

A GUIDE TO HEALTHY SWAMPS



Swamp health is a vital ingredient in species and landscape conservation on the Fleurieu Peninsula. If swamps are healthy, so are their inhabitants and surroundings. A healthy swamp can be identified by several key characteristics.

A healthy swamp usually has many different types of plants that grow at varying heights. The three key layers (or strata) to look for (see below) are different habitat types.

What makes a habitat

The range and variance of native plants in a swamp is a gauge of its health. The pattern of plants in the swamp gives it a patchiness which is good for wildlife. The presence of many different types of plants and habitats usually indicates a healthy and intact swamp.

Shrub habitat

Shrubs have woody trunks and are usually the tallest plants in a swamp. Thickets of shrubs (such as Tea-tree) taller than head-height are common sights in inland swamps. Elsewhere, thickets of shrubs from knee- to shoulder-high are common. Other plants grow in the lower layers or strata under these shrubs. Examples are Prickly Tea-tree, Silky Tea-tree, Swamp Honey-myrtle, Swamp Heath, Lignum and Native Broom.

Sedge and habitat

A mainstay of many swamps is the dense knee- to shoulder-high bristle of upright reeds, sedges and rushes.

These plants grow in clumps called tussocks and often more than one species grow from within the same area. Examples are Twig Rush, Slender Twine Rush, Tall Yellow Eye, Pithy Sword Sedge and the larger Common Reed, Bulrush and the native Red-fruit Saw Sedge. Small herbs can cover the ground below.

Reed habitat

Tall reeds, Bulrushes, Lignum and other plants to head high are common in swamps in flattish areas near the Murray River and lakes. Small wildflowers can grow underneath.

Fern habitat

Ferns need the moisture of a swamp to thrive and reproduce. Ferns are ancient plants that reproduce by spores. Sometimes they can be the dominant group of plants in a swamp, growing over other plants to form dense thickets. Low-growing sedges and rushes can grow beneath them. Examples are Coral Fern, Soft Water Fern and Bracken.

Wildflowers and herbs

Small clearings in the swamp allow dainty wildflowers to flower. These plants do not have woody stems. Examples are Austral Brooklime, Lax Marsh Flower, Ivy-leaf Violet and Native Centella.

Mosses, lichens and liverworts

Mosses look more like tiny bright green pine trees. Liverworts are like tiny flat green plates. Lichens are flaky scaly crusts, often on other plants, and often not green in colour.

Climbers and creepers

Climbers and creepers growing around and between other plants help to give swamps their dense structure. Examples are Tangled Rope Rush, Large Bindweed and Hop Goodenia.

Swamp plant diversity and communities

- Upper canopy: trees, woody shrubs, tall reeds and sedges
- Middle layer: rushes, sedges, ferns and low woody shrubs
- Lower layer: ground covers, liverworts, small ferns, rushes, wildflowers and herbs



A variety of conditions

A healthy swamp often has zones of different plants adapted to different levels of wet and dry. The pattern of plants varies

as the dampness of the soil varies. The presence of several zones usually means a healthy and intact swamp. Here are some general zone indicators to look for.

Type of plant	Zonation of plants based on soil dampness		
	Damp	Wet	Very wet
Mosses, lichens and liverworts	Mosses	Mosses and lichens	Mosses and liverworts
Wildflowers and herbs	Centella	Lax Marsh Flower	Pennywort
Ferns	Bracken	Coral Fern	Soft Water Fern
Climbers and creepers	Tangled Rope Rush	Creeping Raspwort	Austgral Brooklime
Reeds, rushes and sedges	Pale Rush	Twig Rushes	Bulrush
Tall shrubs	Prickly Tea-tree	Swamp Heath	Silky Tea-tree

Zone indicators

Swamp feature to look for	Condition or state of health			
	Healthy	Good	Recovering	Residual
Different kinds of plants A range of different kinds of native plants	√	√	No	No
Different layers (or strata) Native plants grow at several heights or layers from ground to reeds, ferns and tall shrubs	√	Most layers	1 layer	1 layer
Zonation Different plants grow together in different areas or zones as water levels change	√	√	Unlikely	Unlikely
Different ages of plants Plants of all ages, including young plants, expanding out from the current edges of the swamp	√	√	Possible	Unlikely
Coverage of plants Native plants grow close enough together to shade over 60% of the ground	Over 60%	30 – 60%	30 – 60%	0 – 30%
Low weed presence Few weeds are present (figures in % swamp covered)	Under 25%	25 – 40%	>40%	>40%

A healthy swamp checklist



A healthy swamp on the Fleurieu Peninsula

A healthy swamp often has zones of different plants adapted to different levels of wet and dry. The pattern of plants varies as the dampness of the soil varies.



Left: It is vital for property owners to recognise the importance of swamp health

Right: A variety of plants is an indicator of swamp health



The more degraded the swamp, the more work may be required to restore it.

Protect, restore and improve your swamp

Protecting and managing your swamp to keep it healthy or to maintain its current values involves a series of steps to improve the swamps. The more degraded the swamp, the more work may be required to restore it.

Protect and retain

Consider protection through a sanctuary, wildlife refuge or Heritage Agreement and understand protective legislation.

Remove and manage threats

Remove threats from good swamps, such as thick patches of woody weeds and aggressive grass weeds, heavy grazing pressure and inappropriate drainage (refer to Fact Sheet 3: *Managing Swamp Weeds*).

Restore native vegetation

Restore natural processes that keep the swamp healthy by encouraging natural regeneration. Before considering revegetation it is worthwhile seeing what species return to an area after protection from stock grazing or recovery from weed control. Contact your local NRM office to obtain a list of swamp species local to your area and a list of local growers.

Manage your swamp based on its current condition or state of health

The right actions to take will be based on a swamp's current condition or state of health.

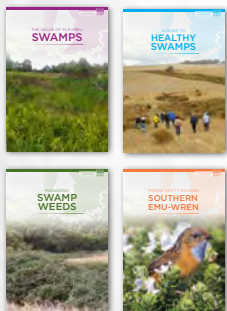
Options for swamp natural vegetation regrowth

Assist natural regeneration

Native plants normally self-seed and regrow new seedlings by themselves. This is called natural regeneration and it is the normal process in a healthy swamp. It is the most natural method and gives the best results for biodiversity.

Natural regeneration is usually the low input option. You can assist this by removing things that threaten the existing native vegetation. You may need to control weeds, remove stock, put up fences or change drainage techniques. Then it is wait and watch. Maintenance should not be required unless weeds prevent the regeneration of native species, when weed control will be necessary.

The factsheet series



For further information

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Conservation Council of South Australia
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