

Earth Day: Threatened and Endangered Species

Background

Earth Day takes place on 22 April each year. In 2009, 22 April was designated as ‘International Mother Earth Day’ by the UN General Assembly.¹ According to the wording of this resolution, the purpose of the day would be to “promote harmony with nature and the Earth” and to acknowledge the “interdependence that exists among human beings, other living species and the planet we all inhabit”.² Since 2012, the president of the UN General Assembly has convened an ‘interactive dialogue’ on International Mother Earth Day, involving UN member states, UN organisations and other bodies. The theme of the 2019 interactive dialogue is education and climate change.³

The Earth Day Network also marks Earth Day each year on 22 April. The Earth Day Network, a US-based environmental campaigning organisation, was founded by Gaylord Nelson, a US Senator from Wisconsin, following the Santa Barbara oil spill in 1969.⁴ The first Earth Day took place in 1970. Today, the aims of the Earth Day Network include campaigning against man-made climate change and for ending plastic pollution.⁵ The theme of Earth Day 2019 is the protection of threatened and endangered species.⁶

Threatened and Endangered Species: Recent Studies

A number of recent studies have warned of a reduction in biodiversity across the world and a rise in the number of species under threat of extinction. In 2018, the World Wildlife Fund (WWF) stated there had been an overall decline of 60% in the population sizes of species around the world between 1970 and 2014.⁷ This rate was higher in South and Central America, where the rate of decline was 89% over the same period. The WWF argued the main causes of this decline were overexploitation and increased agricultural activity.⁸ In 2017, the authors of a study published in *Proceedings of the National Academy of Sciences of the United States of America* found that, based on a sample of nearly half of known vertebrate species, 32% of species were experiencing a decline in their population.⁹

The authors also stated that, based on a conservative estimate, 200 vertebrate species had become extinct over the past 100 years. They argued that, based on the extinction rate prevalent over the last 2 million years, the loss of 200 vertebrate species would normally have taken up to 10,000 years. The authors described the earth as undergoing a “sixth mass extinction event”, similar to the event that took place at the end of the Cretaceous period 65 million years ago.¹⁰ They contended this decline would have “negative cascading consequences” on the functioning of ecosystems that currently sustained human civilisation.¹¹

In addition, another recent study identified high rates of population decline amongst insects. In April 2018, researchers at the University of Sydney, Australia and the China Academy of Agricultural Sciences, Beijing found that over 40 percent of insect species were under threat of extinction.¹² Groups most affected were lepidoptera (which includes butterflies and moths), hymenoptera (which includes ants, bees, sawflies and wasps) and coleoptera (which includes dung beetles). The authors argued loss of

habitat was the main driver of these declines because of increased intensive farming methods. Agro-chemical pollutants, invasive species and climate change were also cited as factors contributing towards this decline. The authors warned the decline in insect species posed a broader ecological risk because insects formed the “structural and functional base of many of the world’s ecosystems”.¹³

These studies have found that the main driver of species population decline is the loss of habitats resulting from increased land-use and changing farming methods, including an increase in intensive farming. However, the WWF has identified other contributing factors, including the impact of plastic pollution on ocean wildlife.¹⁴ According to a 2015 study published in the journal *Science*, an estimated 4.8 to 12.7 million metric tons of plastic waste entered the world’s oceans in 2010.¹⁵

The warming of the world’s oceans as a result of climate change has also been identified as having a negative impact on biodiversity. In a study published in the journal *Nature Communications*, researchers found the frequency of marine heatwaves globally had increased by 34 percent between 1925 and 2016.¹⁶ Over the same period, the duration of these heatwaves had increased by 17 percent. The ecological effects of this change on marine wildlife included sustained loss of kelp forests and mass mortality of marine invertebrates due to heat stress.

UK Government Policy: International Biodiversity

In 2018, the Government stated that, as part of its 25 Year Environment Plan, it would support diplomatic efforts to protect biodiversity around the world.¹⁷ The main international treaty concerning the protection of biodiversity is the UN Convention on Biological Diversity, which entered into force in December 1993.¹⁸ The UK is a party to this treaty and the Government has stated that it is working with other signatories to develop a new post-2020 global framework for protecting biodiversity under the treaty.¹⁹ The Government has also said it is committed to maintaining internationally recognised environmental principles following the UK’s withdrawal from the European Union.²⁰

The Government has stated it is supporting biodiversity internationally through the Darwin Initiative, a grants scheme intended to provide support for projects around the world for protecting biodiversity and the natural environment.²¹ The Government awarded £10.6 million in 2018 as part of this initiative. The Government’s Blue Belt Programme is also intended to preserve biodiversity in the world’s oceans.²² As part of this programme, the Government has committed to the protection of the marine environment in 4 million km² surrounding the UK Overseas Territories by 2020.²³

More recently, in his 2019 Spring Statement, the Chancellor of the Exchequer, Philip Hammond, announced that the Government had asked the chair of the management board of the Centre for the Study of Existential Risk at the University of Cambridge, Professor Sir Partha Dasgupta, to conduct a review of the link between biodiversity and economic growth.²⁴ The report following this review is scheduled to be published in 2020, ahead of the 15th meeting of the Conference of the Parties to the Convention on Biodiversity taking place in Beijing.²⁵

As a member of the UN Convention on Biological Diversity, the UK has committed to targets for improving biodiversity such as expanding and maintaining protected areas and restoring other vulnerable ecosystems in the UK such as peatlands.²⁶ In 2018, the government body tasked with producing a report on this subject, the Joint Nature Conservation Committee, argued that, while progress had been made in implementing some targets, more progress was required in other areas. One of the areas where further progress was needed was combating species decline. The Joint Nature Conservation Committee stated that there remained “an overall picture of ongoing species decline, although perhaps not at the

rate seen in previous decades”.²⁷

Further Information

- House of Lords Library, [Threats Presented by Climate Change](#), 17 January 2019
- House of Commons Library, [Plastic Bags—The Single Use Carrier Bag Charge](#), 1 March 2019

- ¹ United Nations, '[International Mother Earth Day: 22 April: Background](#)', accessed 17 April 2019.
- ² United Nations General Assembly, '[Resolution: International Mother Earth Day](#)', 22 April 2009, A/RES/63/278.
- ³ United Nations, '[International Mother Earth Day: 22 April](#)', accessed 17 April 2019.
- ⁴ Earth Day Network, '[The History of Earth Day](#)', accessed 12 April 2019. Gaylord Nelson was a Democratic senator and the group was co-chaired by a Republican congressman, Pete McCloskey.
- ⁵ Earth Day Network, '[Earth Day](#)', accessed 12 April 2019.
- ⁶ Earth Day Network, '[Earth Day 2019—Protect Our Species](#)', accessed 12 April 2019
- ⁷ World Wildlife Fund, '[Living Planet Report 2018: Aiming Higher](#)', 2018, p 7.
- ⁸ *ibid*, p 11.
- ⁹ G Ceballos et al, '[Biological Annihilation Via The Ongoing Sixth Mass Extinction Signalled By Vertebrate Population Losses and Declines](#)', *Proceedings of the National Academy of Sciences of the United States of America*, 25 July 2017, vol 114 no 30, pp 6089–96.
- ¹⁰ Damian Carrington, '[Earth's Sixth Mass Extinction Event Under Way, Scientists Warn](#)', *Guardian*, 10 July 2017.
- ¹¹ G Ceballos et al, '[Biological Annihilation Via The Ongoing Sixth Mass Extinction Signalled By Vertebrate Population Losses and Declines](#)', *Proceedings of the National Academy of Sciences of the United States of America*, 25 July 2017, vol 114 no 30, pp 6089–96.
- ¹² Francisco Sánchez-Bayo and Kris A G Wyckhuys, '[Worldwide Decline of The Entomofauna: A Review if Its Drivers](#)', *Biological Conservation*, April 2019, vol 232, pp 8–27.
- ¹³ *ibid*.
- ¹⁴ World Wildlife Fund, '[Living Planet Report 2018: Aiming Higher](#)', 2018, p 11.
- ¹⁵ Jenna R Jambeck et al, '[Plastic Waste Inputs From Land Into The Ocean](#)', *Science*, 13 February 2015, vol 347 no 6223, pp 768–77.
- ¹⁶ Eric C J Oliver et al, '[Longer and More Frequent Marine Heatwaves Over the Past Century](#)', *Nature Communications*, 10 April 2018, vol 9 no 1324.
- ¹⁷ HM Government, '[A Green Future: Our 25 Year Plan to Improve the Environment](#)', January 2018, p 58.
- ¹⁸ United Nations Convention on Biodiversity, '[About the Convention: Introduction](#)', accessed 15 April 2019. Other conventions concerning the preservation of endangered species include the [Convention on International Trade in Endangered Species of Wild Fauna and Flora](#) and the [United Nations Economic Commission for Europe Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters](#).
- ¹⁹ House of Commons, '[Written Question: Nature Conservation](#)', 8 April 2019, 240631.
- ²⁰ [HL Hansard, 7 March 2018, col 1150](#).
- ²¹ Department for Environment, Food and Rural Affairs, '[The Darwin Initiative](#)', accessed 15 April 2019.
- ²² Foreign and Commonwealth Office, Centre for Environment, Fisheries and Aquaculture Science, and Marine Management Organisation, '[Blue Belt Programme](#)', 29 January 2019.
- ²³ House of Commons, '[Written Question: Biodiversity](#)', 27 March 2019, 235742.
- ²⁴ [HL Hansard, 13 March 2019, col 351](#).
- ²⁵ House of Commons, '[Written Statement: Spring Statement 2019](#)', 13 March 2019, HCWS1407.
- ²⁶ Joint Nature Conservation Committee, '[United Kingdom's Sixth National Report to the Convention on Biological Diversity](#)', accessed 15 April 2019.
- ²⁷ *ibid*.

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