

# Case Study “Environmental change and management of the coastal environment”

## Activity Sheet 2 “The pressures facing the coastal environment”

### Introduction

Activity Sheet 2 serves as an introduction to the range of pressures confronting the coastal environment as identified in the report “Australia: State of the Environment – Coasts 2016” These key pressures are addressed in more detail in the next activity sheets and where possible linked to local environments, such as Port Phillip Bay.

The content of this activity sheet relates to the following Geographic Concepts and Skills and Geographic Knowledge.

### Geographic Concepts and Skills

Place, space and interconnection

- Identify, analyse and explain significant interconnections within places and between places over time and at different scales, and evaluate the resulting changes and further consequences.

### Geographic Knowledge

- Environmental, economic and technological factors that influence environmental change and human responses to its management.
- Environmental worldviews of people and their implications for environmental management.

### Introductory Activity

#### Steps.

1. Divide the class into two even groups (this activity could also work with three or four groups).
2. In the centre of a whiteboard write the topic “What can the coast be used for”. Refresh the definition of what constitutes the coast.
3. Explain the rules.
  - Each team takes it in turns to write on the whiteboard an example of how we use the coast.
  - Only one member from each of the teams needs to write their team’s answer on the whiteboard.

- From the time the last group places the whiteboard marker down (select a designated spot) the next team has 5 seconds to commence writing their response (this could be reduced to 3 seconds after each group has had a few turns). If a group is unable to write a response they are eliminated from the contest.
  - If a group repeats an answer already listed then they will incur a time penalty (e.g. 2 seconds) and will need to write another response. If they are unable to do so they are eliminated from the contest.
  - Determine how broad you would like the categories of responses. For instance will you allow answers such as surfing or will you allow more specific responses such as body surfing, stand up paddle boards etc.
  - Students cannot access text books or electronic devices.
4. Allow the groups 1-2 minutes to organise their tactics.
  5. There is a possibility that this activity could continue for a length of time. Determine how many minutes that you want it to go for. Normally between 10 -15 minutes is adequate. If no team has won by your designated time determine the winner by a “rock off” i.e. a game of rock, paper scissors

### Follow Up Activities

1. It is likely that you will have a whiteboard full of responses that should generate some great class discussion about
  - The variety of uses of the coast and the potential pressures these uses place on this environment.
  - How important the coastal environment is to society.
  - The need to protect and conserve this valuable resource.

Reference to the content in Activity Sheet 1 would also be useful for this discussion.

2. Select a range of responses from the introductory activity. Using a table similar to that shown below, categorise these uses of the coast. Examples of broad categories of use and potential pressures could be industrial, agricultural, residential, recreational, transport and environmental.  
 Introduce the notion that other factors, such as natural forces and climate change also impact the coastal environment.  
 To relate this conversation to the curriculum discuss whether these categories of pressures would be environmental, economic or technological factors. Record this in the table as shown below.



4. Go to “Australia state of the environment 2016: coasts”  
<https://soe.environment.gov.au/sites/g/files/net806/f/soe2016-coasts-launch-17feb.pdf?v=1488793015>  
Once on this site go to “Key Findings. Using the information contained here answer the following questions.
  - a. What is the current state of the coastal environment as a result of the pressures outlined?
  - b. What is predicted to happen to the future condition of the coast as a result of climate change?
  - c. Discuss with the aid of an example how coastal systems may face a variety of pressures.
  
5. As an example of the above watch Blue Planet 2 Episode 7 showing examples of current threats to our oceans. After discussing each of these threats answer the following questions
  - a. Briefly describe each of the issues raised. Classify these as either environmental, economic or technological factors (could also use the other categories that the class previously devised).
  - b. Explain which of these threats could impact on Port Phillip Bay.

### What's next?

The remainder of the activity sheets for this unit go into more detail about a range of specific pressures causing environmental change at the coast (as noted in the report “Australia: State of the Environment – Coasts 2016”). Where possible the impacts of these factors are also examined for the Port Phillip Bay environment. For each of these factors, the causes and consequences of this change and the responses to manage this change are investigated. Please refer to the guide below.

- Physical factors – there is an array of information in text books discussing the physical forces such as erosion, deposition and transportation that shape our coast. However, nothing compares to actually seeing these forces in action. Fieldwork trips provide a wonderful opportunity for this to happen. Visit the Fieldwork section found on this site. The sites that are most relevant are Cape Schanck and London Bridge. Koonya Ocean Beach and Gunamatta provide useful comparisons of the strategies available to manage these pressures.
- Climate Change- see Activity Sheet 3.

- Plastics in our waterways (referred to as marine debris in the 2016 report) – see Activity Sheets 4- 11. Please note that these activity sheets contain similar content to those found in Unit 1. Hazards and Disasters as we would assume that you would select the most appropriate place in your curriculum to teach this unit and that it would not be covered twice. This topic is also supported by fieldwork activities offered by Port Phillip Baykeeper and Polperro found on this site.
- Changes to coastal land use – see Activity Sheet 12.
- The impacts of shipping and boating on the coastal environment (noted as an issue with high impact in the 2016 report when discussing the impact of mining and invasive species) – see Activity Sheet 13.