

# Coastal management flashcard



**ASSIGN  
BUSTER**

Step Four and Five; Identify techniques used to obtain data & Collect primary and secondary data Survey - Surveys are established questions which were put to members of the public about their opinion of Belmore Basin. The group surveyed a total of 7 people which gives an overview of the public's opinion, about Belmore Basin and the changes being undertaken there.

Results for all groups were collated for analysis. To obtain the survey data the geographers went down to Belmore Basin and asked the general public for their time to participate in their survey, which was a small piece of paper with questions about what the person knew about the changes being undertaken, as well as their age, and gender. Field Sketches/ Sketches of Features- Field sketches are drawings of a scene showing geographical features. In this case a field sketch was drawn to show the geographical processes and changes that have occurred at the Wollongong City Beach as well as the erosional effect along the coast.

Sketches of erosional features were also drawn, to document and further the students' knowledge of the depositional and erosional processes that happen along the coast as well as the effects they have. To draw the field sketch the geographers sat/stood where the old Wollongong City Surf club used to be and sketched everything they saw, including trees, beach, light house, school e. c. t. To draw the sketches of features the geographers sat on the rocks near Flagstaff point and sketched features such as cliffs, rock platforms, wave-cut notches and rock pools.

Observations- Observations are the act of making and recording a measurement, where year 10 geography students sketched and took notes

on what they saw and heard about the Wollongong coast. The sketches and notes give the students an understanding about the depositional and erosional processes that have occurred over time on the Wollongong coast. To obtain observations the geographers went from station to station. There were 5 stations in total and the geographers listened to the teachers or special guests, whilst taking notes and sketches on what they were saying.

The stations were all at different locations including the Polding Learning Centre, the northern end of City Beach, Old City Surf club, Flagstaff point and Belmore Basin. Photos/ Historic photos of WCB- Photos are a representation of a person or scene in the form of a print or transparent slide; recorded by a camera on light-sensitive material. Photos helped the students on this excursion further their understandings of how the WCB has changed over time, as well as what the depositional and erosional features present look like.

They are also an accurate point in time record of WCB so a great for comparison with present time. The geographers took the photos with a camera at Flagstaff point and Old City Beach Surf club. Beach Profile- A beach profile is a cross-section taken perpendicular to a given beach contour, which was undertaken by 10 geographers. They conducted the beach profile to better their knowledge on landforms created by deposition, labelling many parts of the coast including the beach, berm, dunes and vegetation.

The geographers went onto City beach and placed a measuring tape at the water's edge, all the way to the cycle way. They then sketched dunes,

beach, berm, and vegetation, in specific areas on the half-finished sheet they were given, by following the measuring tape and sketching what they saw as they saw it. Graphs/ analysis of surveys- Graphs and analysis's of surveys, help further students' knowledge of the peoples opinion of the changes happening at Belmore Basin.

This could lead to further research and information, so the council can understand ways to improve the coast, while sustaining and possibly improving settlement along the coast. The geographers gathered the information for their graphs and analysis for the surveys they conducted at Belmore Basin. To create the graph though the geographers could have either hand drawn it or preferably used Microsoft Excel. Websites- Websites were used by students to obtain further information on deposition, erosion and management strategies for the coast.

In particular websites are used to find management strategies for the coast, as there is a lot of information on this particular area on websites. To obtain the information of specific websites the geographers searched terms or put in a specific website, to gather the information needed. Talk from DECCW- The talk from DECCW allowed students to take notes on the geographical processes occurring at the WCB, as well as management plans being undertaken in Wollongong at the moment.

So the students were able to further their knowledge on coastal management and the processes that are happening in their area. The geographers took notes from a PowerPoint (which was later given to them) as well as what the special guest was saying in the Polding Learning Centre.

Map of WCB- A map is a visual representation of an area, which the geographers would have to fill in with more detail, so they could understand further the area of WCB.

By studying the map you can see what risks there in the area and which areas are sensitive to human impact as well as the areas where human impact can be allowed. The geographers were given the map and told to fill in certain locations. They were at the Old City Beach Surf club location while they did this. Step Six (see section VI B. Surveys) Step Seven; Select presentation methods to communicate the research findings effectively An effective way to communicate the research findings would be through Microsoft PowerPoint.

This method would not only show all the information in an efficient way, but it can be presented in a way that would interest people reading it, which in turn would allow the information from this research to stick with them. It does this by enabling presenters to put pictures, backgrounds, sounds, videos and much more into the presentation. Also by definition a presentation is not only research in a paper, but a method of showing the information in an enticing, interesting, informative and relevant way.

Clever use of Microsoft PowerPoint can achieve all of this. Step Eight; Propose individual or group action in response to the research findings which will promote sustainability, social justice and equity in the use of Coastal Environments Both individual and groups promote sustainability, social justice and equity in their use of Coastal environments, for example with the sand dunes. Individuals promote sustainability, social justice and by, staying

on the footpaths and boardwalks, obeying fishing bag limits placing rubbish in the bin and obeying signs.

By abiding by these rules individuals are allowing these areas to be sustainably managed, which in turn means individuals are providing social justice to the coastal area because they are giving current and future generations the chance to enjoy the natural coastal environment, whilst using the resources carefully. Also through their actions individuals are providing equity within a generation and between generations. Groups such as Coastcare and Landcare also promote sustainability; equity and social justice through their actions of maintain dune vegetation and use of volunteers to conduct the ongoing work of these groups.

In the recent March 2011 State Government election, the Liberal Party won the election altering many government departments, this included the DECCW. Mr Barry O'Farrell decided that the DECCW was not necessary and got rid of the department entirely. The roles and responsibilities of the DECCW have been divvied up into other departments. The Department of Premier and Cabinet will retain control of National Parks and the Environment Protection Authority, while responsibility for marine parks management and catchment management authorities, which manage land clearings, will be under the control of the Department of Primary.

The transfer of marine parks and catchment management authorities could certainly impact and threaten the import environmental advanced that were being made in these areas. Also under the new departments many are worried that Coastal Management will be forgotten and climate change and

the environment will be totally sidelined in the management plans. The DECCW's roles and responsibilities before the 2011 State election are as followed. The DECCW were ideally responsible for managing the Coast.

This included Coastal and Estuary Management programs, providing grants and technical advice to Councils and communities. This includes technical studies and assessments, preparing management plans and works, such as beach protection works, dune stabilisation and public facilities. The DECCW were also responsible for protecting our environment, managing water resources and addressing the impacts of climate change in NSW. The DECCW managed National Parks and Marine Parks. They also looked at natural resource management, which includes the coast, estuaries, native vegetation and soil.

They created climate change programs, managed heritage and promoted sustainable resource use and waste management. The threats upon our coastal environment The NSW community is faced with many significant threats to our coastal environment, due to the demands placed on our environment, with over 80% of NSW's population lives near the coast. With over 80% living near or on the coast, there is always the threat of urban development. Development on the coast continues to result in increased pollution and pressure on the coast itself.

Pollution from urban development is altering our coastal ecosystems. Sewerage outfall add nutrients to the water and pollute it, causing harm to the marine life, and making beaches, lakes and estuaries unsuitable to swim in. Tourism and recreational pressures are also affecting our coasts as there

are many people who live along the coast as it is, but during holiday season the amount of people on the coast can double. This puts pressure on the environment and infrastructure of the area, and if not managed large dune areas and beaches can be highly susceptible to erosion.

Coastal rivers and lagoon entrances are prone to silting up due to both human and natural process, without careful management of the silting of rivers and lagoons, the marine life that lives in these areas will be severely affected and flooding is also a likely outcome. Areas along the NSW coast have been invaded by introduced plant species, the bitou bush for example was brought in to stabilise sand dunes, though it has just taken over the native vegetation and does not protect the dunes from wind erosion.

Many people move to the coast for the relaxed lifestyle, this creates even more pressures on the coastal environment. To achieve the management of the coastal environment a balance between development and natural beauty of coastal areas needs to be achieved. Climate change is now becoming a significant threat to our coastal environment, especially sea rise. The rate of sea level rise in NSW has increased from the 19-20th century, with the rise being about  $17 \pm 5$  cm.

The potential implications sea rise could have on our coasts include: \* Higher projected storm surge and inundation levels. Landward recession of sandy shorelines. Depending on the rate and scale of sea level rise, the environmental, social and economic consequences of recession within low lying inter-tidal areas, in particular, are expected to be significant. \* Salt water intrusion and landward advance of tidal limits within estuaries. This



will have significant implications for freshwater and saltwater ecosystems and development margins, particularly building structures and foundation systems within close proximity to the shoreline.

Existing coastal gravity drainage, stormwater infrastructure and sewerage systems may become compromised over time as mean sea level rises. \* Sea level rise will influence the entrance opening regimes for intermittently closed and open lakes and lagoons and alter catchment flood behaviour. \* The level of protection provided by existing seawalls and other hard engineering structures will decrease over time due to the increasing threat from larger storm surges and inundation at higher projected water levels.

Physical, biological and chemical processes that occur in the coastal zone

#### Physical Processes

Physical processes are the processes that shape the beach and coastal area itself. This includes the movement of sand water and wind, to build the dunes and beach itself. As well as the wind and waves that wash over off the beach, dune erosion during storms, longshore transport into system, onshore transport of sediments and sand after storms, rivers and estuaries water movement, especially after floods, deposition into bays and estuaries, offshore transport of sediments and sand during storms, longshore transport out of area, artificial source nourishment, cliff erosion and artificial sink (mining/extraction).

Physical processes then combine with biological processes to determine what our environment will look like. There are many biological processes that occur in our coastal areas including vegetation successions in sand dune

communities, growth of seagrass beds in our estuaries and oceans, fish and prawn life cycles, algal growth and blooms. The final other process is chemical processes. These include the oxygen, carbon, nitrogen and nutrient cycles. The nutrient cycle is particularly important as it puts the sediments and nutrients onto the coast, and if there is an in balance it causes algae blooms and red tides in the ocean.