

A statement for the purposes of approved conservation advice
(s266B of the *Environment Protection and Biodiversity Conservation Act 1999*)

Approved Conservation Advice for
***Diuris aequalis* (Buttercup Doubletail)**

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

Description

Diuris aequalis, Family Orchidaceae, also known as Buttercup Doubletail, is a terrestrial, herbaceous orchid, 20–45 cm tall with golden yellow to orange flowers. The leaves die back each year and resprout prior to flowering (NSW Scientific Committee, 2002). Flowers appear between October and December (Harden, 1993).

Conservation status

Buttercup Doubletail is listed as **vulnerable**. This species is eligible for listing as vulnerable 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 vulnerable 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

Buttercup Doubletail occurs in the ranges and tablelands from Braidwood to Kanangra-Boyd National Park in the Blue Mountains, NSW (Harden, 1993; Bishop, 1996). There is also a number of records from east of Canberra (McDonald, 2000, pers. comm.). Historically, Buttercup Doubletail also occurred in the Liverpool area of Western Sydney, but has not been seen there in over 100 years (NSW Scientific Committee, 2002). This species occurs within the Hawkesbury–Nepean, Lachlan, Murrumbidgee, Southern Rivers, and Sydney Metro (NSW) Natural Resource Management Regions (DECC, 2005a).

Buttercup Doubletail favours montane eucalypt forest and low open woodland with a grassy-heathy understory, and secondary grassland, growing in gravelly clay-loam, often on gentle slopes (Bishop, 1996; DECC, 2005a).

Only about 200 plants of Buttercup Doubletail are known, and are scattered across 20 small and fragmented populations (NSW Scientific Committee, 2002; DECC, 2005a). Most populations are restricted to remnant vegetation along roadsides and within agricultural lands (NSW Scientific Committee, 2002).

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

- White Box-Yellow Box-Blakely's Red Gum Grassy Woodland and Derived Native Grassland,
- Natural Temperate Grassland of the Southern Tablelands of NSW and the Australian Capital Territory, and
- Temperate Highland Peat Swamps on Sandstone.

Threats

The main identified threats to Buttercup Doubletail are continued clearing of habitat, especially where the tree layer has already been modified; continuing declines in habitat quality due to grazing and road maintenance; habitat damage associated with illegal rubbish dumping and rural-residential subdivision and associated land uses (NSW Scientific Committee, 2002; DECC, 2005a).

Research Priorities

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

- Determine reasons for low population numbers of Buttercup Doubletail, such as research into pollinators (DECC, 2005b), and
- Undertake survey work in suitable habitat and potential habitat to locate any additional populations/occurrences.

Regional Priority Actions

The following regional priority recovery and threat abatement actions can be done to support the recovery of Buttercup Doubletail.

Habitat Loss, Disturbance and Modification

- Identify populations of high conservation priority.
- Manage threats to areas of vegetation that contain populations/occurrences/remnants of Buttercup Doubletail.
- Ensure road widening and maintenance activities (or other infrastructure or development activities as appropriate) in areas where Buttercup Doubletail occurs do not adversely impact on known populations.
- Investigate formal conservation arrangements, such as the use of covenants, conservation agreements or inclusion in reserve tenure.

Conservation Information

- Raise awareness of Buttercup Doubletail within the local community, particularly among communities along and near the Great Divide from Tallaganda National Park to Kanangra-Boyd National Park (DECC, 2005b).

Enable Recovery of Additional Sites and/or Populations

- 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.
- Undertake appropriate seed and microrrhizae collection and storage

Local Priority Actions

The following local priority recovery and threat abatement actions can be done to support the recovery of Buttercup Doubletail.

Habitat Loss, Disturbance and Modification

- Monitor known populations to identify key threats.
- Monitor the progress of recovery, including the effectiveness of management actions and the need to adapt them if necessary.
- Prepare management plans for roadside populations, particularly those in the Upper Lachlan Council area (Wombeyan Caves Rd and Roslyn Rd) and Palerang Council area (Kings Highway) (DECC, 2005b).
- Control access routes to suitably constrain public access to known sites on public land.
- Minimise adverse impacts from land use at known sites.
- Identify Buttercup Doubletail sites and potential habitat on maps used for planning road maintenance work and erect bollards and signs for roadside populations in Upper Lachlan Council area (DECC, 2005b).
- Limit vehicle access to sites to deter rubbish dumping (DECC, 2005b).

Trampling, Browsing or Grazing

- Prevent trampling, browsing or grazing on known sites from domestic and/or feral animals through exclusion fencing or other barriers.

This list does not necessarily encompass all actions that may be of benefit to Buttercup Doubletail, 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

- NSW Threatened Species Priority Action Statement for *Diuris aequalis* (DECC, 2005b).

Information Sources:

Bishop, T 1996, *Field guide to orchids of New South Wales and Victoria*, University of New South Wales, Press, Sydney.

Department of Environment and Climate Change (DECC) 2005a, *Threatened Species Profile Database, Doubletail buttercup – profile*, viewed 11 March 2008,

<<http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/profile.aspx?id=10235>>.

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<http://www.threatenedspecies.environment.nsw.gov.au/tsprofile/pas_profile.aspx?id=10235>.

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

McDonald, K (New South Wales National Parks and Wildlife Service), Personal Communication, 2002.

New South Wales Scientific Committee 2002, *Diurus aequalis* (a terrestrial orchid) - endangered species listing NSW Scientific Committee - final determination, viewed 11 March 2008,

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