Site: London Bridge

About London Bridge

London Bridge is located at the Portsea Back Beach which is approximately 3 kilometres south of Portsea. This site provides students with excellent examples of coastal features such as caves, wave cut platforms, coastal cliffs and rock pools. These can be seen from either from a viewing platform or explored at beach level.

The site is used to:

- Discuss the physical processes, in particular, erosion that has created the surrounding features.
- Provide examples of human impact to this environment.
- Discuss and evaluate the management strategies that have been put in place to ensure the sustainability of this environment.

This site can be accessed from either Portsea or Sorrento by travelling along Back Beach Road and then turning into London Bridge Road. There are ample parking spaces at the end of this road and toilet facilities are available. There is no charge for entry. From the car park there is a walking track to a viewing area which is accessible for wheelchairs etc. The path down to the beach is steep and may not be accessible for those with disabilities. If possible it is best to visit this site at low tide as more of the features are visible.

Some further information about London Bridge can be found at the Parks Victoria website

Fieldwork Activities

Please note that not all of these activities need to be undertaken. Select those that suit your needs.

1. With reference to your base map describe the relative location of London Bridge.
   OR
   Using either the GPS Test or GPS Data apps describe the absolute location of London Bridge.

2. From the car park go to the viewing area. Create a field sketch of the features surrounding London Bridge headland. Draw and annotate the following features.
    - Stack
    - Arch
    - Cave being formed
    - Wavecut notches
    - Wavecut platform
    - Rock pools (if visible)
    - Beach (could also include high tide or low tide mark depending on water levels)
    - Areas of erosion such as rock fall

    Remember to complete your sketch with the correct geographic conventions.

Alternatively;

Label the following features on the image below:

- Stack
- Arch
- Cave being formed
- Wavecut notches
- Wavecut platform
- Rock pools (if visible)
- Beach (could also include high tide or low tide mark depending on water levels)
- Areas of erosion such as rock fall

London Bridge, Portsea

Source:
https://upload.wikimedia.org/wikipedia/commons/2/21/London_Bridge_Portsea.jpg

3. Whilst at the viewing platform look at the surrounding vegetation. Describe the type and density of this vegetation and the impact that it may have on the level of erosion in the surrounding area. (You may wish to take a photo of this vegetation and identify the plant types and density when back in the classroom).

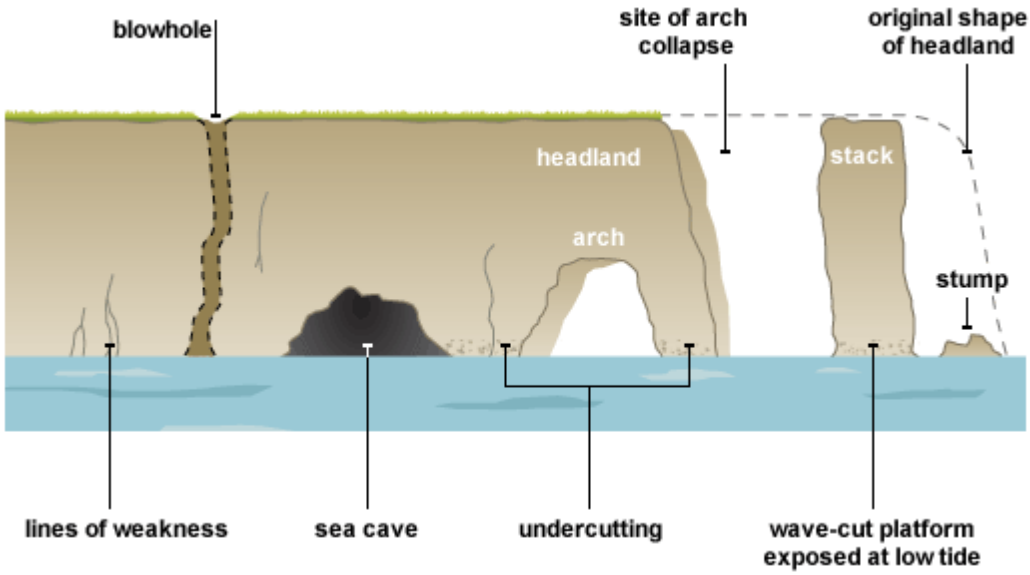
4. Complete the table below by outlining and providing examples of the natural processes that are occurring at this site.

Processes	**Example of features caused by this process**	**Sketch and or photo of example**
Attrition: pebbles and rocks being reduced in size by smashing together.		
Abrasion: wearing away of rocks because of the sheer impact of waves		
Hydraulic Action: erosion caused by the force of water entering cracks and crevices		
Pot Holing: scouring out a rounded pool as a result of a stone or boulder swirling around on a wave cut platform		
Mass Movement: the rain softens the rock and part of the cliff collapses		

Alternatively, either complete a flow diagram showing the formation of London Bridge (or a similar task to that done at the Cape Schanck site could be undertaken. This is below)

With reference to the diagram below, explain the natural processes (stages) that formed the arch at London Bridge. Try to find examples of these stages and take photos of them.

Formation of a cave, arch and stack



Source: http://worldlywise.pbworks.com

5. What type of rock are the cliffs made up of? How has this impacted the rate of erosion? (could look at the “honeycomb” at the base of cliffs)

6. Complete the table below analysing the impact of human activities at this site.

Human Activity	**Potential impacts of human activity on this environment**
Surfing	Look at tracks on the other side of fence at the viewing area
Fishing/spear fishing	
Sightseeing	
Beach activities	
Snorkelling	
Hiking/exploring	
Hang Gliding	
Other	

7. What government department manages this area of the coastline? What factors could make the management of this area difficult?

8. Complete the following table describing and evaluating the management strategies that are present at this site (this task may be best done in a group scenario once your visit to this site has been completed).

Name of management strategy and purpose	**Effectiveness of the management strategy (consider factors such as the sustainability of the strategy and whether the strategy achieves the goals set)**	**If applicable, a description of alternative management strategy**
Car park		
Toilet facilities		
Litter control (no bins)		
Pathways (to viewing area and beach access)		
Fencing		

Name of management strategy and purpose	**Effectiveness of the management strategy (consider factors such as the sustainability of the strategy and whether the strategy achieves the goals set)**	**If applicable, a description of alternative management strategy**
Signage		
Erosion controls (visible on pathway to viewing area or when looking at cliffs from beach)		
Legislative controls (e.g. bag limits on fish, no dogs on beach)		
Other		