

Coastal management
northern beaches
sydney collaroy
essay sample



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The coastline is a major part of an Australian's life. There is over 30, 000km of coastline, and with 85% of people living within 50km of the coast, the management strategies of the coast is extremely important. This report will investigate Dee Why and Collaroy Beach's coastal management and the subsequent consequences.

Dee Why and Collaroy beach are part of the northern beaches, located on the Collaroy Plateau, approximately 20km from the Sydney CBD. Dee Why beach is 1. 2km long, while Collaroy Beach is 3. 4km long, both located at approximately 33S 151E.

The geographical processes involved include marine and atmospheric factors. These consist of waves, tides, rips, currents, wind, and rain.

Waves are the result of wind blowing over the water. The natural accretion-erosion cycle is a geographical process caused by waves. The accretion-erosion cycle is caused by destructive and constructive waves. Beaches undergo submersion as a result of destructive waves, and accretion as a result of constructive waves. Submersion is where sand is moved from the visible part of beach to a submerged nearshore region. Accretion is when the sand moved during submersion is moved back to the visible section of beach. This is known as the accretion-erosion cycle.

Longshore drift is also a geographical process caused by waves. It happens as a result of a longshore current, occurring due to the angle of the wind direction. A longshore current produces waves breaking at an angle to the shoreline, which generates longshore movement. Longshore drift is the movement of sand along the coast, usually occurring within the surf zone.

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Longshore drift is a geographical process that is a major player in the shaping or evolution of a shoreline.

Wind is caused due to air moving from a high pressure system to a low pressure system. Winds can affect the formation of the beach as the wind can form sand dunes by pushing the sand back inland along the beach.

There needs to be vegetation or pebbles to trap the moving sand grains. As the sand grains get trapped they start to accumulate, starting dune formation. The wind then starts to affect the mound of sand by eroding sand particles from the windward side and depositing them on the leeward side. Gradually this action causes the dune to “migrate” inland; as it does so it accumulates more and more sand.

There are a lot of different interest groups regarding the coastal management of Dee Why and Collaroy Beach. Together with the government; council, state, and federal, they must go through a number of decision making processes to identify the management action to be taken.

At Collaroy Beach, in the past erosion has caused shacks on the beach to be damaged. To try and resolve this issue, a number of things were done to make a decision on the management action. A number of decision making processes were required to be run before a management strategy could be formulated. In 1990, the New South Wales Government released its “Coastline Management Manual” to assist the local councils to develop coastal management plans. The state government also provided technical and financial support to local councils to implement the plans. After storm events and coastal erosion in New South Wales, Queensland, and South

Australia, the Commonwealth government investigated and reported on “The injured Coastline” in 1991, and “The Coastal Zone Inquiry” in 1993.

The local council, Warringah Council, then set up the Warringah Coastal Committee which had various stakeholders as members including; a WC councillor, a New South Wales government representative, a Surfrider representative, a Surf Lifesavers Club representative, a beachfront property owner, and other local residents. The Committee met every two months to advise council on the next action. In August 1992, the Collaroy/Narrabeen Coastline Management Plan was adopted. Throughout the process and before any major strategies were implemented the public were invited to comment and provide community feedback. This was all decision making process made before management strategies were formulated.

The first strategy involved the surveying of the existing sea wall. It found that the existing rock walls were not strong enough for a major storm. It was recommended that a new sea wall was to be built. This initial surveying was a decision making process and cost \$50,000. A new 1km \$11 million seawall was proposed to be built. However after opposition from the community groups, through the ‘Line in the Sand’ protest, the seawall was voted against in council. The protesters were from all over the city, though most were local residents and tourists as they would be the ones hit with the cost, and loss in aesthetics.

The next strategy was sand nourishment. The council established two ways of doing this. The first being minor sand nourishment, which involved moving sand from one part of the ecosystem to another. This was a bad idea as it

would ruin the ecosystem further, by further interference in the environment of the beach. The second was moderate sand nourishment which involved removing sand from deep within the continental shelf. This was also a bad idea, as the cost would have been too expensive, and furthermore, removing sand from the continental shelf may ruin another ecosystem which may not have to be.

Another strategy suggested by the council was to buy back homes of high risk and demolishing them for more beach. This was a long term solution, however unfeasible with the cost of this strategy being ridiculously high, e. g \$2. 7 million was paid for a single home in 2005.

Dee Why Beach was different to Collaroy in the lack of development. At Collaroy Beach the main issue was regarding the development. However at Dee Why the management is mostly regarding the management of the beach. Bitou bush and American sea-rocket were introduced in to Australia in the 1850's to hold together a dune, as a management strategy of the beach. However due to the fact that an individual bitou bush can produce 50, 000 seeds a year, about 60% of which are viable. Once germinated, seedlings grow vigorously with dense, bushy growth. This lush growth shades out and displaces slower growing native species that might otherwise occupy the same ecological niche. Rapid, vigorous growth also means that bitou bush is capable of flowering and setting seed within 12-18 months,

As a result of the indecisiveness regarding Collaroy Beach, not much has been done to it and development has continued within 15m of the water front. Most management plans have not been accepted and consequently

not much has happened on the beach. However, minor sand nourishment is happening, and is providing a temporary fix to the problem at hand. The council has also tried buying back high risk private properties. This strategy is extremely expensive and the council bought back 3 properties before depleting all their monetary resources.

In conclusion, there are a number of geographical processes happening on both Dee Why and Collaroy Beach. Both beaches have development happening on them, however Collaroy's development is a lot bigger, and a lot closer to the water. The coastal management of both of these beaches is extremely important, and the choices made have been discussed.

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