

FORUM:	Environment Commission
ISSUE:	Measures to Protect and Revitalize Australia's Ecosystems from the Impacts of Climate Change and Human Activities
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POSITION:	Deputy Chair of Environment Commission

Introduction

The Commonwealth of Australia is a large nation in Oceania widely known for its unique climate and wildlife. Protecting the nation's ecosystems is vital due to their ecological value. The country holds many endemic species, or species found only in that region, including globally known cassowaries, emus, and platypuses. Furthermore, Australia holds eucalyptus forests, desert plateaus, and scrublands that are imperative to Australia's



The Duck-Billed Platypus, only found on the Eastern coast of Australia.

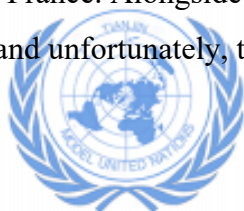
ecosystem health. However, despite both the cultural and ecological impact Australia's wildlife has had on the world, they remain relatively under-protected, and as such, for much of the flora and fauna in Australia, human-induced habitat destruction and population loss are common.

In response to this, Australia and other nations have made efforts towards protecting these lands, such as the Australian government's "National Ecosystem Accounting Project". However, this problem has, especially in recent years, not been given the attention its solution requires.

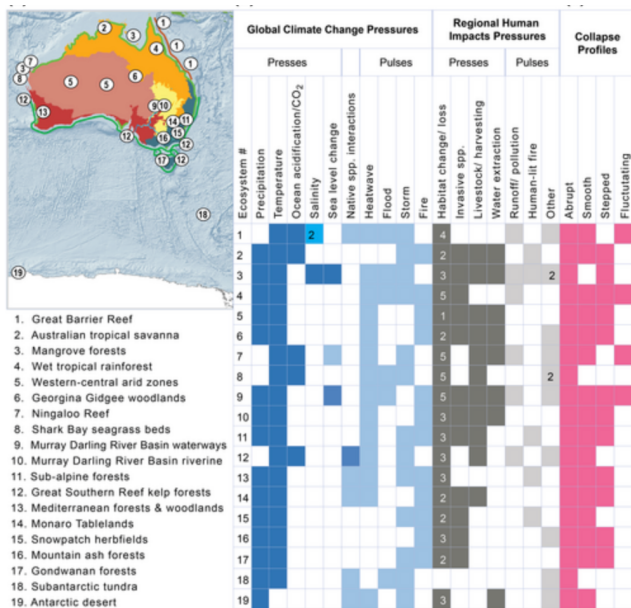
Background

The Commonwealth of Australia has a long history regarding human impacts on its diverse ecosystems, spanning back ever since Europeans first colonized the island.

European settlers came to Australia from various European nations, including England, Portugal, the Netherlands, and France. Alongside them often came foreign plants and animals that devastated the natural ecosystems, and unfortunately, this issue persists today. According to one 2017 study headed by



climate and biodiversity researcher Hanno Seebens, “...the annual rate of first records (of invasive species) worldwide has increased during the last 200 years.” Despite this pressing fact, the issue is under-represented in both public and legal settings.



A graph showcasing ecosystem stress in Australia. The dark blue and dark gray squares represent ecosystem pressure due to global and regional human-induced effects respectively.

High-profile human-induced climate events have also historically caused the country difficulty. In 2019, an extreme heatwave swept over Western Australia, causing a detrimental impact and raising the alarm of governments and individuals globally. News outlets globally, including New York Times, BBC, and CBS began providing articles on the subject, calling it “a crisis that has lasted months,” and the “hottest day on record...exacerbating an already unprecedented bushfire season.” This heatwave, and the further warming in the month following it, not only impacted humans, but also, according to one study, hurt fish, mollusk,

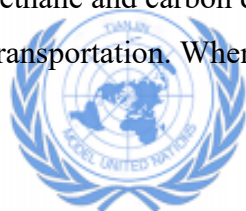
crustacean, and coral populations. As a state of emergency was declared in multiple parts of the country, the global notice of this event promoted climate change relief efforts in the region. However, as summer ended in the nation, Australia’s climate issue lost much of its public notice, causing imperative, long-term actions to not be decided on.

In summary, the issue of human-induced climate change in the Commonwealth of Australia is an incredibly important topic, owing not only to the nation’s ecological value but also to how the rest of the world is facing similar issues. All this shows how climate change is an underrepresented topic on the global stage.

Problems Raised

Greenhouse Gas Emissions

One of the main ways human activities have hurt Australia’s ecosystems is through human-induced climate change. These impacts include global warming, rising sea levels, and changing weather patterns. Many of these manifestations of climate change have several root causes, and in the case of global warming, the most prevalent root cause is greenhouse gas, or GHG, emissions. GHGs are chemicals such as methane and carbon dioxide that are released into the air as byproducts of manufacturing and transportation. When these greenhouse gases build up in the atmosphere, their



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reflection of the sun's heat causes global temperatures to rise, changing and harming the balance in vital ecosystems. Although Australia has prescribed to several agreements regarding the reduction of GHGs, including the Paris Agreement and the UN SDGs, the country remains the 14th highest emitter of greenhouse gases amongst UN member nations.

Biodiversity and Habitat Loss

The Australian government's Department of Climate Change, Energy, the Environment, and Water, or DCCEEW, defines biodiversity as "...the variability among living organisms, including within species, between species and of ecosystems." Biodiversity is imperative to the health of the natural environment and can impact human health and economic situations. With over 600,000 native species, Australia is one of the most biodiverse nations, meaning protecting its biodiversity is an important task. However, inadequate preservation methods mean Australia's biodiversity is declining at a rate that has even been labeled a "biodiversity crisis," by the environmental-awareness NGO Biodiversity Council. A report by the Australian Conservation Fund revealed that, for Australian plants and animals, "there were five times as many species added (to the threatened species list) as the average year, and twice as many as in the previous record year."

Harm to Aboriginal Culture



The face paint of the Aboriginal Tiwi Island people. Face paint is common among the Tiwi Island people and multiple other Aboriginal groups.

The Aboriginal people of Australia face countless difficulties in preserving their culture, and the loss of Aboriginal culture is an issue closely associated with damage to Australia's natural ecosystems. Most, if not all, Aboriginal stories, customs, and traditions are closely linked to Australia's unique landscape and wildlife, and the DCCEEW states that "Indigenous Australians attribute tremendous knowledge, spiritual, cultural and symbolic value to our plants and animals, as well as to the broader environment."

Because of this, loss of the land's native flora and fauna results in greater difficulty in preserving Aboriginal culture. However, this specific problem has been given little attention in relation to the larger issue.

Key Players

The National Ecosystem Accounting Project

The National Ecosystem Accounting Project is an environmental revitalization project started by the government of Australia, specifically, the Department of Climate Change, Energy, the Environment, and Water. This project aims to monitor the growth and decay of Australia's ecosystems via ecosystem accounts. Ecosystem accounts are described as a way to "...gather, analyse, and present data about ecosystems in a repeatable way," and the Australian government also states that "They follow international guidelines from the United Nations System of Environmental-Economic Accounting." The DCCEEW has detailed that these accounts cover both terrestrial and aquatic habitats across the country.



The "West Australian Wheatbelt" has been one of the DCCEEW's main habitats of concern.

New Zealand

New Zealand, being both geographically and relationally close to Australia, has been a major source of aid for the Commonwealth of Australia. New Zealand has consistently been providing fire relief teams for the nation. Furthermore, New Zealand takes up the same necessary stance on the crucial status of ecosystem protection. According to the New Zealand government's Environmental Protection Authority, or EPA, "New Zealand has pledged to reduce its greenhouse gas emissions, regulate negative impacts of chemicals, protect the ozone layer, and regulate the import and export of hazardous wastes."

Canada

Canada holds close ties with Australia, and has been providing aid to the nation, including sending in firefighting teams to help limit brushfires. The Canadian government's official Environment and Climate Change website has also stated the significance of how climate change affects many different aspects of society. Furthermore, the North American nation has also given firm statements on the imperative nature of protecting indigenous culture.

Possible Solutions

Ecosystem Revitalization Projects



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Projects such as native forest restoration and the installment of artificial reefs are an imperative level of support for revitalizing damaged ecosystems. Native forest reforestation involves reforestation of multiple species of plants, and ensuring all transplanted species are native. Artificial reefs serve to jumpstart coral growth and encourage biodiverse populations to settle in previously dead reefs. Although these options can be implemented at both the large and small scale, proper guidelines and funding are needed.



Conservation efforts on the Great Barrier Reef.

Enhancing Legal Frameworks

Although a several legal steps have been taken towards ecosystem protection, neither Australian nor global laws have adequately addressed the multi-faceted nature of such an issue. A comprehensive legal framework regarding this issue would allow the Australian government to more effectively monitor, protect, and restore the natural environment. Furthermore, said guidelines could serve as a basis for other nations grappling with similar problems. As ecosystem degradation is an incredibly complex issue, this international collaboration is imperative.

Glossary

Aboriginal

A name used to denote the native Australian people groups that were living on the island before European presence.

Artificial Reefs

Man-made structures designed to emulate coral or rocky reefs and serve to encourage coral and biodiversity growth.

Carbon Dioxide

One of the most prevalent and well-known greenhouse gases, produced daily by factories, gas-powered vehicles, power plants, and a multitude of other common sources.

Endemism

When a plant, animal, or fungus species can only be found in a single country or region.

GHG



An abbreviation of greenhouse gases, chemicals that, when released into the atmosphere in excess, reflect the sun's heat, raising global temperatures.

Methane

One of the most common greenhouse gases, produced in large quantities by most factories.

Native Forest Restoration

A forest restoration method that involves planting tree species already native to a given area and using non-linear planting distribution.

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