



SAND DUNE WORKSHEET 1

TRANSECT OF A SAND DUNE

INTRODUCTION

General Features of a healthy dune system

Our coastline is constantly under the influence of high temperatures, strong winds and stormy seas. These physical factors regularly create and destroy sand dunes. The sand dunes on the coast are a buffer zone between the land and the sea and serve to protect the delicate land plants from the salt air and wind coming from the ocean.

The sand dune plant community consists of various species, each occurring within a certain zone in the dune system. Each zone is subject to a specific set of conditions according to how close it is to the ocean, and the plants serve a certain function in their zone. The vegetation of the dune system is generally sparse and poor in species which is characteristic of all sand dunes that are open to the ocean.

If a dune system is not healthy there may be one or more zones absent and some of the buffering effect will be lost for the nearby land vegetation. Unhealthy dunes are also less likely to be able to withstand strong winds and stormy seas and as a consequence the beach can disappear regularly from this type of environment.



AIMS

- Identify and give the common names of the native plants found on the sand dunes
- Determine the changes in vegetation from the front dune to the hind dune
- Discuss the importance of plants, especially the natives, to the coastal dune system

EQUIPMENT

- Sunscreen and Hat
- Mosquito repellent
- Water Bottle
- Clipboard folder
- Notepad, pen and pencil
- Graph paper for transect
- 50 metre tape measure
- 10 metre string (marked at 1m intervals)
- Books to help identify native plant species

PROCEDURE

The study of a sand dune system involves the sampling of vegetation using quadrants along a transect, from the beach front to the dune behind the foredune. From this you can draw a profile of the dune and make note of the biotic (living) and abiotic (non-living) factors which influence the sort of plants growing along the transect.



ACTIVITY 1 - Transect of the Sand Dune

Draw a profile sketch of the dune area, starting at the high water mark. The idea of the transect is to record the changes in species composition as you move from the windward to the leeward side of the sand dune. Identify and label the dominant vegetation at regular intervals along the dune, using your tape measure. Mark in all the plants along the transect line, within 0.5m of either side of the rope. Using the tape measure you should find an exact distance from the high tide mark and an approximate measurement of the height above high tide mark. You may like to use your graph paper to do a practice copy of the transect and then complete a neat version on the grid supplied.

In order to identify the plants you may need to a field guide to the dunes of south-east Queensland.

Rather than draw each plant in detail it is advisable to do a simplified version of each and then identify them by a key. Complete the key in the space below.

Key to plant species on the Currumbin Dunes

e.g. † = casuarina (she-oak)
= spinifex grass



