



Every minute, approximately 30 football fields of tropical forest are destroyed. Every year, wildfires burning hotter and longer — driven by drought and warming — consume more of the Earth's remaining natural areas. On land, the combined forces of deforestation, industrial agriculture, wildfire, and pollinator collapse are dismantling the terrestrial ecosystems that regulate our climate and sustain our food.

■ Deforestation

Forests cover approximately 31% of the Earth's land surface, down from an estimated 50% before the spread of agriculture. Since 1990, the world has lost approximately 420 million hectares (1.04 billion acres) of forest — an area larger than the European Union. The primary drivers are:

- **Amazon Basin (Brazil, Bolivia, Peru, Colombia):** The Amazon contains 10% of all species on Earth and is the world's largest tropical rainforest. Since 1970, approximately 20% has been deforested, primarily for cattle ranching and soy production. Scientists estimate that at 20–25% deforestation, the Amazon may cross a "tipping point" into irreversible savannification — the "dieback" scenario that would release hundreds of billions of tonnes of stored carbon.
- **Southeast Asia:** Palm oil expansion has devastated Borneo and Sumatra's rainforests, critically threatening Orangutans (fewer than 100,000 Bornean, ~14,000 Sumatran remaining), Pygmy Elephants, and Sumatran Tigers.
- **Congo Basin:** Africa's "lungs" — the world's second-largest tropical rainforest — faces growing pressure from artisanal logging, charcoal production, and agricultural expansion, threatening forest elephants, gorillas, bonobos, and okapis.

■ Wildfires

Wildfires are a natural component of many ecosystems — pine forests, savanna, chaparral — and many species depend on them for habitat regeneration. But human-caused climate change is intensifying fires beyond natural parameters, turning beneficial disturbance events into catastrophic, ecosystem-destroying conflagrations:

- **2019–2020 Australian Bushfires (Black Summer):** Over 18 million hectares burned. An estimated 3 billion animals were killed or displaced. Critically affected species include Koalas (whose populations had not recovered before the 2024–25 fire season brought additional losses), Glossy Black-Cockatoos, and platypuses.
- **Amazon Fires (2019–present):** Many "fires" in the Amazon are deliberately lit by ranchers and land-grabbers to clear forest. In 2019, over 72,000 fire ignitions were recorded — an 80% increase over 2018. International outcry and temporary enforcement reduced fires somewhat, but pressure continues.
- **Western US Fires:** California, Oregon, Washington, and surrounding states have experienced record-breaking fire seasons annually since 2017. The 2020 season burned over 4 million acres in California alone. Sierra Nevada forests burned at such intensity that recovery may not be possible without active restoration.

■ Pollinators in Crisis

Pollinators — bees, butterflies, moths, flies, beetles, birds, and bats — are essential for the reproduction of approximately 75% of flowering plant species and 35% of the world's food crop production. Their decline threatens food security at a global scale.



- **Bee declines:** Managed honey bee colonies in the US have declined by 50% since the 1960s. Wild bee species are declining due to habitat loss, pesticide use (particularly neonicotinoids), pathogens (Varroa mite, Nosema), and climate change. Since 2006, beekeepers have reported annual colony losses averaging 30–40% (Colony Collapse Disorder).
- **Monarch Butterfly:** The iconic North American monarch — whose migration is one of the natural world's most remarkable events — has declined 80–90% from its peak population. Loss of milkweed habitat (from herbicide use), logging of Mexican wintering forests, and climate disruption of migration cues are primary causes. Listed Endangered by IUCN in 2022.
- **Pesticides:** Neonicotinoid insecticides are systemic — absorbed into all plant tissues including pollen and nectar. Meta-analyses have confirmed sublethal effects on bee navigation, foraging, reproduction, and immune function. The EU has banned outdoor neonicotinoid use; regulatory action in the US has been slower.

■ Environmental Stewardship and Success Stories

Recovery is possible when communities and governments commit to it:

- **Costa Rica:** In the 1980s, Costa Rica had one of the world's highest deforestation rates. Through Payments for Ecosystem Services (PES) — paying landowners to protect rather than clear forest — forest cover recovered from 21% (1983) to over 57% by 2019. Biodiversity, tourism revenue, and carbon sequestration all increased.
- **Atlantic Forest, Brazil:** The Atlantic Forest was reduced to less than 12% of its original extent. Multi-stakeholder restoration initiatives have planted millions of trees, with documented recovery of Golden Lion Tamarins, Muriqui monkeys, and endemic bird species.
- **European rewilding:** Programs in Scotland (Caledonian Forest), Netherlands (Oostvaardersplassen), and Spain are reintroducing lynx, wolves, wisent (European bison), and beavers to degraded landscapes, restoring ecological function.

■ Final Summary

The land under our feet is under unprecedented pressure — but it is not lost. Deforestation can be halted. Wildfires can be managed. Pollinator habitat can be restored. The choices we make as consumers, voters, and community members determine what the world's forests, grasslands, and farms will look like for the generations that follow us.

■ Related XVC Guides:

- [WLD_07: Climate Change and Wildlife](#)
- [WLD_08: Ocean Threats](#)
- [WLD_18: NYC Urban Pollinators](#)
- [WLD_23: How You Can Help](#)



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