

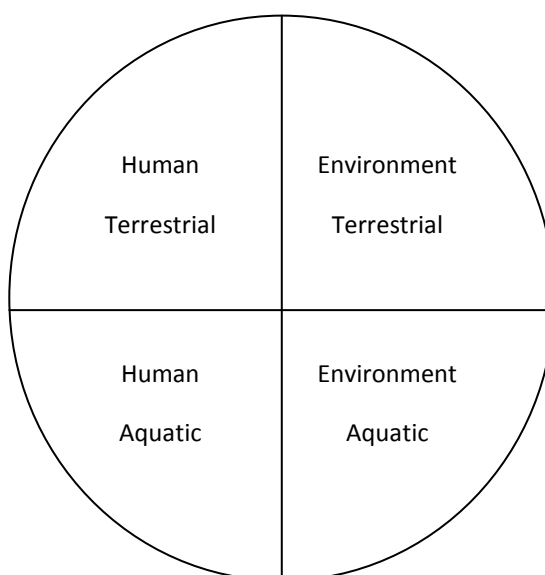
Classroom Activity - Derwent Rocky Reef Real Estate

Extension Activity 1 - Threats to Rocky Reef Real Estate in the Derwent

(Gr 4 - 10)

Overview: Reefs and inter-tidal zones are complex systems exposed to a wide range of threats from both aquatic and terrestrial sources. This makes interpreting the reasons for any deterioration of reef communities very challenging. This exercise provides an introduction to the wide range of threats and their impact on reef communities. When dealing with impacts it is important to think about and differentiate between 'pressures' and 'stresses'. 'Pressures' are the reasons for, or sources of an impact (e.g., overfishing, reef damage, warming waters), where as 'stresses' are the changes caused by the pressure. While this may seem complicated it will provide a greater understanding of how or actions are influencing rocky reef communities. This activity provides an overview of the sources of pressure, and the mechanisms by which pressures 'stress' reef animals and plants.

TASK: Present a mini-lesson to the class to introduce the types of pressures that affect reef biodiversity, and the distinction between human and environmental sources of pressure. Then print out the 'Pressures and Stresses Cards' (at the end of this document) and as a class deal with them one at a time deciding on where they belong on the impacts wall. The impacts wall can be presented on a whiteboard or bare wall, and involves dividing the area into quarters. Identify the source of a pressure as either human based and environmental, and as land based or aquatic. For an Impacts wall add the following labels to a blank wall.



Stick each card denoting a different source of pressure to the reef in the appropriate place as you describe them. Start with direct water based activities (fishing, boating, diving) that impact reefs, then move to land based or terrestrial sources. An important point here is to describe how the land is linked to the sea (i.e., water flow from the catchment to the sea through rivers), and how land use in the catchment impacts freshwater and marine environments.

Now consider each pressure individually to identify the major stresses to reefs. It is helpful to think about how the pressures actually change the water and structure of the habitat, and the influence on real estate of specific organisms. Write the stresses on cards and add them outside the circle on the impact wall. Use arrows to link pressures to stresses.

The Derwent Estuary Program website provides more information on some of these key threats to reef and inter-tidal zone habitats.

Q: How does pollution on land reach the ocean?

Q: If an oil spill occurred out at sea how might it reach a coastal reef community?