

Ecological Fire Management Strategy

Department of
Environment and
Natural Resources

Mount Lofty Ranges Southern Emu-wren (*Stipiturus malachurus intermedius*)

Purpose

This strategy focuses on fire management for the Mount Lofty Ranges Southern Emu-wren (MLRSEW), identifying a number of issues that should be considered before, during and after fire. Potentially conflicting activities should be discussed with the Regional Ecologist or the MLRSEW Recovery Team.

Species Information

Rating	Endangered— <i>NPW Act 1972 & EPBC Act 1999</i> .
Identification	A small bird with body mass around 7g and overall length 16–19cm, including the 9–12cm characteristic filamentous tail comprising just six feathers. Wings are short and rounded. Both sexes are tawny-brown with dark striations dorsally. Males distinguished from females by pale-blue upper-breast, throat and eyebrows.
Distribution	Fragmented distribution in south Mount Lofty Ranges–Fleurieu Peninsula, from Mount Compass to Deep Creek to lower Finnis River.
Parks	Deep Creek CP, Stipiturus CP, Hesperilla CP and Cox Scrub CP. Formerly recorded in Congeratinga NFR and Mount Billy CP.
Other areas	Small populations on private property, mostly in swamp habitat near Mount Compass. Large population in Ramsar/private swamp in the lower Finnis River–lower Tookayerta Creek area. Formerly occupied, mostly swamp, habitat on private land across range.
Habitat	Swamp (reedland, wet-shrubland and wet-sedgeland) and dry-heath (mallee, woodland or forest and dry-shrubland) characterised by low dense vegetation. A key structural feature is a dense layer, usually from ground level to about 1m above ground, dominated by shrubs, sedges and ferns in swamps and shrubs and sedges in dry-heath. Some habitats have an additional, more open (possibly dense) shrub layer and/or emergent shrubs, but any tree (typically mallee tree) canopy present is usually low and sparse to mid-dense.
Important Populations	The most important (largest and probably most genetically diverse) populations occur in dry-heath in Deep Creek CP, (largest population overall, with the most important local population 9km SW of Parawa in NE corner of the Boat Harbor Block) and in private/Ramsar swamp in the lower Finnis River–lower Tookayerta Creek area (5.5km SSE of Finnis).
Home Range	Approximately 1ha in good habitat. Ranges of pair members are highly overlapped, but there is little overlap between ranges of neighbouring pairs, which often adjoin.
Reproduction	Breed annually during spring–summer as monogamous pairs. Overall breeding season August to March, including rearing of young to independence, but most young hatch



Photo: (left) Marcus Pickett, (right) David Edey.

Dispersal	Limited dispersal capabilities due to short wings and weak flight. Substantially cleared areas are barriers to movement and dense vegetation is required for dispersal. Maximum dispersal distance recorded is 2.5km between sites connected by dense vegetation, but probably capable of movement over greater distances. Once a local population has been lost, natural recolonisation relies on dispersal from a connected source population.
Longevity	Average life expectancy unknown. The oldest recorded individual was at least 5.75 years old.
Diet	Predominantly small terrestrial insects.

Fire and Mount Lofty Ranges Southern Emu-wrens

Risks to MLRSEWs

General Impacts:

- Potential immediate to medium-term loss of habitat (food, shelter, nest sites, movement corridors) and trapped individuals.
- Population loss. There may be local population extinction at burnt-out isolated habitat patches.
- Disproportionate impact upon population at a site due to sedentary habit and small home range.
- Increased risk of predation through forced dispersal to unsuitable areas.
- Breeding disruption (e.g. mate or nest loss).
- Inappropriate fire regimes may result in long-term or permanent habitat degradation or loss.

Bushfire:

- Major potential threat.
- Most of entire population could potentially be lost due to single widespread bushfire at Deep Creek CP.

Prescribed burning:

- Minor potential threat.
- Most populations are in areas not subject to prescribed burning.



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Fire Management Objectives for MLRSEWs

To prevent MLRSEW population or habitat loss due to fire, according to the following, in order of priority:

- Important populations;
- Other remaining populations;
- Potential breeding habitat; and
- Linkage of habitat.

Strategies for Fire Management of MLRSEWs

- Ensure bushfire risk mitigation and suppression strategies consider prevention of population or habitat loss due to fire.
- Ensure occupied habitat is not deliberately burnt without appropriate MLRSEW-specific management consideration.
- Ensure fire management planners and incident managers are provided with key MLRSEW information (fire risk mapping, ecological fire management strategy, information contacts).
- Ensure MLRSEW-specific fire management advice is updated to reflect new information.

MLRSEW Fire Response

The information presented here is based on incomplete data:

- Burnt-out habitat becomes unsuitable for foraging, shelter or nesting for a variable period.
- Reoccupation of regenerating habitat can be expected provided a potential source population is close-by and connected. Swamp habitats recover faster than dry-heath habitats. Non-breeding use of swamp likely in very short-term (1–2 years) with breeding and increased population distribution/density likely thereafter, but possible decline in long-term (>10 years) depending on vegetation structural changes. Non-breeding use of dry-heath likely in short-term (3–5 years) with breeding and increased population distribution/density likely in medium- to long-term (5–20 years), but possible decline thereafter depending on vegetation structural changes.
- Suitability of long-unburnt (e.g. >10 years in swamps and >20 years in dry-heath) habitat may improve in short- to medium-term post-fire.
- Refuge during and immediately following fire may be provided by localised unburnt areas (e.g. deep gullies).
- Surviving individuals suffering complete loss of pre-fire habitat are forced into nearby vacant unburnt habitat, if available, and probably do not reoccupy pre-fire home ranges. Individuals suffering relatively small home range loss probably remain resident and reoccupy burnt sections of former home range as these regenerate.

Actions for Risk Management - Prescribed Burning

Fire Management Planning

Preliminary planning

- Review species information (in this strategy), MLRSEW-specific fire risk mapping and seek MLRSEW-specific advice.
- Assign high-quality habitat to C-zones.

Risk assessment

- Prioritise fire management activities to protect key populations and those identified as being at greatest risk from bushfire.

Planning Prescribed Burns

- Only undertake prescribed burning of occupied habitat for strategic conservation purposes, and do not undertake such burning without MLRSEW-specific management advice.
- Allow for provision of unburnt refuge and breeding habitat areas (minimum 10 ha), and maintenance of connectivity.
- Allow for research using prescribed burning as a means to gather new MLRSEW fire response information.
- Incorporate key linkage habitat areas and areas that may benefit from prescribed burning (i.e. through conversion to a preferred habitat state) in MLRSEW-specific fire risk mapping.

Timing, location and frequency of burn

- Occupied habitat should not be burnt during the breeding season (Aug–Mar), particularly the main nesting period (Sep–Dec).
- Deliberate burning should be conducted under conditions conducive to rapid vegetation regeneration (e.g. not during drought conditions).
- Inter-fire intervals should (except where varied for MLRSEW-specific ecological or research purposes) be at least 10 years in swamp habitat and 20 years in dry-heath habitat.¹
- The vast majority (90% in swamp habitat and 95% in dry-heath) of a given habitat patch should (except where varied for MLRSEW specific ecological or research purposes) remain unburnt during any one year period.¹

¹ Update if changes

Actions for Risk Management - Bushfire

During Bushfires

Incident Management

- Ensure incident managers have access to the MLRSEW ecological fire management strategy (this document), fire management plans, and MLRSEW-specific fire risk mapping (provides overall importance values for occupied habitat) to identify significant population/habitat areas and factor this information into response activities where possible.
- Promote and inform MLRSEW consideration by all relevant agencies in fire management planning.
- Planning and suppression priorities should be in accordance with overall population importance (based on fire risk mapping). Protection of “most important” populations is imperative.
- Incorporate significant linkage habitat areas in MLRSEW-specific fire risk mapping.

Protect core local population sites

Ensure risk mitigation and suppression strategies consider prevention of population or habitat loss due to bushfire through explicit reference to:

- Strategic location of low-fuel buffers (e.g. in B-zones) to mitigate against loss of an entire habitat patch in a single fire event.
- Strategic fire suppression that aims to prevent or minimise population or breeding habitat loss, prioritised in terms of population importance (based on fire risk mapping).
- Minimising habitat impacts by bushfire suppression activities by aiming to provide unburnt refuge areas and maintaining connectivity of adjacent MLRSEW populations/habitat.
- Minimising damage/fragmentation of habitat when locating fire-breaks or low-fuel zones.
- Maintaining linkage habitat, including consideration of links to areas outside immediate jurisdictional responsibilities (e.g. potential corridors for dispersal from Deep Creek CP to adjacent habitat).
- Update species information and fire risk mapping in accordance with new MLRSEW and habitat fire response information.

After Fire

Pest animals

- Consider impact of grazing on MLRSEW habitat and implement grazing control if regeneration of native vegetation is hampered by excessive grazing post-fire.
- Consider impact of predation on MLRSEW and implement control programs for cats and foxes if populations are likely to be significantly impacted by predation after fire.

Weed control

- Consider control or eradication of weeds that may degrade habitat quality.

Further information contact the Mount Lofty Ranges Southern Emu-wren and Fleurieu Peninsula Swamps Recovery Program Conservation Council SA on telephone (08) 8223 5155.

