

Start here. There are many factors within an ecosystem that may place it at risk. These factors may be naturally induced or human induced, which have catastrophic effects on the ecosystem causing it to be at risk. Factors causing an ecosystem at risk can be seen in the Cronulla sand dune ecosystem and the Cuc Phuong National Park. Both ecosystems have been susceptible to human recreational activities, ^{which has} ~~been~~ ^{been} complemented by the lack of effective management strategies, resulting in their susceptibility to risk.

An ecosystem's vulnerability can be defined as their susceptibility to various factors within the environment that may cause harm to the ecosystem.

An ecosystem's resilience is defined as their ability to recover or adapt to changes within the environment. Many factors within an ecosystem will expose its vulnerability, in which it must then be resilient enough to recover from.

The human population that surrounds the Cronulla sand dune ecosystem ^(south of Sydney, 34°S, 151°E) is one of the main contributing factors to the ecosystem's sense of risk. Since colonisation over 200 years ago, the activities of individuals has been harmful to the ecosystem. The introduction

of exotic flora and fauna has resulted in the demise in native species, eventually resulting in the extinction of particular plant species, lowering the gene pool and increasing the ecosystems vulnerability. The introduction of the bitou bush was an extremely influential factor to the Cronulla sand dunes since 01 risk. Now populating over 85% of the ~~area~~ New South Wales coastline, the bitou bush was planted in order to ^{stabilise} ~~sustain~~ the sand dunes after activities such as sand mining. However, this exotic plant species thrived in this ecosystem, outcompeting native species such as the coast wattle for space and resources. Furthermore, this bush was able to harbour exotic fauna species whose impact on the environment is also detrimental, destroying other native plants when digging holes, killing native fauna, and altering the pH of the soil from its faeces, resulting in further destruction of native flora. It is human factors such as these that place more stress on an ecosystem including the Cronulla sand dunes placing it in more risk. Furthermore, human activities such as sand mining and recreational activities including four wheel driving complement the

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contribution made by the introduction of native flora and fauna in the increased role of the ecosystem. Sand mining, which was first initiated upon settlement in the area, was used to remove tonnes of sand that would be used in concrete for the development of houses. This resulted in the loss of important top soil that contained important nutrients that was then deposited in other locations around the Peninsula. This also caused instability within the sand dunes, increasing their susceptibility to climatic factors such as aeolian processes, which further exemplified the loss of top soil, as extreme winds and rain carried it away from the sand dunes. Activities including four wheel driving were also another cause for the instability generated within the sand dunes. As a result councils implemented management strategies such as manual labour with the physical removal of the bitou bush, ~~the~~ and planting of native plants species, to stabilise the sand dune, whilst also assisting native species in their competition against exotic species. The implementation of fences, signs and lines would prohibit individuals from entering the sand dune area, while also restricting activities.

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such as four wheel driving. It is apparent that there are multiple factors that contribute to an ecosystem's risk, that are complemented by others. It is apparent that due to the Cronulla sand dunes close proximity to a human population that has contributed ~~to~~ majorly to the risk of the ecosystem.

The contribution of the factor of human interaction with an ecosystem's risk is also exhibited within Cúc Phương National Park in North East Vietnam. Due to the human interaction with the park, it has been susceptible to the issue of soil compaction and erosion as well as littering which have been detrimental to the ecosystem. It is stated in source 0 that despite the resettlement of individuals within the area to "support the conservation values of the national park", they still use the resource that it provides such as firewood, which has been the result of the National Park's degradation. Their use of trees as firewood has contributed to the issue of erosion and soil compaction, with their littering also being harmful to the ecosystem. Unlike the Cronulla sand dunes ecosystem however, there has been little attempt at

implementing management strategies to address the issues.

In conclusion, it is apparent that there are many factors that place ~~that~~^{an} ecosystem at risk. It is also apparent through the example of these two ecosystems; the Cronulla Sand dunes ecosystem and the Cúc Phương National Park that the major, contributing factor to their risk is human interaction. It is through various human activities that these ecosystems risk and vulnerability have been exemplified, with little, to late management strategies being implemented to address the issues.

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