



ACT NATIVE GRASSLAND CONSERVATION STRATEGY

IN BRIEF



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Grassland Earless Dragon

VISION

‘Healthy native grasslands supporting a diverse flora and fauna for now and the future’

Native grasslands of the Territory include a rich assemblage of flora and fauna species that combine into a unique ecosystem. These grasslands are a priority for protection and management as they contribute to our natural biodiversity, our history and heritage, and local amenity and community. They also provide opportunities to enhance cultural engagement, education and scientific research.

PURPOSE

The ACT Native Grassland Conservation Strategy and Action Plans will guide the protection, management and restoration of native grasslands and its component species for the next 10 years, consistent with the ACT Nature Conservation Strategy 2013–23.

The native grasslands strategy outlines how we can manage threats, maintain and improve ecological condition and connectivity, ecosystem function and grassland biodiversity, undertake monitoring and research programs, and enhance the resilience of grasslands to disturbance and climate change.

It includes all native grassland ecosystems of the ACT from lowland Natural Temperate Grassland in and around Canberra to the grasslands of the montane and subalpine zones, regardless of their tenure and land use.

The strategy considers the ecological value and management of native grassland and degraded native grassland, some of which provides habitat for threatened grassland fauna.

The strategy emphasises the benefits of partnering with the community to support grassland conservation.

The strategy provides a framework and strategic context for eight action plans (one threatened grassland ecological community, three threatened plant species and four threatened animal species).

The ACT Native Grassland Conservation Strategy and Action Plans aim to build on the successful protection and management of grasslands achieved since the original 2005 Lowland Grassland Conservation Strategy.

This revised strategy broadens the scope from the previous (2005) native grassland strategy to include rocky native grasslands (which occur mostly in the Molonglo and Murrumbidgee river corridors) and grasslands across the full elevation range of the ACT (which includes montane and sub-alpine grasslands that occur mostly in Namadgi National Park).



Googong foreshore grassland monitoring site

Striped Legless Lizard

WHAT ARE NATIVE GRASSLANDS?

Native grasslands are vegetation communities that are naturally treeless, or have very few trees, and are dominated by native grass and forb species. In the ACT region, native grasslands that have not been substantially modified from their natural (or pre-European) state are Natural Temperate Grasslands.

Natural Temperate Grasslands are dominated by native tussock-forming grasses such as Kangaroo Grass, Wallaby Grass and Speargrass, together with a range of native forbs including daisies, orchids, lilies, rushes and sedges.

Grasslands that have lost most of their native forb species (usually through incompatible land use such as application of fertiliser, or through invasion by weeds) are in lower ecological condition and may no longer be classed as Natural Temperate Grassland. However, these grasslands are still classed as native grasslands if they are dominated by native grasses.

The native grasslands of the ACT provide important habitat for many plants and animals, including kangaroos, wallabies, birds, reptiles and invertebrates.

WHY SHOULD WE CONSERVE NATIVE GRASSLANDS?

Since European settlement our native grasslands have come under increasing pressure from agricultural modification, urbanisation and a changing climate.

Due to these changes, less than 10% of the grasslands in south-eastern Australia now remain in high ecological condition. Natural Temperate Grasslands are considered to be one of the most threatened Australian ecosystems, and are listed in the ACT as 'Endangered' and listed nationally as 'Critically Endangered'. The ACT contains significant remnants of the remaining extent of Natural Temperate Grassland in the region.

Native grasslands provide habitat for a diversity of plant and animal species. Some species are dependent on native grasslands, and these species have also declined along with their native grassland habitat. The native grasslands of the ACT provide critical habitat for several species of threatened plants and animals. In this context, the conservation of the remaining areas of native grassland (including Natural Temperate Grassland) makes an important contribution to national biodiversity conservation.

Native grasslands are a unique ecosystem that warrants care and attention.

Plant and animal species that are dependent on native grasslands, and that are declared as threatened in the ACT:

PLANTS

- > Button Wrinklewort (Endangered)
- > Baeuerlen's Gentian (Endangered)
- > Ginninderra Peppercross (Endangered)

ANIMALS

- > Golden Sun Moth (Endangered)
- > Grassland Earless Dragon (Endangered)
- > Perunga Grasshopper (Vulnerable)
- > Striped Legless Lizard (Vulnerable)

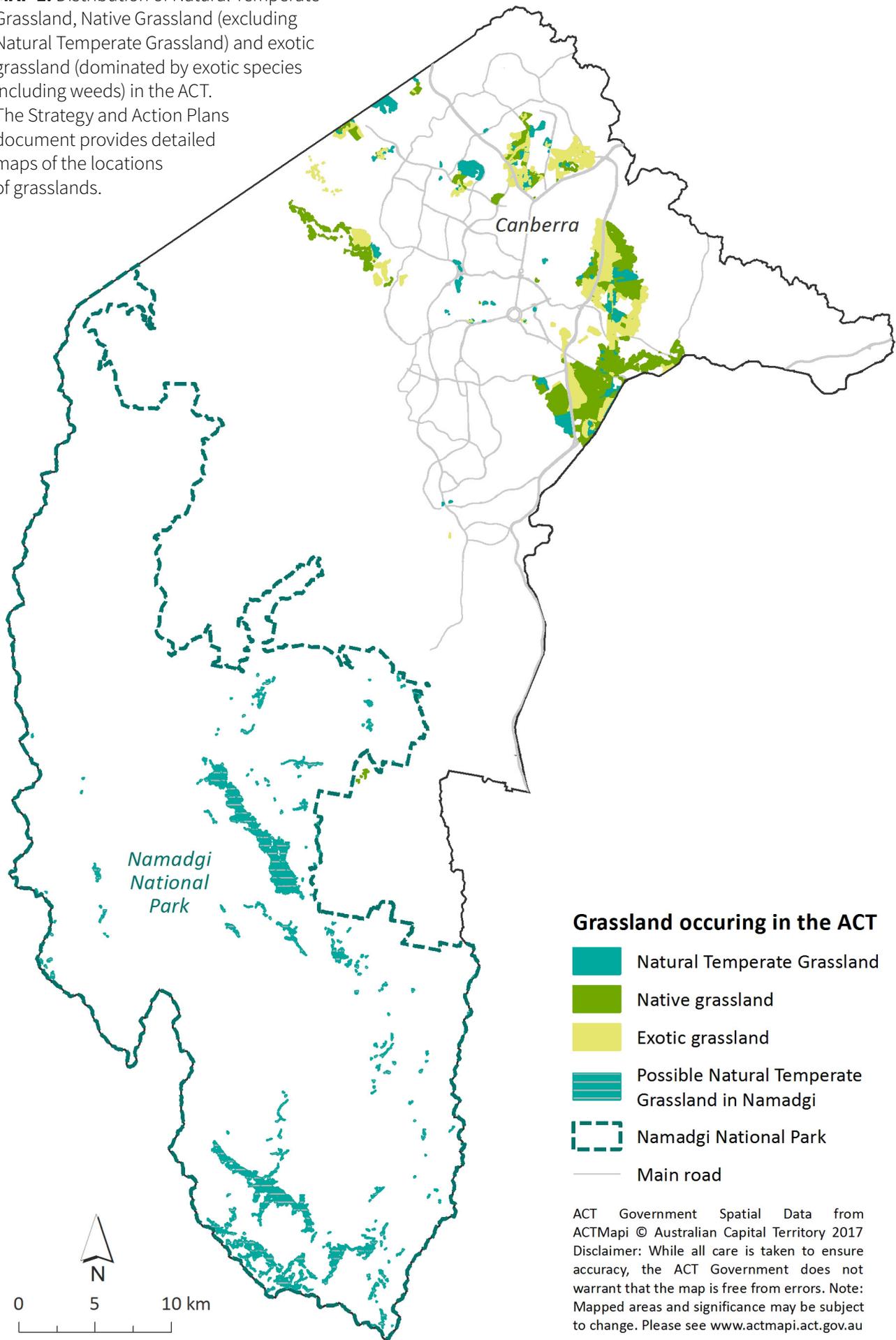


Golden Sun Moth

Ginninderra Peppercross



MAP 1: Distribution of Natural Temperate Grassland, Native Grassland (excluding Natural Temperate Grassland) and exotic grassland (dominated by exotic species including weeds) in the ACT. The Strategy and Action Plans document provides detailed maps of the locations of grasslands.





Button Wrinklewort

Baeuerlen's Gentian

OBJECTIVES

The Strategy outlines principles and guidelines on which to base conservation actions.

THE STRATEGY:

- > Provides a vision for the ACT Government, organisations and individuals involved in the conservation of native grasslands.
- > Identifies sites for protection and conservation management.
- > Provides management principles and guidelines for the conservation and restoration/enhancement of native grasslands.
- > Provides monitoring and research priorities for the native grassland associations found in the ACT.
- > Provides overarching goals and objectives for conservation of the native grasslands and component species, and provides strategic context for action plans for threatened species and the Natural Temperate Grassland ecological community.
- > Describes the remaining areas of native grassland in the ACT, including a broadening of the scope since the previous strategy to include native grasslands across the full elevation range of the ACT, and degraded grasslands that may provide habitat or connectivity for grassland flora and fauna.
- > Describes the floristic associations found in native grassland areas in the ACT based on current classification methods.
- > Encourages community participation in the conservation of native grasslands.

THE INDIVIDUAL STRATEGIES

The ACT Native Grassland Conservation Strategy is based around six individual strategies:

1. Protect native grassland and component species
2. Reduce threats to native grassland biodiversity
3. Manage native grassland and component species for conservation
4. Enhance resilience, ecosystem function and habitat connectivity
5. Monitoring and research
6. Engage the community

STRATEGY 1: PROTECT NATIVE GRASSLAND AND COMPONENT SPECIES

PROTECTION GOALS

- » Conserve all remaining areas of native grassland in the ACT that are in moderate to high ecological condition.
- » Retain areas of native grassland in lower ecological condition that serve as ecological buffers or landscape linkages, or contribute significantly to threatened species conservation, or are a priority for rehabilitation.
- » Conserve viable wild populations of native grassland flora and fauna species in the ACT, and support local, regional and national efforts towards conservation of these species.

The protection strategy uses Conservation Significance Categories to provide a guide for protection and management priorities of individual grassland sites, irrespective of tenure and land-use. Conservation Significance Categories (CSC) are based on the ecological condition of a grassland (using the recently developed Floristic Value Score method), its size (area), and value as habitat for threatened species.

CSC 1 grasslands have been re-assessed using the recent FVS methods and mapped. Not all CSC 2 and 3 grasslands have been re-assessed using the FVS method and so have not yet been mapped.

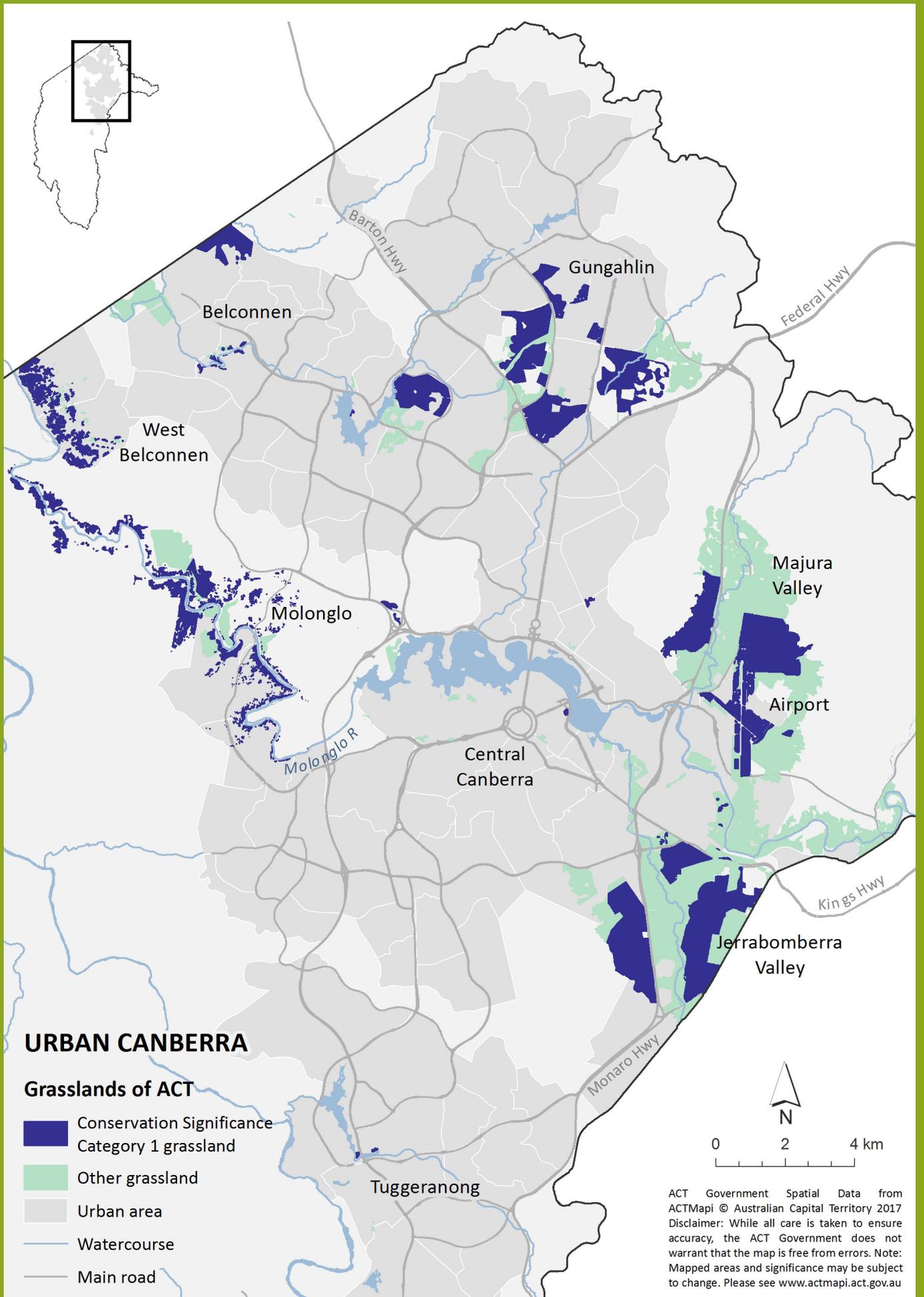
In Figure 2, CSC 2 and 3 grasslands are shown as 'Other grasslands'.

CSC 1 sites represent the largest remaining areas of Natural Temperate Grassland in high ecological condition and are key habitat for threatened grassland species. These sites warrant formal protection to ensure conservation in the long term. These sites should also be given priority for management actions that maintain or improve ecological condition or their value as threatened species habitat.

CSC 2 grassland sites are those with a history of greater modification (e.g. exhibiting reduced plant species diversity, loss of disturbance-sensitive species and an increase in disturbance tolerant species, and greater weediness). These sites are generally in moderate condition and are likely to be viable in the medium term but their long-term viability may be limited by virtue of their size, low area to perimeter ratio and/or impacts from surrounding land uses. These sites may provide habitat for threatened species and may complement CSC 1 grassland sites by providing connectivity to adjacent habitat or act as a buffer to adjacent incompatible land uses.

CSC 3 grassland sites have a lower conservation value, and may or may not meet the condition thresholds to be classified as Natural Temperate Grassland. However, these sites may still contribute to conservation of grassland biodiversity (habitat for threatened species) and may complement CSC 1 and 2 grassland sites by providing connectivity to adjacent habitat or act as a buffer to adjacent incompatible land uses. These sites may have potential for restoration.

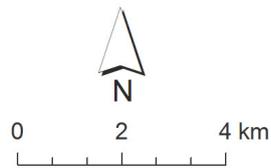
MAP 2. Map of native grasslands in the north of the ACT showing Conservation Significance Category 1 grasslands, and 'Other grasslands' (which include Conservation Significance Category 2 and 3 grasslands, and exotic grasslands). The Conservation Significance Category is based several criteria, including grassland condition and habitat for threatened species.



URBAN CANBERRA

Grasslands of ACT

- Conservation Significance Category 1 grassland
- Other grassland
- Urban area
- Watercourse
- Main road



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STRATEGY 2: REDUCE THREATS TO NATIVE GRASSLAND BIODIVERSITY

THREAT MANAGEMENT GOAL

- » Prevent or manage the impacts of threatening processes to maintain or improve the ecological condition and biodiversity of native grasslands, with particular attention to threatened species.

Many of the key drivers of grassland loss in south-eastern Australia are historic in nature. By far the greatest cause of grassland loss has been agriculture, particularly the sowing of improved pasture, cropping and superphosphate application.

Whilst these threats continue, grasslands are also being lost to new threats that are likely to intensify over the coming decades. Grasslands now face five major threats: (1) the long-lasting effects of historic habitat loss, (2) ongoing destruction of grasslands, (3) exotic species invasions, (4) inappropriate disturbance regimes, and (5) climate change.

The consequences of climate change are likely to result in exacerbation of current threats and new threats. Managing threats is a key strategy in conserving and restoring grasslands in the ACT.

GUIDELINES

This threat management strategy provides guidelines to managing threats under the categories of:

- > Guidelines to manage weeds
- > Guidelines to manage introduced pest animals
- > Guidelines to avoid overgrazing by kangaroos
- > Guidelines to minimise impacts of urbanisation
- > Guidelines to manage the consequences of climate change

STRATEGY 3: MANAGE NATIVE GRASSLAND AND COMPONENT SPECIES FOR CONSERVATION

MANAGEMENT GOAL

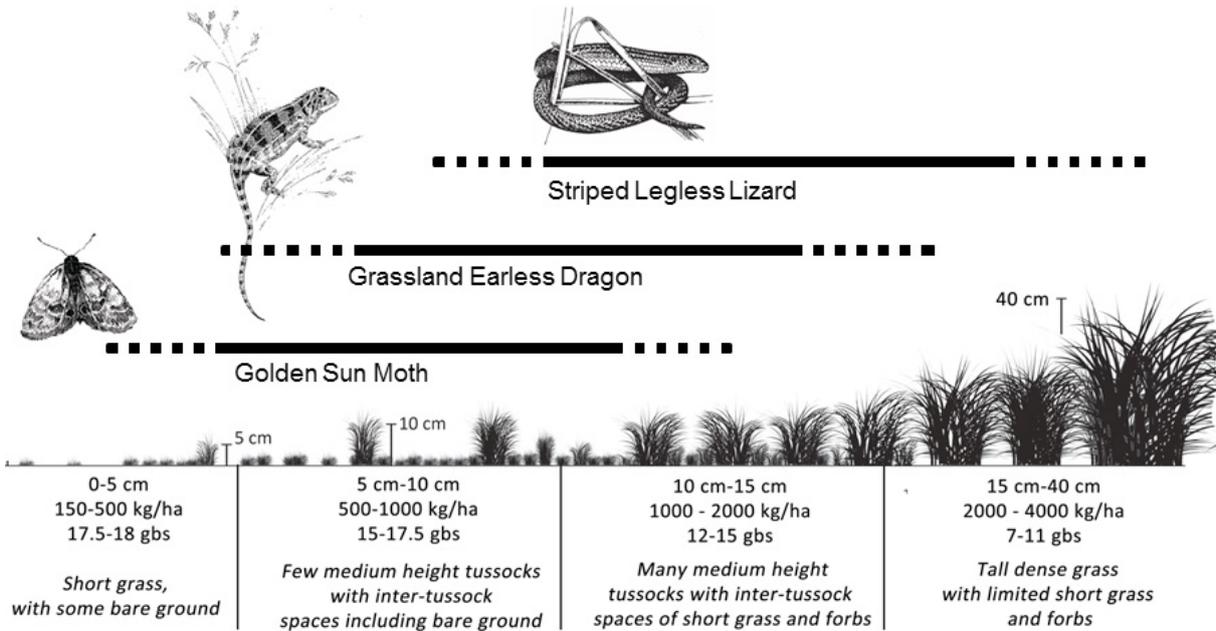
- » Manage native grassland in the ACT across all tenures to maintain or improve ecological condition and biodiversity, with particular attention to grassland habitat of threatened species.

Relatively large areas of native grassland in the ACT are now protected within reserves, so the current emphasis of grassland conservation is on management and enhancement of grassland ecosystems.

Native grasslands require active management to maintain their ecological condition, to provide habitat for component species, to promote recovery of threatened species and to reduce threats to the ecological community (such as weed infestation).

Grass biomass and grassland structure (grass height and grass density) are key drivers of vegetation and fauna dynamics in native grasslands and hence grassland biodiversity. The management strategy provides guidelines on managing grass structure and biomass for different species. Management of grass biomass and structure involves implementing appropriate ‘disturbance regimes’ using methods that include grazing (native and introduced herbivores), burning, and slashing/mowing, and these are discussed in detail in the strategy.

FIGURE 3. Grass structure and habitat suitability for some threatened grassland fauna.



STRATEGY 4: ENHANCE RESILIENCE, ECOSYSTEM FUNCTION AND HABITAT CONNECTIVITY

ECOSYSTEM FUNCTION AND CONNECTIVITY GOAL

- » Native grasslands in good ecological condition support viable populations of grassland species, are well connected in the landscape and are more resilient, including to climate change.

Native grasslands in the ACT and surrounding region were extensive at the time of European settlement. Grasslands in lowland areas are now highly fragmented. Many native grasslands now have a significant exotic plant species component because of their small size, the surrounding land use and their land use history. Restoration of grasslands provides opportunities to enhance the extent, connectivity and condition of grasslands.

The strategy to 'enhance resilience, ecosystem function and connectivity' provides grassland management and restoration guidelines under the categories of:

- > Guidelines to improve resilience and adaptability to climate change
- > Guidelines to enhance ecosystem function through restoration
- > Guidelines to maintain and enhance habitat connectivity

STRATEGY 5: MONITORING AND RESEARCH

MONITORING AND RESEARCH GOAL

- » Sound research, monitoring and adaptive management underpin the conservation of native grasslands and component species.

Monitoring changes in the condition of ecological communities and their biodiversity is a key part of effective protection and long-term management of species and ecological communities.

Knowledge gaps still remain related to management of grasslands (such as long-term effects of grazing, burning and slashing/mowing regimes), restoration of grasslands, the ecology of grassland species, and methods to promote threatened species recovery. Research priorities for threatened species is outlined in the respective action plans.

Building on the strong research and monitoring foundation related to the conservation of native grasslands and component species remains a priority in the ACT Native Grassland Conservation Strategy. This will involve facilitating partnerships between the ACT Government, research institutions, and the community.



Gungahera grasslands

Ginninderra Peppercreese community planting

STRATEGY 6: ENGAGE THE COMMUNITY

COMMUNITY ENGAGEMENT GOAL

- » Community groups, landholders and others are actively involved in native grassland conservation.
- » An informed community supports the use of native grassland areas for conservation.

Community engagement in nature conservation has a long and active history in the ACT. Community groups in the ACT have been instrumental in advocating for native grassland conservation, raising public awareness, and undertaking citizen science projects and on-ground restoration activities. The contribution of community volunteers to native grassland management and restoration programs can be essential to their outcomes.

Environmental volunteering has a range of benefits for participants as well as the environment, such as social wellbeing, meeting like-minded people, gaining work experience and learning new skills.

The ACT Government aims to increase the number of volunteer groups and areas actively managed by volunteers by introducing new engagement strategies and targeting new interest groups. A focus will be on encouraging the involvement of youth in nature conservation (ACT Nature Conservation Strategy).

ACTION PLANS

The Strategy provides the framework for eight action plans in the ACT:

- > Natural Temperate Grassland Endangered Ecological Community
 - > Button Wrinklewort (*Rutidosia leptorhynchoides*)
 - > Baeuerlen’s Gentian (*Gentiana baeuerlenii*)
 - > Ginninderra Peppergrass (*Lepidium ginninderrense*)
- > Grassland Earless Dragon (*Tympanocryptis pingicolla*)
 - > Striped Legless Lizard (*Delma impar*)
 - > Golden Sun Moth (*Synemon plana*)
 - > Perunga Grasshopper (*Perunga ochracea*)

These action plans are included as Part B of the Strategy and Action Plans document. The Conservator of Flora and Fauna prepares action plans under the *Nature Conservation Act 2014* with expert input from the ACT Scientific Committee. Action plans outline conservation and protection proposals for the species or community with the aim of maintaining viable, wild populations of each species (or samples of the ecological community) for the long term.

Each action plan provides a detailed description of the community or species, its conservation status, ecology and key threats, and outlines the major conservation objectives (Table 1) and intended management actions. Achieving the vision, goals and objectives of the strategy will depend on undertaking the actions in the action plans.

The Pink-tailed Worm-lizard occurs in grasslands and grassy woodlands, and so rather than include the action plan in the strategy document, the Pink-tailed Worm-lizard has its own stand-alone action plan. However, many of the objectives and guidelines in the strategy are relevant to management of habitat for this species.

TABLE 1. Summary of objectives from each of the action plans, grouped by the five core objectives of Protect, Manage, Increase, Knowledge and Awareness. Note that ‘unintended impacts’ are those not already considered through an environmental assessment or other statutory process.

OBJECTIVE	ACTION PLAN
PROTECT	
Conserve all remaining areas of Natural Temperate Grassland in the ACT that are in moderate to high ecological condition. Retain areas of native grassland in lower ecological condition that serve as ecological buffers or landscape connections, or contribute significantly to threatened species conservation, or are a priority for restoration.	Natural Temperate Grassland
Conserve all large and medium size populations in the ACT. Protect small populations from unintended impacts.	Button Wrinklewort Striped Legless Lizard Pink-tailed Worm-lizard
Conserve all ACT populations.	Baeuerlan’s Gentian Ginninderra Peppergrass Grassland Earless Dragon
Conserve large populations in the ACT. Protect other ACT populations from unintended impacts.	Golden Sun Moth
Protect native grassland sites where the species occurs from unintended impacts.	Perunga Grasshopper
MANAGE	
Manage Natural Temperate Grasslands to: <ul style="list-style-type: none"> <li style="width: 50%;">• maintain and improve grassland structure, function and diversity <li style="width: 50%;">• reduce the impacts of threats <li style="width: 50%;">• improve threatened species habitat <li style="width: 50%;">• conserve grassland biodiversity 	Natural Temperate Grassland
Manage the species and its habitat to maintain the potential for evolutionary development in the wild.	All Species
INCREASE	
Increase the extent, condition and connectivity of Natural Temperate Grassland in the ACT by restoring priority grassland sites.	Natural Temperate Grassland
Enhance the long-term viability of populations through management of adjacent grassland to facilitate expansion of populations into suitable habitat. Establish new populations.	All Species
KNOWLEDGE	
Improved understanding of the ecology, habitat and threats to the species/community.	All
AWARENESS	
Promote a greater awareness of, and strengthen stakeholder and community engagement in, the conservation of the species/community.	All

NEXT STEPS

IMPLEMENTING THE STRATEGY AND ACTION PLANS

This strategy is a thematic document, i.e. it is not site-specific, and instead deals with native grassland conservation across all sites and land tenures in the ACT. The goals of the strategy will be achieved through a variety of means, relevant to the different tenures.

Primary responsibility for implementation and coordination of this strategy on ACT public land lies with the ACT Government. Achievement of the goals of the strategy will require the participation of managers of Commonwealth land (Department of Defence and other Commonwealth Government departments) and private land (rural lessees, Canberra International Airport). Liaison and cooperation with NSW agencies, particularly the Office of Environment and Heritage, is an important element in implementing this strategy. Collaboration with universities, CSIRO and other research institutions will be required to facilitate and undertake aspects of monitoring and research outlined in the action plans.

Ongoing (and increasing) community support and participation in native grassland conservation will be essential to achieving the goals of the strategy.

EVALUATION AND REVIEW

The ACT Native Grassland Conservation Strategy and the action plans are envisaged to have a 10 year life-span, after which they will be reviewed. Progress reviews may also be undertaken during the life of the strategy and action plans. Progress reviews and the final (10 year) review are assessed by the ACT Scientific Committee, a statutory body established under the *ACT Nature Conservation Act 2014*.

Review of progress of each of the eight action plans is the primary means for assessing progress towards achieving the goals of the ACT Native Grassland Conservation Strategy. The Committee's assessment is based on objectives and performance indicators in the action plans, and progress that can reasonably be expected within the review timeframe.

Action plans have been developed and implemented for all of the threatened species that are found in the native grasslands of the ACT, and for the grassland ecological community itself. Since the previous native grassland strategy (2005), reviews have been undertaken for all of these action plans and provided to the ACT Scientific Committee for assessment.

