

Tasmanian Threatened Native Vegetation Communities

ALKALINE PANS

Conservation status

Threatened: Community 1 - Schedule 3A *Nature Conservation Act 2002*

What are Alkaline pans?

Alkaline pans, recently identified as peat-bound wetlands, form where dolomite or limestone is outcropping or occurs near the surface within moorland scrub mosaics in the south-west river valleys of Tasmania.

The large proportion of bare sand or gravel and sometimes exposed bedrock easily distinguishes the pans. The pH of the surface sands and silts are between 5.0 and 8.5, whereas the pH of adjacent peat soils supporting buttongrass moorland is typically between 4.0 and 4.5.

The pans are typically flat or gently sloping and may rise towards the centre. Sheet flow of water across the pans is common, as are shallow pools and/or flowing channels of water through the pans. The pans are usually small and elongate along creek lines.

A sparse but distinctive flora dominates the highly alkaline, central zone of the pan: typically, the sedge *Baumea juncea* (bare twigsedge) and/or the forb *Drosera arcturi* (alpine sundew), with a combination of sedges from the genus *Baumea* and *Schoenus*. The distribution of species within each pan is associated with the pH and hydrology and marked zonation in the vegetation is sometimes apparent.

To help you decide if this Threatened Native Vegetation Community is on your site, a decision tree is provided further below. This is a guide only. Assessment by a qualified ecologist is needed to confirm the presence (or absence) of a listed threatened community.



An example of the Alkaline pans community at Maxwell River Valley, south-west Tasmania. Stephen Harris.

Distribution, extent and reservation status



Indicative Alkaline pans distribution from TNVC 2020. Note that for this distribution image the symbology has been emphasised to improve visibility of community distribution.

The Threatened Native Vegetation Communities 2020 (TNVC 2020) distribution of Alkaline pans is derived from the TASVEG 4.0 mapping of AAP (Alkaline pans). TASVEG mapping units provide only an indicative distribution of listed communities.

Alkaline pans have an approximate Tasmania-wide extent of 500 hectares. Of this, 100% is mapped within the secure National Reserve System.

A snapshot of the reservation status of Alkaline pans for Local Government is available on the [Department of Natural Resources and Environment Tasmania website](#) and via the 'By Council Area' tab at this [link](#).

Why are Alkaline pans important and what are their management issues?

Alkaline pans occur in unique and localised habitats where the right conditions exist, with only ~500 hectares currently mapped in Tasmania.

These wetlands have recently been associated with living freshwater stromatolites, which are extremely rare and represent the oldest evidence for life on earth.

Evidence that these unique features are spring-fed groundwater-dependent ecosystems refutes the previous interpretation of Alkaline pans as ephemeral disturbance features due to burning of the peat with resultant exposure of underlying alkaline substrates.

While all known occurrences of this wetland are in reserves, such as the Wild Rivers National Park and the South-West National Park, they are subject to threatening processes such as changes to drainage and pH, and to fire.

The accumulation of organic matter ('peat') in pans causes gradual changes to pH and drainage that may result in the pan becoming dominated by acidity-loving species. Hot fires in peat around Alkaline pans with subsequent water erosion may initiate and extend the life of some pans.

How can the condition of the vegetation be assessed?

To help you to assess the condition of Alkaline pans, the following [TASVEG VCA benchmark](#) is recommended:

- ❖ AAP Alkaline pans

What does it mean if you have a Threatened Native Vegetation Community?

If you are planning an activity that will potentially impact a Threatened Native Vegetation Community you should seek advice from the authority responsible for regulating this activity.

The authority responsible will depend upon the nature of the planned activity (see *Further information*).

In the first instance you can check the [Information for landowners](#) on the Forest Practices Authority (FPA) website for comprehensive advice on when a Forest Practices Plan may be required.

Some vegetation communities can represent important habitat for threatened species. This may have implications when development applications are assessed or for land use.

Matters of National Environmental Significance as listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBCA) should also be considered to determine if the proposal will need to be assessed under that Act.

Further information

For further detail about the possible variation within Alkaline pans refer to the description of the TASVEG mapping unit AAP within the "Saltmarsh and wetland" section of the online publication [From Forest to Fjeldmark \(Edition 2\)](#).

Further information to assist developers and their representatives in assessing the impacts of proposed developments on natural values is provided in NRE Tasmania's [Guidelines for Natural Values Surveys – Terrestrial Development Proposals](#) and the [Threatened Species Link - Activity Advice](#).

Contact details

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Is the Alkaline pans community present at your site?

Q Is the vegetation at your site the threatened community Alkaline pans?

