of potential physiological stress, reducing mortality of malnourished, weak individuals, and facilitating the survival of young. Supplementary feeding is therefore likely to result in an even greater kangaroo population and increased pressure on the Grassland.

Urgent Action to be taken to protect the Grassland

If the Grassland were to be managed as a commercial pasture, complete resting or spelling would be recommended on the basis of its current

condition. Under the more conservative criteria that should be applied to land managed for nature conservation, immediate and prolonged resting or spelling would certainly be required.

The Grassland should be rested for at least two growing seasons by the complete removal of all of the kangaroos. Grassland soil and plant condition at the time of removing the kangaroos should be recorded and recovery monitored after two growing seasons. Weed control should be ongoing into the future.

Panel Recommendation No. 2.

We recommend the immediate removal of all kangaroos from the BNTS and that this removal be completed before impacts on pasture biomass occur during the dormant winter growing season.

Removal of the Kangaroos

We have considered how the approximately 588 kangaroos at BNTS should be removed. We have considered both lethal and nonlethal methods. Our focus is on recommending the most humane method of removal.

Non-lethal methods

Move the kangaroos

The only identifiable nonlethal method of removing the kangaroos from BNTS is to physically move the kangaroos to another site. For the 60 kangaroos subject to research at BNTS this may be appropriate, provided that another site suitable for holding captive kangaroos for research purposes can be located. However, for the other kangaroos currently captive at the BNTS site, we do not consider dart-capture followed by release into the wild to be a humane option for the reasons set out below.

Firstly, it is against current ACT Government policy. This policy has been in place for some time and is backed by sensible and robust investigation and research.

Secondly, to move the kangaroos would present tremendous animal welfare concerns. Given that the kangaroos are wary of human intervention, as observed on our site visit, human intervention could lead to a high percentage of kangaroos suffering from capture myopathy (or shock), which is a reaction to human intervention not fully understood at this juncture.

Thirdly, subsequent release of the kangaroos also presents welfare concerns, as animals will often recover in a state of confusion and risk injury to themselves, other kangaroos and potentially operators. Once released into the wild any injured kangaroos cannot be readily located and euthanased.

In addition to the animal welfare concerns are issues associated with locating a suitable release site. There is an abundance of eastern grey kangaroos in the ACT and NSW. A large scale move of most or all of the kangaroos at the BNTS would not only place pressure on the population being translocated but would also impact the area or areas to which they are introduced, affecting food supply and social interactions in both existing and introduced

populations. Large numbers of kangaroos could be expected to die as a consequence.

Lethal methods

There are two identifiable lethal methods of removing the kangaroos, namely, shooting or euthanasia by lethal injection.

Shooting

Shooting is universally accepted as the most humane lethal method of removing kangaroos. This is also the currently acceptable method detailed in kangaroo management codes of practice across Australia. The advantages of shooting, over other methods of lethal removal, is that it can target particular animals, is quick and is humane in the hands of properly trained and skilful marksman.

We have been informed that the Australian Federal Police has recommended that firearms not be used to remove kangaroos at the BNTS because of public safety concerns. Therefore, shooting is not an option at BNTS.

Euthanasia by lethal injection

Euthanasia by lethal injection requires darting to tranquillise the kangaroo, then the administration of a lethal injection. Although not our preferred option, in the absence of the use of firearms it is the next best method of lethal removal if carried out by trained marksman and appropriate immediate veterinary intervention is available.

Generally kangaroos are herded into a pen, darted with a tranquilliser and then once they have become immobilised are subject to euthanasia by lethal injection. This process causes stress to kangaroos and there may be an injury rate of between 5% and 15%. These injuries are caused as kangaroos become agitated during herding and try to flee, a typically natural response to being forced into an unnatural situation. Kangaroos can also be injured at the time of tranquillisation because they often become agitated before the effect of the tranquilliser brings them down. The level of injuries and associated stress may be reduced by using a more passive means of approaching and tranquillising kangaroos, for example, free range darting, but it is very unlikely that the use of this method would lead to the capture and euthanasia of all the kangaroos at the BNTS site. However, the method adopted will be dependent upon the conditions of the site and the operator engaged by the Department of Defence to dart and euthanase the kangaroos.

Panel Recommendation No. 3.

We recommend that the removal of the kangaroos from BNTS be by the most humane method suitable for the BNTS site. Having regard to advice from the AFP that firearms are not to be used at BNTS, we recommend euthanasia by lethal injection.

Future Management of the Grasslands at BNTS

Nature Conservation Strategy and Action Plan

Future management of the BNTS site must ensure that the Grassland, Perunga Grasshopper, Golden Sun Moth and Ginninderra Peppercress survive and thrive in accordance with the objective found in the Nature Conservation Strategy.

Table 4.1 of the action plan provides for various actions to be taken to conserve the Grassland and threatened species. These actions include monitoring, research, a memorandum of understanding with the Commonwealth and management plans.

There is clearly a need for a planned adaptive management approach at BNTS, within a research framework, whereby problems can be identified early and the above actions can be implemented in a timely manner.

Panel Recommendation No. 4.

We recommend that an adaptive management approach based on clear management objectives, expressed in a management plan, be taken to protect the Grassland, Perunga Grasshopper, Golden Sun Moth and Ginninderra Peppercress at the BNTS.

Re introduction of grazing

The Grassland should be rested for at least two growing seasons. Re-introduction of kangaroo grazing should be according to a carefully managed regime based on measures of improved soil condition, and requirements of the grassland overall.

Kangaroos used for grazing in the future at BNTS must be a non-breeding population. Any kangaroos penetrating the secure area through the security fence will need to be identified and the rate of return monitored. Permanent fertility control measures will need to be carried out in respect of those kangaroos. BNTS in the future may be a suitable site for the rehabilitation of injured kangaroos; however, such kangaroos will also need to be made infertile.

When kangaroos are used for future grazing at BNTS, having those kangaroos subject to permanent fertility control will ensure that the rate of recovery of the kangaroo population can be controlled and will not be able to outstrip the recovery rate of the grassland ecosystem. Careful management of the reintroduction of kangaroos should provide the capacity for ongoing non-lethal control of grazing pressure at this site.

Various methods of fertility control have been under development for some years but, at the current state of knowledge, surgical methods are the only ones that are permanent and do not require multiple interventions. This should involve all kangaroos of both sexes: males by vasectomy and females by tubal ligation possibly carried out using laparoscopy.

As grazing is re-introduced, it may be appropriate to establish some internal kangaroo-proof fences to experimentally test the response of eroded areas, different patch types and threatened species to different grazing pressures. As described above, the total number of kangaroos maintained in the future at BNTS would need to be responsive to grazing pressure overall. The use of internal fences (most likely exclosures) could be used to explore the response

of the various Grassland elements to different grazing regimes, consistent with an adaptive management approach.

Panel Recommendation No. 5.

We recommend that all kangaroos re-introduced or dispersing into the BNTS must be subject to known and established fertility control measures and be incapable of breeding.

Nature conservation reserve

We are aware that there is a proposal that the land at the BNTS be transferred from the Commonwealth to the Territory. We understand that the Territory has agreed in principle to designating a part of the site as a nature reserve.

Panel Recommendation No. 6.

We recommend that when the land at BNTS is transferred to the Territory that legal measures be taken to protect and preserve the high conservation value of the Grassland and its threatened species.

Dr Andrew Braid
Michael Linke
Dr Sue McIntyre
Professor David Morgan

ATTACHMENT A

Documents Provided to the Expert Panel

Public submissions received by the Commissioner for Sustainability and the Environment in relation to her investigation into the natural temperate grassland and threatened species at BNTS:

- Philip Machin – 4 November 2007
- Arthur Georges – 27 November 2007
- Rosemary Blemings – 28 November 2007
- Wildlife Carers Group - 27 November 2007, 5 December 2007 and 6 December 2007
- Australian Society for Kangaroos – 13 December 2007
- Friends of Grasslands – 29 October 2007, 29 November 2007 and 3 December 2007
- Limestone Plains Group - 8 October 2007, 16 October 2007 and 14 December 2007
- RSPCS ACT and RSPCA Australia - 14 December 2007
- Wildcare – 14 December 2007
- Animal Liberation ACT - 30 October 2007 and 14 December 2007
- Frankie Seymour – 14 December 2007
- Ginninderra Catchment Group and Bush on the Boundary Reference Group – 13 December 2007

Material from Commonwealth Department of Environment, Water, Heritage and the Arts Web Site:

- Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory
  - *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) Status and Documents
  - Advice to the Minister for the Environment and Heritage from the Endangered Species Scientific Subcommittee (ESSS) on a proposal to add an ecological community to Schedule 2 of the *Endangered Species Protection Act 1992* (ESP Act)
- Lepidium Ginninderrense - Ginninderra Peppercress
  - EPBC Act Status and Documents
  - Listed Critical Habitat
  - Advice from the Minister for the Environment and Heritage from the Threatened Species Scientific Committee (TSSC) on Amendments to the list of Threatened Species under the EPBC Act 28 February 2005.
  - National Recovery Plan under the EPBC Act, based on an Action Plan (Action Plan No. 25) prepared for the species under the *Nature Conservation Act 1980* (ACT)
- Synemon plana - Golden Sun Moth
  - EPBC Act Status and Documents
  - Advice to the Minister for the Environment and Heritage from the TSSC on Amendments to the list of Threatened Species under the EPBC Act
- Delma impar - Striped Legless Lizard
  - EPBC Act Status and Documents
  - National Recovery plan for the Stripped Legless Lizard (Delma impar) 1999-2003

Kangaroo Advisory Committee Reports:

- Living with Eastern Grey Kangaroos in the ACT – Rural Lands First report to the Minister for the Environment, Land and Planning – February 1996
- Kangaroos in captivity in the ACT Second report to the Minister for the Environment, Land and Planning – August 1996
- Living with Eastern Grey Kangaroos in the ACT – Public Land Third report to the Minister for the Environment, Land and Planning – October 1997

Material from TAMS:

- Answers to Questions relating to the Investigation at BNTS site – 17 December 2007, 11 February 2008 and 14 February 2008.
- Material from Website – Why reduce eastern grey kangaroo populations at Majura Training Area and Belconnen Naval Transmitting Station in the ACT – A pictorial guide to the Kangaroo culling issue
- Material from Website - Kangaroo Culling on Defence lands - Fact Sheet
- Don Fletcher, Managing Eastern Grey Kangaroos Macropus giganteus in the ACT: reducing the overabundance in Pest or Guest: the zoology of overabundance, edited by Daniel Lunney, Peggy Eby, Pat Hutchings and Shelley Burgin, 2007
- Don Fletcher, extract from thesis Population Dynamics of Eastern Grey Kangaroos in Temperate Grasslands, 2006
- Minute from the Chief Police Officer Andy Hughes of the Australian Federal Police to the Minister for Police and Emergency Services re: Application for Kangaroo cull – Department of Defence – 21 May 2007
- Minutes from Leanne Close, Deputy Chief Police Officer, ACT Policing, AFP to Russell Watkinson TAMS dated 21 May 2007 and 31 May 2007
- e-mail from David Jones AFP to Monika Boogs dated 24 May 2007
- Minutes from Hamish McNulty, TAMS, 29 January 2008 and 14 February 2008
- Minute from Sharon Lane, TAMS, dated 31 January 2008
- Memorandum of Understanding, 7 September 1998

Confidential Material from Department of Defence:

- Comprising habitat surveys, threatened species surveys, various management documents in relation to the grassland, threatened species and kangaroos and other related documents.

Legislation and associated documents:

- *Nature Conservation Act 1980*
- *Nature Conservation Regulation 1982*
- *Nature Conservation (Criteria for Declaring Endangered Species) Determination 1995*
- *Nature Conservation (Licensing Criteria) Determination 2001*
- *Nature Conservation (Special Protection Status) Declaration 2005 (No.1)*
- *Nature Conservation (Species and Ecological Communities) Declaration 2005 (No.1)*
- *Nature Conservation (The ACT Nature Conservation Strategy) Approval 1997*
- *Nature Conservation (Threatened Ecological Communities and Species) Action Plan 2007 (No.1)*
- *Nature Conservation Criteria Determination 2001*
- *Nature Conservation Declaration of Protected and Exempt Flora and Fauna 2002 (No.2)*
- *Animal Welfare Act 1992*

- *Animal Welfare Regulation 2001*
- Code of Practice for the Humane Destruction of Kangaroos in the ACT
- Extracts from EPBC Act

Other Documents:

- Aerial and other maps of Lawson site
- Terms of Reference for the Investigation
- Humaneness and Pest Animal Control – Trudy Sharp and Glen Saunders Vertebrate Pest Research Unit – Report 2 October 2007 – NSW Department of Primary Industries