

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

**Approved Conservation Advice for
Temperate Highland Peat Swamps on Sandstone**

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 species.

Description

The Temperate Highland Peat Swamps on Sandstone ecological community comprises temporary or permanent swamps occurring on sandstone in the temperate highlands region in NSW (DEH, 2005) from around 600–1100 m above sea level. The wetter parts of the swamps are occupied by sphagnum bogs and fens, while sedge and shrub associations occur in the drier parts (TSSC, 2005). The level of waterlogging and amount of sedimentation are influenced by the location of the swamps: hanging swamps (occurring on steep valley sides) have low levels of sedimentation, and accumulate organic material slowly; valley swamps and those along watercourses have greater levels of sedimentation, and accumulate organic material more quickly (TSSC, 2005). In drier areas, such as the Blue Mountains, the thicker vegetation found around the peat swamps provides ‘islands’ of good habitat for a diverse range of fauna (EA, 2001; NPWS, 2001).

Temperate Highland Peat Swamps on Sandstone have been severely affected by land use, including vegetation clearing and stock activities, over the past 200 years (DEH, 2005).

Ten nationally threatened plant species and two nationally threatened animal species are known to inhabit this ecological community. They include the Blue Mountains Water Skink (*Eulamprus leuraensis*), Giant Burrowing Frog (*Heleioporus australiacus*), Wingecarribee Leek Orchid (*Prasophyllum uroglossum*), and Wingecarribee Gentian (*Gentiana wingecarribiensis*). Another five plant species and three animal species threatened in NSW also occur in the ecological community, including the Giant Dragonfly (*Petalura gigantea*).

Conservation Status

The Temperate Highland Peat Swamps on Sandstone ecological community is listed as **endangered**. This ecological community is eligible for listing as endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, in 2005, the Minister considered the Threatened Species Scientific Committee’s (TSSC) advice under section 189 of the Act and amended the list under section 184 to include “Temperate Highland Peat Swamps on Sandstone”. The TSSC determined that this species met Criterion 2 of their eligibility criteria (TSSC, 2005). The Temperate Highland Peat Swamps on Sandstone is also listed as endangered under the *Threatened Species Conservation Act 1995* (NSW) as a part of the “Montane Peatlands and Swamps of the New England Tableland, NSW North Coast, Sydney Basin, South East Corner, South Eastern Highlands and Australian Alps bioregions” ecological community and as part of the “Newnes Plateau Shrub Swamp in the Sydney Basin Bioregion” ecological community, and as vulnerable as part of the “Blue Mountains Swamps in the Sydney Basin Bioregion” ecological community (DEH, 2005). Wingecarribee Swamp is listed on the Register of the National Estate and the NSW Heritage Register (Australian Heritage Database, 2008; State Heritage Register, 2008). Jacksons Bog (Mila Swamp) and Wingecarribee Swamp are listed as important wetlands in NSW (Usback & James, 1993).

Distribution

Temperate Highland Peat Swamps on Sandstone are known from the Blue Mountains, Lithgow, Southern Highlands, and Bombala regions in NSW. In 2005, only 3000 hectares of this ecological community remained (DEH, 2005). Of this total area, approximately 1300 ha are reserved in the Blue Mountains National Park, with the rest in a mix of freehold, state forests, and Crown land (TSSC, 2005). The swamps of this ecological community occur across a range of locations in the landscape, from hanging swamps to depressions in the landscape, or along watercourses (TSSC, 2005).

This ecological community occurs within the Hawkesbury–Nepean (NSW) Natural Resource Management Region.

Threats

The main identified threats to Temperate Highland Peat Swamps on Sandstone are trampling and grazing by stock; and damage from introduced animals such as feral pigs (*Sus scrofa*), foxes (*Vulpes vulpes*), dogs (*Canis familiaris*), cats (*Felis catus*), and rabbits (*Oryctolagus cuniculus*) and weed invasion (DEH, 2005; TSSC, 2005). Due to their generally small size, peat swamps in Australia are particularly sensitive to changes to hydrology in the region (Whinam et al., 2003).

The main potential threats to Temperate Highland Peat Swamps on Sandstone include increased fertiliser runoff, residential development, land clearing, coal mining, fire and weeds (NPWS, 2001; NSW Scientific Committee 2005; TSSC, 2005). Land use upstream of the swamps, such as roads and walking tracks, may also have an impact on this ecological community. In the past peat swamps have also been damaged by peat mining (TSSC, 2005). Climate change is also likely to adversely affect the ecological community through reduced rainfall and an increased frequency of extreme weather events likely to increase the chance of summer drought, peat fires and severe erosion events (NSW Scientific Committee 2004, 2007).

Research Priorities

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

- Design and implement a monitoring program or, if appropriate, support and enhance existing programs.
- Investigate the relative impacts of threatening processes, and incorporate results into future management prescriptions.

Regional and Local Priority Actions

The following regional and local priority recovery and threat abatement actions can be done to support the recovery of this ecological community.

Habitat Loss, Disturbance and Modification

- Monitor known occurrences to identify key threats.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Identify occurrences of high conservation priority.
- Manage any changes to hydrology which may result in changes to the water table levels, increased run off or sediment.
- Manage any disruptions to water flows.
- Manage fertiliser use in or near areas where Temperate Highland Peat Swamps on Sandstone occur, or close to its water sources, to minimise adverse impacts.

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- Ensure road widening and maintenance activities, mining, development activities or land clearing involving substrate or vegetation disturbance in areas where the Temperate Highland Peat Swamps on Sandstone occurs, or in catchments where it is located, do not adversely impact on known sites.
- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land.
- Protect occurrences of the listed ecological community through the development of further conservation agreements and/or covenants.

Invasive Weeds

- Identify and remove weeds in the local area, which could become a threat to the Temperate Highland Peat Swamps on Sandstone, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to the ecological community, using appropriate methods.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on the Temperate Highland Peat Swamps on Sandstone.

Trampling, Browsing or Grazing

- Develop and implement a stock management plan for roadside verges and travelling stock routes.
- Implement Threat Abatement Plans for the control and eradication of pigs, foxes, cats, and rabbits in the region.
- Develop and implement a management plan for the control and eradication of feral dogs in the region.
- Prevent grazing pressure at known sites through exclusion fencing or other barriers.

Fire

- Develop and implement a suitable fire management strategy for the Temperate Highland Peat Swamps on Sandstone.
- Provide maps of known occurrences to land managers and local and state rural fire services and seek inclusion of mitigative measures in bush fire risk management plans, risk register and/or operation maps.

Conservation Information

- Raise awareness of the Temperate Highland Peat Swamps on Sandstone within the local community, particularly among visitors to the Blue Mountains National Park and land owners or developers in the region of the ecological community.

This list does not necessarily encompass all actions that may be of benefit to Temperate Highland Peat Swamps on Sandstone, 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

- Blue Mountains National Park Plan of Management and Fire Management Strategy (NPWS, 2001, 2004),
- Threat Abatement Plan for Predation, Habitat Degradation, Competition and Disease Transmission by Feral Pigs (DEH, 2005),
- Threat Abatement Plan for Predation by European Red Fox (EA, 1999a),
- Threat Abatement Plan for Predation by Feral Cats (EA, 1999b), and
- Threat Abatement Plan for Competition and Land Degradation by Feral Rabbits (EA, 1999c).

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

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Information Sources:

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