Australia, is an incredibly old country with our most iconic flora and fauna being a glimpse into 45 Million Years Ago when our landmass broke away from Gondwana. With 31% of our endemic species either threatened with extinction or sadly extinct, with both aforementioned species on that list. With funding currently put into Australian environmental protection funds effectively going to waste (the Murray Darling) through very few of the individuals involved utilising the money for what it was set aside for. The major factor to these extinctions is clearing of Australian scrublands for agricultural or urban endeavours, with countless hectares of land being cleared annually. While many native animals are currently endangered; those of which that have sadly fallen extinct should serve as a cautionary tale rather than being unheeded as a warning for our carelessness. The Thylacine, the Tasmanian tiger; a once proud predator roaming Australia as a whole was destroyed as a result of clearing its natural habitat. While Australias flauna is globally renowned for its uniqueness, our flora serves a unique role in our environment; with millions of years of evolution isolating populations from their closest relatives. Australias unique soils have effectively become co-dependent with our native flora. Something that is destroyed when native flora is cleared. A relatively unique situation when it comes to an ecosystems

As time goes on, our attitudes towards the environment have changed, from the early to mid 20th century where clearing large swathes of land was seen as a progressive activity, to the early 21st century where our biosphere is in serious decay, with extinction rates being as severe as the K-T extinction, 65 Million Years Ago. This data, from an unsettling report coming from the United Nations in March of 2019. (UN, 2019). This shows the environment in a precarious position currently, in the midst of a sixth mass extinction. The same UN report shows more than a million extant species currently endangered and facing extinction within the next thirty years unless something drastic is done to protect them. Anthropogenic climate change is demonstrably true, with metric tonnes of carbon being spewed into the Atmosphere. This coupled with massive tracts of land being cleared remove the Earths ability to process the carbon and store in it natural reserves. The lungs of the Earth effectively removed for our development. But what does this mean for Australia?

As Australia becomes more urbanised, our attitudes towards the environment have followed those of most modern countries. Treating the environment with reckless abandon and exploiting natural ecosystems irrespective of possible issues that may arise in future. As the environment reaches its breaking point globally, it is more important to treat what remains with the utmost respect it deserves. Australia, however presents a unique case in the world of conservation and ecological studies. With our ecosystems being one of a kind globally, filled with dry shrubbery and trees that utilise minimal amounts of water compared to conifers or deciduous vegetation. With a rare and globally unique population of flora and fauna, one that offers a rare look into the past. But, Australia remains as much of a victim of clearing as any other country in the world. With 11,000 hectares of scrubland slated for clearing within one agricultural property, prospects appear grim to say the least.

In the last few months a notable example of clearing Australian flora has been brought to light by the media: Cubbie station where a large swathe of land has been slated for clearing by the owners and officially allowed by the Crown. Despite protests from Environmental agencies and groups here in Queensland stating that the clearings will endanger the *Petaurus breviceps breviceps* leaving *breviceps breviceps* severely endangered, like most other sugar glider species in Australia. With Australia serving as a unique example of primitive *mammalia* still extant with the last surviving members of marsupials and the even more primitive monotremes. While Cubbie station is only the most notable clearing that is currently underway. The problem is far more severe than one piece of land in Southern Queensland. According to the Department of Sustainability, Environment, Water, Population and Communities over one million hectares were cleared each year between 2000 and 2010 for use and greater than 20% of the land in Australia is currently used for agricultural grazing(Population and communities, 2011). Prior to that, in 2006, the same department found that 13% of all flora in Australia prior to European colonisation has been cleared (Department of Sustainability, Environment, Water, Population and communities, 2006).

To follow, as more land gets cleared, the effects of such ecological changes are catastrophic. With the destruction of native flora populations, native fauna populations experiences selection pressures at a much higher rate than what can be accounted for through natural selection. With species being wiped out due to human intervention, the most famous of which being the Tasmanian Tiger or *Thylacine cynocephalus.* An unfortunate misnomer due to anthropogenic selection pressures. A predator that once roamed mainland Australia, pushed to extinction due to environmental changes caused by humans. With hunting grounds for the marsupial predator encroached upon by agricultural grazing lands, causing the main prey for *Thylacine* to become exotic fauna introduced by farmers rather than native fauna. Putting them at odds with Australian farmers, pushing the creature to extinction. The effects of such an extinction are only just being felt today, with prey animal populations exploding in recent years, such as the millions of kangaroos every wet season. With the cascading effect on local ecosystems still not fully realised, because it takes hundreds of years to fully unfold.

While the *Thylacine* remains in the past, it is not the last species to go extinct in Australia. According the Australian journal of botany, there are currently 351 species of endemic flora in Australia at risk of extinction. But the extinction crisis isn't limited to Flora, according to the birdlife studies conducted in 2015; once common birds are now threatened with Extinction, with Kookaburras and Magpies facing a severe population decline as a notable example. Through studies conducted by the Australian threatened bird index, it has been found that avian populations in Australia have fallen by as much as 55% in the last 30 years. According to a study published by PNAS greater than 10% of the 273 endemic fauna species in Australia have fallen victim to Extinction due to European settlement, with a further 21% threatened with extinction currently. These extinctions are likely due both to the loss of natural habitats, pushing them to developed areas in search of food or water. As well as the result of the introduction of exotic predatory species such as *Vulpes vulpes*, *Felis catus* and *Rhinella marina*; the European red fox, feral cats and Cane toads respectively which prey on native fauna in their natural habitats and in urban environments, mostly unimpeded by native fauna species.

Thirdly, Australia presents a unique case in soil structure, where for millions of years, the soil has evolved cooperatively with native flora species. To cope with the nutriently poor and sporadically wet soil, Australian plants evolved deep root structures to absorb as much water and as many nutrients as possible. This adaptation also serves to keep the soil from eroding. The removal of native flora also serves to disrupt the hydrological cycle, this affects dryland salinity drastically; massively changing what flora species can grow there . The Australian State of the Environment report from the Department of Energy and the Environment from 2016 also draws attention to a less well-known effect of land clearing, where the land becomes more uniform. This reduces water infiltration, increases run-off and erosion, as well as destroying vital micro-environments that many native species require to survive. (Metcalfe D, Bui E, 2016). This unique co-evolution between Australian flora and the terrain of Australia places the continent in a rare state where the environment is effectively required to keep the land healthy and alive.

Australia's biodiversity is cherished the world over. But with many of our unique species threatened with, or already extinct. The time to act is now. While I don't expect anyone to read this, Australia is a brilliant country, with a unique set of animals and plants. Something worth fighting for, tooth and nail over. Don't let the country the current voting population grew up with become a thing of the past. See to some serious, environmental funding to be implemented across the board. No funding of “private” enterprises for it. Publicly and transparently implement serious action to save Australias environment. Extinction is forever, the people running this country won't see the catastrophes. Myself and my peers will.

Australian Government, Department of Agriculture (2013). *Australias State of the Forests Report*. [ebook] Australian Government Department of Agriculture. Available at: http://www.agriculture.gov.au/abares/forestsaustralia/Documents/criterion5-web.pdf

Metcalfe D, Bui E (2016). Land: Regional and landscape-scale pressures: Land clearing. In: Australia state of the environment 2016, Australian Government Department of the Environment and Energy, Canberra, <https://soe.environment.gov.au/theme/land/topic/2016/regional-and-landscape-scale-pressures-land-clearing>, DOI 10.4226/94/58b6585f94911

Neldner, V., McDonald, K., Mathieson, M., Melzer, R., Seaton, R., McDonald, W., Laidlaw, M., Hobson, R. and Limpus, C. (2017). *Scientific review of the impacts of land clearing on threatened species in queensland*. [ebook] Brisbane: Department of Science, Information Technology and Innovation. Available at: https://environment.des.qld.gov.au/wildlife/threatened-species/documents/land-clearing-impacts-threatened-species.pdf.

State of the Environment 2011 Committee (2019). *State of the Environment 2011*. [ebook] State of the Environment 2011 Committee. Available at: https://soe.environment.gov.au/sites/default/files/soe2011-report-complete.pdf?v=1488164460

Department of Sustainability, Environment, Water, Population and Communities (2011). *Indicator: LD-01 The proportion and area of native vegetation and changes over time*. National Library of Australia.

Woinarski, J., Burbidge, A. and Harrison, P. (2019). *Ongoing unraveling of a continental fauna: Decline and extinction of Australian mammals since European settlement*. [online] Available at: https://www.pnas.org/content/112/15/4531.