

Facing global issues



Hi there! This is Earth speaking. Will you spare a moment to listen to me? I have some very important things to discuss.

We must face up to some urgent environmental problems! All living things depend on my environment, but the way you humans are living at the moment, I will not be able to keep looking after you.

The issues I am worried about are:

- the huge number of people on Earth
- the supply of clean air and water
- wasting resources
- energy supplies for the future
- protecting all living things
- **global warming and climate change.**

My global challenge to you is to find a **sustainable** way of living. Read on to find out what people around the world are doing to try to help.

Fast fact

In 2005, the **United Nations Environment Program** Report, written by experts from 95 countries, concluded that 60 per cent of the Earth's resources are being **degraded** or used unsustainably.

What's the issue?

Loss of biodiversity

Biodiversity is the variety of living things in a **habitat**. Biodiversity is measured by counting the number of **species** in an area. Areas with a large number of different species are said to have high biodiversity.

Today, huge numbers of species of living things are rare, **threatened**, or becoming **extinct**. The speed of this loss of biodiversity is alarming.

The importance of biodiversity

It is important to protect biodiversity because:

- biodiversity keeps Earth's **ecosystems** in balance
- Earth's **climate** is influenced by ecosystems and biodiversity
- species loss may impact other species
- species that are useful to people are being lost
- each living thing has a right to survive.

Known species on Earth

The number of species identified and described by science is constantly increasing.



The Earth is rich in biodiverse habitats, such as this forest in the United States.

| Group of living things | Number of known species in group |
|---|----------------------------------|
| Bacteria | 9000 |
| Simple microscopic life | 80 000 |
| Vertebrates (animals with backbones) | 58 000 |
| Invertebrates (animals without backbones) | 1 305 000 |
| Fungi | 72 000 |
| Plants (flowering and non-flowering plants) | 310 000 |
| Total described species | 1 834 000 |
| Possible total (including species still to be discovered) | 14 000 000 |

Biodiversity issues around the globe

The loss of biodiversity is due to many causes. Around the globe, issues that are affecting biodiversity include:

- land clearing leading to loss of habitats (see issue 1)
- **introduced species** pushing out local species (see issue 2)
- large **mammals** being particularly threatened or endangered (see issue 3)
- threats to ocean life in **marine** habitats (see issue 4)
- areas that are rich in species found nowhere else needing urgent protection (see issue 5).

Fast fact

Today plant and animal species are becoming extinct much faster than during the extinctions 64 million years ago that killed the dinosaurs.

ISSUE 2

New York

Introduced species pushing out native species. See pages 12–15.

ISSUE 5

New Zealand

A biodiversity hotspot needing protection. See pages 24–27.

ISSUE 1

The Amazon

Land clearing, removing and changing natural habitats. See pages 8–11.

ISSUE 3

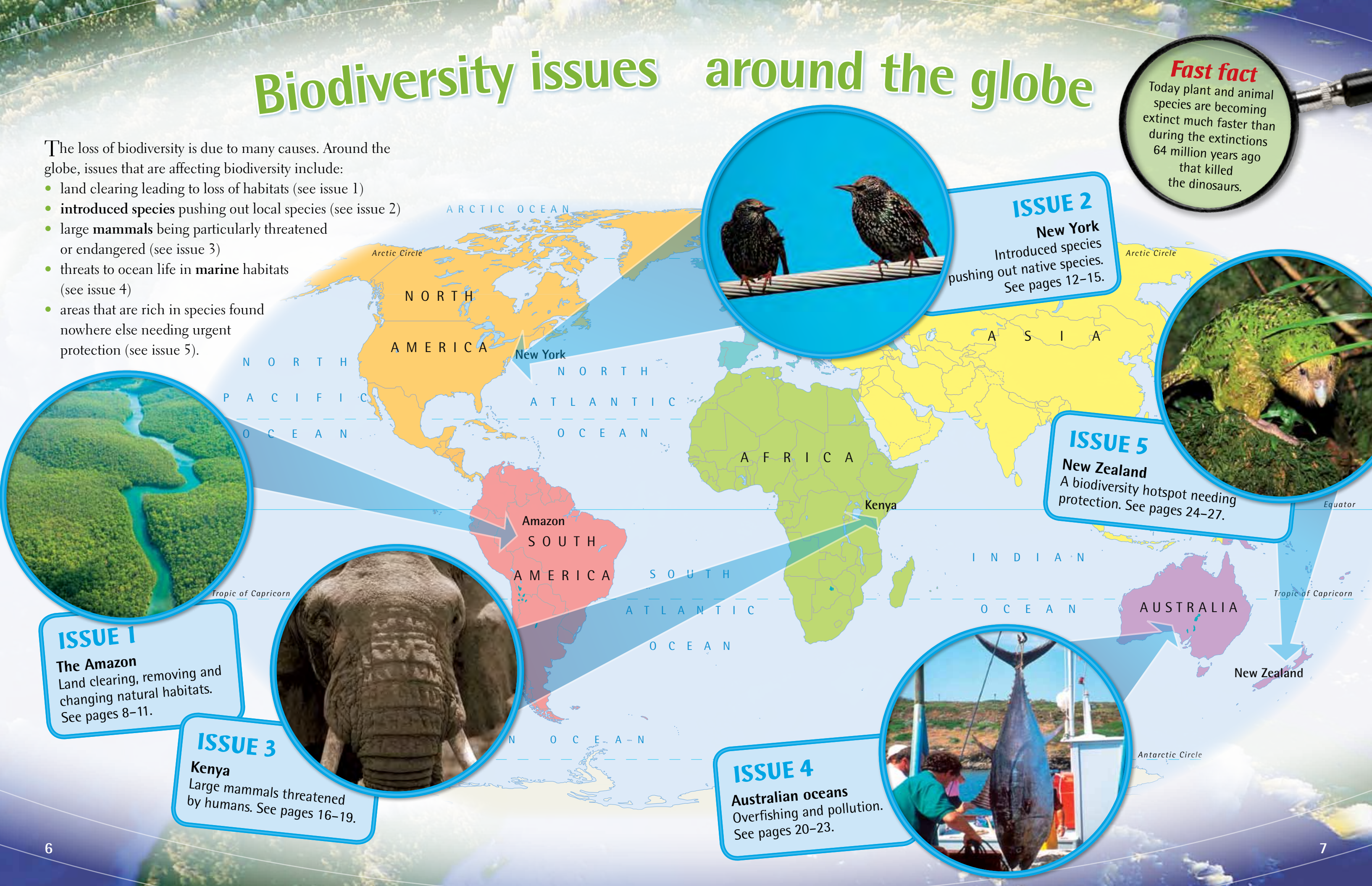
Kenya

Large mammals threatened by humans. See pages 16–19.

ISSUE 4

Australian oceans

Overfishing and pollution. See pages 20–23.



Land clearing

Land clearing is removal of plants that cover the land. Today, land is being rapidly cleared to build homes, cities and roads, to create new farmland and to log useful timber. Land clearing is the major cause of loss of biodiversity today.

Habitat destruction

The plant covering of the land provides food and homes for living things on the land. When large areas of habitat are cleared, a decline in the number of species in that area follows.

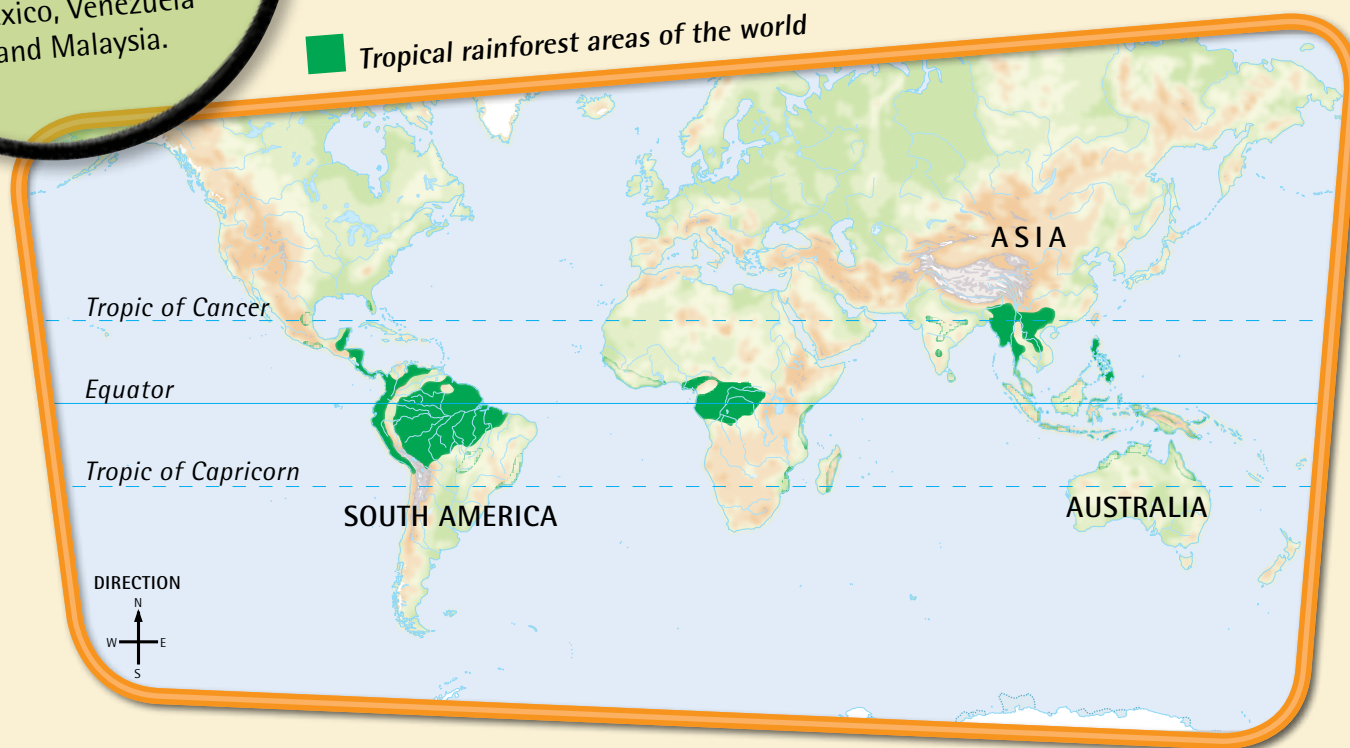
Clearing rainforests

Land clearing in rainforests poses a serious threat to biodiversity on Earth. Rainforests have the richest biodiversity of all land habitats. They are home to about half of all known plant and animal species.

Fast fact

Most of the clearing of rainforest today occurs in Brazil, Indonesia, Democratic Republic of the Congo, Bolivia, Mexico, Venezuela and Malaysia.

Tropical rainforest areas of the world



CASE STUDY

The Amazon rainforest

The Amazon rainforest, in South America, is the largest area of tropical rainforest in the world. It covers more than 6 million square kilometres surrounding the 6400 kilometres of the Amazon River.

Life in the Amazon

The Amazon is very rich in biodiversity. Much of the area has not yet been studied, and there are many species still to be discovered by scientists. A typical area of 10 square kilometres may contain more than 1500 plant species, 700 animal species and thousands of insects.

Some living things from the Amazon

| Plants | Animals | |
|------------------|----------------------------------|-----------|
| palm trees | deer | monkeys |
| rubber trees | tapirs | anteaters |
| mangroves | armadillos | capybaras |
| ferns | freshwater dolphins | |
| orchids | toucans, macaws and hummingbirds | |
| lianas and vines | | |

Threats

Today damage caused by clearing for farms, logging and fires are serious threats to species diversity. Since the 1960s, governments controlling the Amazon rainforest encouraged use of the area under the slogan 'Land without men for men without land'.

Farming in cleared areas enables meat to be produced cheaply for export. However, in just a few years, cattle farming depletes nutrients in the soil and causes erosion. More land is then cleared.

Fast fact

It has been estimated that of the forest lost in the Amazon, 34 per cent has been used for logging roads, loading bays, and bulldozer tracks.



Despite problems of erosion, the rate of clearing in the Amazon rainforest is still rapidly increasing.