



SAND DUNE WORKSHEET 3 WEED INVASION!

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
- Distinguish between native plants and weeds growing together on the dunes
- Discuss the importance of plants, especially the natives, to the coastal dune system
- Discuss the process of dune stabilization

EQUIPMENT

- Sunscreen and Hat
- Mosquito repellent
- Water Bottle
- Clipboard folder
- Notepad, pen and pencil
- 10 metre string (marked at 1m intervals)
- Thermometer
- Books to help identify native and introduced plant species

PROCEDURE

Choose a dune system that looks quite disturbed by human activity. In this dune study you are required to identify the weed species on the dunes. Use both your general knowledge and reference books for help in identifying the difference between native species and introduced species. Once the weeds are identified it is important to determine their impact on the dune system and their impact on the native species. Finally, discuss in small groups the possible reasons why there are so many introduced plant species on the dunes at Currumbin and how the problems could be addressed.



Answer the following questions after you have identified the plants.

1. On the dune system that you have chosen, what percentage of the plants are weeds?

2. In the table below write down all the native plants and the introduced plants under the appropriate headings.

Native plant species

Introduced plant species

3. What chance do the remaining native species have of surviving on this dune? Give two reasons to support your answer.

4. In the introduction to this study there is a description of a healthy dune system. Do you believe that the system you are studying is a healthy one? Give at least two reasons to support your answer.



5. Do you think that introduced species provide any benefits for the dunes? Provide two reasons to support your answer.

6. In the area where you are conducting your study, write down all the visible signs of human interference.

7. Despite the extent of human interference in this area, what animal life can you see? Can you see evidence for other animals? E.g. footprints, droppings etc. Write a comprehensive list in the space below.

8. After a group discussion, write down in the space below all the reasons you can think of for the presence of large numbers of introduced species on the Currumbin dunes.

a) _____

b) _____

c) _____

d) _____



