

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

Approved Conservation Advice for
***Pterostylis saxicola* (Sydney Plains Greenhood)**

This Conservation Advice has been developed based on the best available information at the time this conservation advice was approved.

Description

Pterostylis saxicola, Family Orchidaceae, also known as Sydney Plains Greenhood, is a ground orchid with shiny brown to greenish brown translucent flowers on a slender stem to 35 cm tall (Harden, 1993; Bishop, 1996; NSW Scientific Committee, 1997; DECC, 2005). Plants have 5–8 rosette leaves, and 2–4 closely sheathing stem leaves (NSW Scientific Committee, 1997; DECC, 2005). Plants flower from September to November (Bishop, 1996; NSW Scientific Committee, 1997).

Conservation Status

This species is listed as **endangered**. This species is eligible for listing as endangered under the *Environment Protection and Biodiversity Conservation Act 1999* (Cwlth) (EPBC Act) as, prior to the commencement of the EPBC Act, it was listed as endangered under Schedule 1 of the *Endangered Species Protection Act 1992* (Cwlth). The species is also listed as endangered under the *Threatened Species Conservation Act 1995* (NSW).

Distribution and Habitat

Sydney Plains Greenhood is known currently from only five locations in western Sydney: Georges River National Park, near Yeramba Lagoon; Ingleburn; Holsworthy; Peter Meadows Creek; and St Marys Towers, near Douglas Park (Bishop, 1996; NSW Scientific Committee, 1997; DECC, 2005). This species occurs within the Hawkesbury–Nepean (NSW) Natural Resource Management Region.

This species occurs in small pockets of shallow soil in flat areas on top of sandstone rock shelves above cliff lines or on mossy rocks in gullies (Harden, 1993; Bishop, 1996; DECC, 2005). Sclerophyll forest or woodland on shale/sandstone transition soils or shale soils are often found above the shelves where Sydney Plains Greenhood occurs (NSW Scientific Committee, 1997; DECC, 2005).

The distribution of this species overlaps with the following EPBC Act-listed threatened ecological communities:

- Shale/Sandstone Transition Forest, and
- Cumberland Plain Woodlands.

Threats

The main identified threats to Sydney Plains Greenhood are habitat loss and degradation from development, unrestricted access and grazing, weed invasion and inappropriate fire regimes. This species is also threatened by feral pigs (*Sus scrofa*) damaging the plants and their habitat. Small population size along with restricted distribution makes this species susceptible to local extinction due to environmental and demographic stochasticity and catastrophic events (NSW Scientific Committee, 2004).

Research Priorities

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

- Design and implement a monitoring program.
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations.
- More precisely assess population size, distribution, ecological requirements and the relative impacts of threatening processes.
- Undertake seed germination and/or vegetative propagation trials to determine the requirements for successful establishment, including mycorrhizal association trials.
- Identify pollinating agents

Regional Priority Actions

The following regional priority recovery and threat abatement actions can be done to support the recovery of Sydney Plains Greenhood.

Habitat Loss, Disturbance and Modification

- Identify populations of high conservation priority.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Sydney Plains Greenhood.
- Ensure road widening and maintenance activities or other infrastructure or development activities involving substrate or vegetation disturbance in areas where Sydney Plains Greenhood occurs do not adversely impact on known populations.
- Manage any changes to hydrology that may result in changes to the water table levels, increased run-off, sedimentation or pollution.
- Investigate further formal conservation arrangements such as the use of covenants or conservation agreements on private land.

Trampling, Browsing or Grazing

- Develop and implement a management plan for the control and eradication of feral pigs in the local region.

Fire

- Develop and implement a suitable fire management strategy for Sydney Plains Greenhood. Hazard reduction techniques should not include slashing, tree removal or trittering (turbo mowing) (NSW RFS, 2004).
- Provide maps of known occurrences to 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 Sydney Plains Greenhood within the local community.

Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed and mycorrhizal fungi collection and storage.
- Investigate options for linking enhancing or establishing additional populations.
- Implement national translocation protocols (Vallee et al., 2004) if establishing additional populations is considered necessary and feasible.

Local Priority Actions

The following local priority recovery and threat abatement actions can be done to support the recovery of Sydney Plains Greenhood.

Habitat Loss, Disturbance and Modification

- Monitor known populations to identify key threats.

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- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Control access routes to suitably constrain public access to known sites on public land.
- Suitably control and manage access on private land.
- Minimise adverse impacts from changed land use at known sites.

Invasive Weeds

- Identify and remove weeds in the local area, which could become a threat to Sydney Plains Greenhood, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to Sydney Plains Greenhood, using appropriate methods.

Trampling, Browsing or Grazing

- Prevent grazing pressure at known sites through exclusion fencing or other barriers.
- Control introduced pests, such as pigs, at known sites in reserve areas.

Fire

- Implement an appropriate fire management regime for local populations.

This list does not necessarily encompass all actions that may be of benefit to this species, 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 Species

- Threat abatement plan for the predation, habitat degradation, competition and disease transmission by feral pigs (DEH, 2005).

This prescription was current at the time of publishing; please refer to the relevant agency's website for any updated versions.

Information Sources:

Bishop, T 1996, *Field Guide to Orchids of New South Wales and Victoria*, University of NSW Press, Kensington, NSW.

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Harden, GJ (Ed) 1993, *Flora of New South Wales - Volume Four*, University of NSW Press, Kensington, NSW.

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New South Wales Scientific Committee (NSW Scientific Committee) 1997, *Pterostylis saxicola (an orchid) - Endangered species determination – final*, Department of Environment and Climate Change, Sydney.

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Vallee, L, Hogbin, T, Monks, L, Makinson, B, Matthes, M & Rossetto, M 2004, *Guidelines for the Translocation of Threatened Plants in Australia - Second Edition*, Australian Network for Plant Conservation, Canberra.