

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

Approved Conservation Advice for
***Olearia hygrophila* (Swamp Daisy)**

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

Description

Olearia hygrophila, Family Asteraceae, also known as Swamp Daisy or Water Daisy, is a soft-wooded shrub with lax growth to 2 m high, supported by surrounding vegetation. The leaves are alternate, linear-elliptic, 2.5–7 cm long and 0.5–2.5 cm wide, attenuate at the base, and with margins entire or with a few sparse teeth. Flower heads are around 2 cm across, with white rays and yellow disc (Stanley & Ross, 1986; Bostock & Thomas, 1992). This species is difficult to locate in habitat until flowering, which has been recorded from July to September with a few flowers still evident in November (Sparshott & Bostock, 1993).

Conservation Status

Swamp Daisy 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 *Nature Conservation Act 1992* (Queensland).

Distribution and Habitat

Swamp Daisy is restricted to swamps in the north-eastern end of North Stradbroke Island, in Moreton Bay, south-east Queensland. It occurs within the South East Queensland Natural Resource Management Region. The area is warm and subtropical with 60 per cent of the rain falling in the summer months and average annual rainfall of 1546-1677 mm. There are five known populations of Swamp Daisy at three sites, with a total population of less than 150 individuals (Sparshott & Bostock, 1993). Two areas of known habitat are currently protected in Conservation Park and Nature Refuge areas managed by the Queensland Environmental Protection Agency (EPA, 2007).

The species occurs in swamps in *Melaleuca quinquenervia* woodland or in *Melaleuca quinquenervia*–*Eucalyptus robusta* open forest with a dense ground layer dominated by *Balioskion tetraphyllum* and includes species such as *Blechnum indicum*, *Gleichenia mendellii*, *Gahnia sieberiana*, *Pteridium esculentum* and *Empodisma minus*. It appears to have very specific habitat requirements, always observed growing in shade, on wet peat with a pH of 4.2 (Sparshott & Bostock, 1993).

The distribution of this species is not known to overlap with any EPBC Act-listed threatened ecological communities.

Threats

The main identified threats to Swamp Daisy include invasive species, inappropriate fire regimes, land clearing and human activity affecting the hydrological dynamics of the swamp. The spread of introduced plants throughout its habitat constitutes a major threat to this species (Sparshott and Bostock, 1993). The most common weed species threatening the largest portion of the habitat are the Umbrella Tree (*Schefflera actinophylla*), Groundsel (*Baccharis halimifolia*) and Lantana (*Lantana camara*) (Bostock & Sparshott, 1993). These weeds threaten Swamp Daisy either by direct competition or by altering the habitat through lowering the water table or altering fire regimes (Bostock & Sparshott, 1993).

This conservation advice was approved by the Minister / Delegate of the Minister on 3 July 2008

Fires that are too intense or too frequent are considered a threat by depleting the species' seedbank. The Flinders Swamp population has probably been lost due to frequent burning of the swamp.

The main potential threats to Swamp Daisy are water harvesting process within the species habitat range which may have a negative effect on the local ecosystem.

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/occurrences/remnants.
- Determine life history and population dynamics for this species, especially in relation to fire.
- Determine the fire regime needed to maintain the life cycle and habitat of Swamp Daisy.
- Determine seed viability, longevity and germination requirements.

Regional Priority Actions

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

Habitat Loss, Disturbance and Modification

- Manage threats to areas of vegetation that contain populations/occurrences/remnants of Swamp Daisy.
- Ensure chemicals or other mechanisms used to eradicate weeds do not have a significant adverse impact on Swamp Daisy.
- Manage any changes to hydrology that may result in changes to the water table levels, increased run-off, sedimentation or pollution.
- Investigate additional formal conservation arrangements, such as, the use of covenants, conservation agreements or inclusion of habitat in reserve tenure.

Invasive Weeds

- Develop and implement a management plan for the control of weed species, particularly Umbrella Tree, Groundsel and Lantana in the local region.

Fire

- Develop and implement a suitable fire management strategy for Swamp Daisy.
- Identify appropriate intensity and interval of fire to promote seed germination.
- 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 Swamp Daisy within the local community including fact sheets, information brochures, talks and field days. The main interest groups are the Society for Growing Australian Plants, WWF Australia, Field Naturalist Clubs, National Parks Association, Regional Botanic Gardens, regional bodies, Indigenous groups and other local landholders. Government interests include Queensland Environmental Protection Agency, Queensland Department Primary Industry (Forestry) and Redlands Shire Council.

Enable Recovery of Additional Sites and/or Populations

- Undertake appropriate seed 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 Swamp Daisy.

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 as necessary.
- Minimise adverse impacts from changed land use at known sites.
- Protect populations of Swamp Daisy through the development of conservation agreements and covenants.

Invasive Weeds

- Identify and remove weeds in the local area (including Umbrella Tree, Groundsel and Lantana), which could become a threat to Swamp Daisy, using appropriate methods.
- Manage sites to prevent introduction of invasive weeds, which could become a threat to Swamp Daisy, using appropriate methods.

Fire

- Implement an appropriate fire management regime for local populations.

This list does not necessarily encompass all actions that may be of benefit to Swamp Daisy, 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

- Weeds of National Significance: Lantana (*Lantana camara*) (ARMCANZ, 2001),
- Assessment of North Stradbroke Island Groundwater Dependent Ecosystems; Potential responses to increases in groundwater extraction (Marshall, McGregor & Negus, 2006), and
- Logan Basin Water Resource Plan (DNRW, 2007).

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

Information Sources:

Agriculture & Resource Management Council of Australia & New Zealand (ARMCANZ) 2001, *Weeds of National Significance: Lantana (Lantana camara) Strategic Plan*, National Weeds Strategy Executive Committee, Launceston.

Bostock, PD & Thomas, MB 1992, *Status of Rare Plant Species of Myora swamp, North Stradbroke Island*, Department of Environment and Heritage, Queensland.

Department of Natural Resources and Water (DNRW) 2007, *Logan Basin Water Resource Plan, draft amendment to include southern Moreton Bay islands information report*, viewed 13 March 2008, <http://www.nrw.qld.gov.au/wrp/pdf/logan/logan_wrp_info.pdf>.

Environmental Protection Agency (EPA) 2007, *Copy of the certified regional ecosystem map for the purpose of the Vegetation Management Act 1999*, online RE Maps, Environmental Protection Agency, Brisbane, viewed 13 March 2008, <<http://www.epa.qld.gov.au/REMAP>>.

Marshall, J, McGregor, G & Negus, P 2006, *Assessment of North Stradbroke Island Groundwater Dependent Ecosystems; Potential responses to increases in groundwater extraction*, Aquatic Ecosystems Technical Report No. 59, The State of Queensland, Department of Natural Resources and Water, Brisbane.

Spartshott, KM & Bostock, PD 1993, *An Assessment of Rare and Threatened Wetlands Flora and their Habitats in National Estate Interim Listed Areas on North Stradbroke Island*, Queensland Herbarium, Brisbane.

Stanley, TD & Ross, EM 1986, *Flora of south-eastern Queensland, Volume 2*, Queensland Department of Primary Industries, Brisbane.

This conservation advice was approved by the Minister / Delegate of the Minister on 3 July 2008

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.