



Brush dune-forming fence

G-6.3

Brush fences can stabilise sand dunes including where blowouts have occurred. If a sand blowout does not stabilise by itself, a brush fence may assist. They slow the wind speed and allow sand to deposit. Native vegetation will also help bind the sand. Brush fences are cost-effective but take several years to work. Brush fences are cost effective but take several years to work. Brush can also be laid on dunes as a mulch to trap sand, assist stabilisation and provide a source of native seeds.

Use these guidelines in conjunction with the information provided in Chapter 6 when planning works and engaging consultants and contractors to ensure the proposed works use the most effective methods and minimise the risk of causing damage to coastal values.

When to use brush fences

Brush fences are usually only suitable for small areas. Sometimes large amounts of woody brush are available without damaging native bushland (e.g. prunings from parklands or a small percentage of brush taken from a well-vegetated natural area).

Straw bales can also be used and are less demanding on the natural vegetation, but must not contain weed seed.

The most important areas of a blowout to stabilise are the edges, especially the forward edge and other places where the wind is funnelling sand away more quickly.

Environmental and cultural considerations

Brush fencing requires minimal disturbance of the shoreline and has the potential to impact on Aboriginal and maritime heritage values is also minimal, however it is still important to identify any cultural values that might be affected.

It is also important to identify all natural values that may be affected. Wildlife such as shorebirds and penguins are easily disturbed. There might be threatened species in the area. Seek advice from specialists.

Technique

Push the branches deeply into the sand (200–300 mm), pack them tightly together in bundles, and secure with wire fencing.

Brush fences can be also constructed similar to the standard mesh fence design, with brush replacing the mesh.

Use bundles of tea-tree branches (or other woody coastal scrub) about 1 m long (but avoid over-harvesting).

Avoid using branches from non-native plants if there is any seed on them, or any chance of them striking root in the sand. Place branches in rows between two vertical stakes about 300–400mm apart, at 1m intervals. Fasten the brush to the wires.

Line fences up perpendicular to wind or in a slightly curved pattern.

Alternatively, construct fences with straw bales (clean of weed seed), each held in place with two garden stakes pushed through the bale into ground.

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Installation

Minimise impacts on coastal values during installation.

Time works to minimise disturbance to wildlife such as shorebirds, penguins and shearwaters where necessary.

Ensure all works staff and contractors are briefed on minimising environmental impacts and provide adequate supervision to best practice environmental standards are being implemented.

During works, protect the surrounding vegetation that stabilises the sand by restricting access by vehicles and people.

Brush mulching

Brush mulching with slashed branches provides a quick stabilising cover suitable for small areas. Brush discourages grazing of new vegetation by rabbits and wallabies, and trampling by people. Brush can be laid by itself or in the areas between sand fences.

Use prunings of local native eucalypts, tea-tree and paperbark (but avoid over-harvesting). Remove only small branches, not the entire plant. If possible, cut the brush with ripe seed to assist revegetation (plan work to coincide with seeding time, often in summer).

Cut the brush into lengths of 600–1000mm.

Lay the brush in rows, with stems facing into the prevailing wind. Push the stem ends 150–300mm into the sand to stop the brush blowing away.

One layer of brush is enough, but place the branches so that the rows overlap slightly. Aim for 60–80% cover (so plants can grow up through it).

Monitoring

Follow up surveys and ongoing monitoring is essential to assess the success of fencing and mulching in trapping sand and building up the dune.

More Information

Coastal dune management, NSW Dept of Land and Water Conservation 2001

Tasmanian coastal works manual: Chapter 6, Page & Thorp 2010