

# Time For Change

Topic: The Time Traveler's Guide to Protecting Endangered Species

“Grandma! Please, don’t go... I still need you!” Claire cried, kneeling at the edge of her grandmother's bed.

Her grandmother smiled sadly, feebly reaching out to place a small leather diary in Claire’s hands. The title “A Time Traveler's Guide to Protecting Endangered Species” was carved into the worn out leather. As the last flecks of light were draining out of her, Claire’s grandmother put together all her remaining strength to say “You’re going to do great things Claire... you will be the change the world needs to see...”

Taking a deep breath, Claire made a promise that she would finish what her grandmother started.

As Claire embarked on her first journey beginning with time jumping to the past, she took out her grandmother’s journal.



“To Claire, my dear granddaughter” it read, Claire smiled, thinking fondly of her grandma. “I am sorry that I did not do more, but I leave you with the findings I have made over the course of my time travels, hoping it will guide you in your mission to conserve and protect the species of the past. As I write this diary in 2268, at least a third of the species of flora and fauna from the year 2000 are extinct with extinction rates increasing rapidly.<sup>1</sup> This is why I am sending you on this mission back to the 21st century - we need to change our ways back when we still had the chance.”

Claire arrived in the 21st century feeling the urgency of her grandmother’s message radiating from the diary. Boarding a boat to her first mission, Claire opened the journal up and continued reading.

“Two of my favourite animals were the Galapagos Penguin and the Great Yellow Bumblebee.<sup>2</sup> You would have loved them Claire!

“I was swimming in the waters off the coast of Bartolomé Island when I first encountered the Galapagos Penguins. I watched these majestic creatures swimming in the rich blue ocean, hundreds of them surrounding me as I dived. The sight was unforgettable.



CREAT



“When I first encountered the Great Yellow Bumblebee, I was walking around Scotland and these incredible insects caught my eye. I have never really understood why you were so afraid of bees! These bumblebees especially loved Red Clovers and I observed that they played a key role in the pollination of these, and so many other plants.<sup>3</sup> This made them priceless in their ecosystems.

“However, from the 20th to 21st century, the Galapagos Penguins population had decreased by 60% and the Great Yellow Bumblebee population had plummeted from living all over the UK to solely found in the coastal Highlands and Islands of Scotland.<sup>3,4</sup> Both species had become critically endangered.

“I want you to make a difference in the world Claire, and find ways to prevent these creatures from becoming extinct. Some of the most significant reasons for these species to become endangered and extinct were due to human activities: climate change, pollution, pesticide impacts on bumblebees and unsustainable fishing impacts on penguins. Solutions to these problems are essential for conservation.<sup>5,6,7</sup>

“Climate change impacts the habitats of countless animals, forcing them to survive in new environments. To address climate change you need to encourage governments and industries to reduce coal burning and use more renewable energy.<sup>6</sup> You should also encourage individuals to ride a bike or walk places, if everyone does this there will be a significant difference in the world.

“Pollution such as plastics are also a major killer of the penguins. You must encourage society to reduce plastic use by using reusable bags, reducing single use plastic items, putting rubbish in the bins and volunteering to clean up parks and beaches.



“A bee enthusiast friend of mine explained that harmful pesticides were killing the beautiful Bumblebees.<sup>7</sup> If people use less harmful pesticides in their gardens, native bee species will be conserved. Planting native flowers will also encourage biodiversity in your garden, helping local bees to thrive.

“Unsustainable fishing also endangers sea animals such as the Galapagos Penguins, which get trapped among the fish in the large nets used. This is why it is important for you to promote the purchase of responsibly sourced fish.”

Claire was inspired by her grandmother’s teachings and ready to begin her mission. This was her time to be the change.

## Appendix

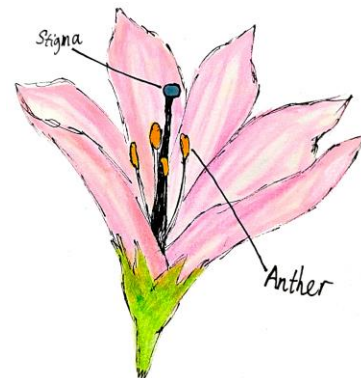
**Extinction:** When a species becomes extinct, it means that there are no living members of that species left in the world (eg. The last living Tasmanian Tiger died in 1936, so it is impossible for the species to be naturally born or come back to life, making the species extinct).

**Ecosystem:** An ecosystem refers to all the living organisms and nonliving things in an environment and how they interact (eg. a tropical rainforest ecosystem includes all the organisms such as plants, animals, fungi and the nonliving things such as the soil, water and their interactions).

**Habitat:** A habitat is the natural environment where an organism lives (eg. Koala habitats are eucalyptus forests). This contrasts with the ecosystem which is the interactions within the environment of different living and nonliving things.

**Climate change:** Climate change refers to the shifts in global temperature over a long period of time. Currently the climate of the world is rapidly increasing in temperature, caused largely by the burning of fossil fuels which release greenhouse gases into the atmosphere, heating up the planet. Issues that arise from climate change include severe weather events, rising sea levels and melting polar ice caps.<sup>6</sup>

**Pollination:** Pollination is when the pollen is transferred from a plant's male anther to a female stigma to produce an offspring. Pollination predominantly happens through pollinators such as bees that transfer the pollen between plants.<sup>7</sup>



**Biodiversity:** Biodiversity is the variation of living things on Earth (eg. the diversity of organisms or an ecosystem). The biodiversity of the world reduces as species become extinct.

**Word count: 984**

## Bibliography

<sup>1</sup>Newcomb, T 2023, *Supercomputer Says 27% of Life on Earth Will Be Dead by the End of This Century*, Popular Mechanics, Popular Mechanics, viewed 13 July 2024, <<https://www.popularmechanics.com/science/environment/a42556557/supercomputer-mass-extinction-predictions/>>.

<sup>2</sup>*The IUCN Red List of Threatened Species 2024*, IUCN Red List of Threatened Species, Name, viewed 13 July 2024, <<https://www.iucnredlist.org/>>.

<sup>3</sup>*Great Yellow Bumblebee» All-Ireland Pollinator Plan 2022*, All-Ireland Pollinator Plan, viewed 13 July 2024, <<https://pollinators.ie/helping-endangered-pollinators/great-yellow-bumblebee/>>.

<sup>4</sup>*Galapagos Penguins: Diet, Habitat, and Threats / Earth.org 2024*, Earth.org, Earth.org, viewed 13 July 2024, <[https://earth.org/?endangered-species=galapagos-penguin-endangered-animals-spotlight#:~:text=Having%20suffered%20a%20population%20decline,Galapagos%20penguin%20as%20%27endangered](https://earth.org/?endangered-species=galapagos-penguin-endangered-animals-spotlight#:~:text=Having%20suffered%20a%20population%20decline,Galapagos%20penguin%20as%20%27endangered>)>.

<sup>5</sup>Sian Liversage 2019, *Galapagos Penguin Conservation / Penguins International*, Penguins International, viewed 13 July 2024, <<https://www.penguinsinternational.org/galapagos-penguin-conservation/>>.

<sup>6</sup>Nations, U 2023, *What Is Climate Change? / United Nations*, United Nations, United Nations, viewed 15 July 2024, <<https://www.un.org/en/climatechange/what-is-climate-change#:~:text=The%20consequences%20of%20climate%20change,catastrophic%20storms%20and%20declining%20biodiversity.>>>.

<sup>7</sup>*Why bees need our help - Bumblebee Conservation Trust 2024*, Bumblebee Conservation Trust, viewed 15 July 2024, <<https://www.bumblebeeconservation.org/learn-about-bumblebees/beginners/why-bees-need-our-help/>>.