Approved Conservation Advice for Lowland Native Grasslands of Tasmania ecological community

(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

This Conservation Advice has been developed based on the best available information at the time this Conservation Advice was approved; this includes existing plans, records or management prescriptions for this ecological community.

Description

The Lowland Native Grassland of Tasmania is a type of temperate grassland. The ecological community is comprised of two major sub-types differentiated by the dominant native tussock-forming perennial grass species: Lowland *Poa labillardierei* Grassland and Lowland *Themeda triandra* Grassland. They are typically treeless (or have a very sparse tree/shrub layer) and generally occur on valley flats to low slopes at elevations up to 600 m above sea level.

The *P. labillardierei* sub-type is relatively species-poor and consists of grasslands typically dominated by tussocks of *P. labillardierei*. Tussocks may be large and spreading or small and tufty depending on the situation and may form a closed sward or an open layer with smaller grasses, lichens and other herbs such as lilies, daisies and orchids in the inter-tussock spaces.

The *T. triandra* sub-type is typically dominated by *T. triandra* and is floristically diverse. Other common grasses in this grassland include species of the *Austrodanthonia, Austrostipa* and *Poa* genera. It is often characterised by a rich variety of lilies, orchids, daisies and other herbs in patches between grass tussocks although it can occur where *T. triandra* dominates almost to the exclusion of other species.

The above descriptions are drawn from a range of sources: Kirkpatrick et al. (1998), Gilfedder et al. (2003), Harris and Kitchener (2005) and the Tasmanian vegetation community descriptions and benchmarks (TASVEG 2004a, 2004b, 2004c). A more comprehensive description of the ecological community is contained in the Listing Advice which can be viewed at: http://www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl

Conservation Status

The Lowland Native Grasslands of Tasmania ecological community is listed as **critically endangered**. This ecological community is eligible for listing as critically endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, in 2009, the Minister considered the Threatened Species Scientific Committee's (TSSC) advice (TSSC, 2009) and amended the list under section 184 of the EPBC Act to include Lowland Native Grasslands of Tasmania. The TSSC determined that this ecological community met criteria 1, 2, 4 and 5 of their eligibility criteria because it has undergone a severe decline in extent and has a very restricted geographic distribution (as indicated by very small patch sizes) coupled with demonstrable threat. It has also undergone a severe reduction in community integrity and the rate of continuing detrimental change is substantial. In 2008, the lowland native grasslands were not listed as a threatened vegetation community under the Tasmanian *Nature Conservation Act 2002.*

Distribution

The Lowland Native Grasslands of Tasmania ecological community is restricted to the lowlands of Tasmania, within localised areas of northwest Tasmania and on the islands of Bass Strait. It occurs in the following Interim Biogeographic Regionalisation for Australia **(**IBRA) Bioregions: Ben Lomond, Northern Midlands, Northern Slopes, King, Flinders,

Central Highlands, South East and Southern Ranges. The Natural Resource Management Regions in which the ecological community occurs are South, North and Cradle Coast.

In 2008, the ecological community occupied an area of approximately 21 600 ha but is highly fragmented. Remnants range in size however most patches (approximately 76%) are under 10 ha in size and almost all (approximately 98%) are under 100 ha (Lowland Grassland Review Expert Group, 2008).

Threats

The main identified threats to the ecological community include clearing and conversion of land and consequent fragmentation of native vegetation remnants, pasture improvement and fertilisation, invasion by weeds and feral animals, inappropriate grazing and fire regimes, urban expansion, off-road vehicle disturbance, salinity and a low level of protection in reserves.

Clearing and conversion of remnants, urban expansion and peri-urban development threaten the ecological community through direct removal of remnant vegetation and subsequent fragmentation of the ecological community across its range (e.g. Kirkpatrick et al., 1988; Gilfedder et al., 2003; Gilfedder et al., 2008). Pasture improvement and fertilisation, invasion by weeds and feral animals, inappropriate grazing and fire regimes, salinity and off-road vehicle disturbance threaten the structure and function of remaining remnants by impacting on species diversity and composition (e.g. Lunt, 1991; Kirkpatrick and Gilfedder, 1995; Zacharek et al., 1997; Gilfedder et al., 2003). Little of the ecological community is protected under conservation related land tenure with the majority of the grasslands occurring on private property.

The main potential threat to the ecological community is climate change. Climate change can lead to habitat reduction and changes in species composition and the impact of climate change on the interactions amongst native and exotic species under different disturbance and grazing regimes is largely unknown (Peart, 2008).

Research Priorities

Research priorities that would inform future regional and local priority actions include:

- Support and enhance existing monitoring programs;
- Assess the vulnerability and resilience of the ecological community to climate change and develop adaptive responses and appropriate recovery actions;
- Identify appropriate fire and grazing regimes necessary to maintain grasslands;
- Develop and implement identification systems and expertise to manage the grasslands within the Forest Practices System; and
- Undertake survey work in suitable and potential sites to locate any additional remnants and to identify threatened flora and fauna that may require specific conservation measures.

Priority Actions

The following priority recovery and threat abatement actions can be done to support the recovery of the Lowland Native Grasslands of Tasmania ecological community.

Habitat Loss, Disturbance and Modification

- Identify remnants of high conservation priority.
- Monitor known remnants to identify key threats.
- Manage threats to remnants of the ecological community.

- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Manage any changes to hydrology (e.g. irrigation and dam building) that may result in changes to water table levels and salinity.
- Recognise and implement appropriate management regimes to maintain distinctive biodiversity elements, such as threatened species and to manage the biomass of the ground layer.
- Liaise with local councils and state road authorities to ensure road widening and maintenance activities (or other infrastructure or development activities) involving substrate or vegetation disturbance in areas where Lowland Native Grasslands of Tasmania occur do not adversely impact on known patches.
- Investigate formal conservation arrangements, management agreements and covenants on private land, and for crown and private land investigate inclusion in reserve tenure if possible.
- Liaise with planning authorities to ensure they are aware of the ecological community and take it into account when producing plans for urban (and peri-urban) growth zones.

Invasive Species

- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on the Lowland Native Grasslands of Tasmania.
- Manage sites to prevent introduction or further spread of invasive exotic weeds, which threaten the Lowland Native Grasslands of Tasmania, using appropriate methods.
- Control introduced pest animals to manage threats, especially to threatened species, at known sites

Trampling, Browsing or Grazing

- Support and enhance existing grazing monitoring programs.
- Develop and implement property management plans that ensure appropriate grazing regimes are applied on private property and develop and implement management plans for roadside verges and other public land remnants which may be impacted by stock grazing.

Fire

- Support and enhance existing fire monitoring programs.
- Develop and implement suitable fire management strategies for remnants of the Lowland Native Grasslands of Tasmania that may have specific fire management requirements, including the inclusion of appropriate fire regimes in any property management plans.
- Negotiate appropriate standing procedures with local fire brigades.

Conservation Information

- Raise awareness of the Lowland Native Grasslands of Tasmania ecological community within the local community and particularly with farmers, e.g. through active NRM, Landcare and agricultural groups.

Enable Recovery of Additional Sites

- Investigate options to maintain and improve connectivity of remnants.

This list does not necessarily encompass all actions that may be of benefit to the Lowland Native Grasslands of Tasmania ecological community, but highlights those that are considered to be of highest priority at the time of preparing the Conservation Advice.

Existing Plans/Management Prescriptions that are Relevant to the Ecological Community

Dorrough J, Stol J and McIntyre S (2008). Biodiversity in the Paddock: a Land Managers Guide. Future Farm Industries CRC.

Kirkpatrick JB and Gilfedder LA (1999). Tasmanian Bushcare Toolkit : a guide to managing and conserving the bushland on your property. Department of Primary Industries, Water and Environment, Hobart.

Further guidance on the management of temperate grassy systems, in general, are available from the following sources.

Barlow, T. 1999. Grassy Guidelines. How to Manage Native Grasslands and Grassy Woodlands on your Property. Trust for Nature Victoria, Melbourne, Victoria.

Langford, C., Simpson, P., Garden, D., Eddy, D., Keys, M., Rehwinkel, R. and Johnston, W. 2004. Managing Native Pastures for Agriculture and Conservation. NSW Department of Primary Industries.

Mokany K, Friend D, Kirkpatrick J and Gilfedder L (2006). Managing Tasmanian Native Pastures - a technical guide for graziers. Tasmanian Institute of Agricultural Research, Hobart.

Available on the internet at:
http://products.lwa.gov.au/files/PN061152.pdf

These were the most current prescriptions at the time of publishing; please refer to the relevant agency's website for any updated versions.

Information Sources:

Gilfedder L, Kirkpatrick J, Wapstra A and Wapstra H (eds) (2003). The Nature of the Midlands'. Midlands Bushweb, Northern Midlands Council. Longford, Tasmania.

Gilfedder L, Williams D, Lunt, I, Carter O, Morgan J and McDougall K (2008). Temperate grasslands region: Southeastern Australia. In 'Compendium of regional templates on the status of temperate grasslands conservation and protection'. Prepared for the World Temperate Grasslands Conservation Initiative Workshop - Life in a working landscape. June 28-29 2008, Hohhot, China.

Available on the internet at:
http://cmsdata.iucn.org/downloads/app_2_comp_of_regional_grassland_templates.pdf

Harris S and Kitchener A (Eds) (2005). From Forest to Fjaeldmark: Descriptions of Tasmania's Vegetation. Department of Primary Industries, Water and Environment. Hobart.

Kirkpatrick J, Gilfedder L and Fensham R (1988). City Parks and Cemeteries: Tasmania's remnant grasslands and grassy woodlands. Tasmanian Conservation Trust Inc. Hobart, Tasmania.

Kirkpatrick J and Gilfedder L (1995). Maintaining integrity compared with maintaining rare and threatened taxa in remnant bushland in subhumid Tasmania. Biological Conservation 74 (1): 1-8

Lowland Grassland Review Expert Group (2008). A review of the conservation status of lowland *Themeda* and *Poa* Grassland Native Vegetation Communities. An unpublished

report to the Lowland Grassland Review Steering Committee, Resource Management and Conservation, Department of Primary Industries and Water, Hobart.

Available on the internet at:
http://www.dpiw.tas.gov.au/inter.nsf/WebPages/LJEM-77TVB7?open

Lunt ID (1991). Management of remnant lowland grasslands and grassy woodlands for nature conservation: a review. Victorian Naturalist 108 (3): 56-66.

Peart B (2008). Life in a working landscape: Towards a conservation strategy for the world's temperate grasslands. A record of the World Temperate Grasslands Conservation Initiative Workshop. June 28-29 2008, Hohhot, China.

Available on the internet at:
http://cmsdata.iucn.org/downloads/aug_9_final2_workshop_report.pdf

Tasmanian Vegetation Mapping Program (TASVEG) (2004a). Benchmark for vegetation Condition Assessment – Lowland *Poa labillardierei* grassland: GPL on slopes facies - TASVEG V1.0. Department of Primary Industries, Water and Environment, Tasmania.

Tasmanian Vegetation Mapping Program (TASVEG) (2004b). Benchmark for vegetation Condition Assessment – Lowland *Poa labillardierei* grassland: GPL on valley bottoms and river banks variant - TASVEG V1.0. Department of Primary Industries, Water and Environment, Tasmania.

Tasmanian Vegetation Mapping Program (TASVEG) (2004c). Benchmark for vegetation Condition Assessment – Lowland *Themeda triandra* grassland: GTL- TASVEG V1.0. Department of Primary Industries, Water and Environment, Tasmania.

TSSC (Threatened Species Scientific Committee) 2009. Listing advice for the Lowland Native Grasslands of Tasmania ecological community.

Available on the internet at:
http://www.environment.gov.au/cgi-bin/sprat/public/publiclookupcommunities.pl

Zacharek A, Gilfedder L, Harris S (1997) The flora of Township Lagoon Nature Reserve and its management, Tunbridge, Tasmania. Pap. Proc. Roy. Soc. Tasmania 131: 57-66