10 ecological issues affecting wildlife today

By Dr. Jo Pye

In the last 50 years, ecological issues have caused wildlife populations to decline by an average of more than two thirds. This is mainly because human activities have put the natural environment under the destructive human activities and the effects of climate change. To protect biodiversity and encourage wildlife populations to recover, we need to make coordinated global changes on land and at sea.

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Caption: Elephants are threatened by habitat loss and fragmentation. © Jo Pye

IFAW is a conservation and welfare organisation dedicated to creating a world where animals and people live in harmony and thrive. We rescue animals in crisis, protect their habitats and ensure they are protecting wildlife and the planet we call home. Through education, awareness, and direct action, we work with communities, governments, organisations, and businesses to inspire lasting change for the benefit of animals and the world.

In this blog, we explore 10 of the most pressing ecological issues affecting wildlife, highlighting the immediate need for humans to change their interactions with the environment, both on a local and a global scale.

10 serious ecological issues affecting wildlife

From pollution to overfishing, a range of ecological issues are contributing to lasting and escalating changes to our wildlife populations.

1. Climate change

Climate change refers to long-term shifts in our climate and weather patterns. Some of these changes are natural, such as fluctuations in solar activity, but since the industrial revolution, human activity has been the main factor driving climate change. Our extensive use of fossil fuels has released excess greenhouse gases into the atmosphere, raising temperatures globally by 1.2°C (2.1°F) since 1850-1900.

Climate change threatens biodiversity through:

- **Habitat loss.** Higher temperatures affect animals' local vegetation, water, and food sources. This means many species are being pushed uncomfortable for certain species, leading to migration, population decline, or extinction.
- **Disasters.** Climate change has increased disasters like fires over the past 50 years, with wildfires, hurricanes, and droughts causing much of the destruction in recent years.
- **Increased human-wildlife conflict.** As habitats are lost, animals and people are forced to coexist in smaller spaces, with animals inevitably being perceived as a threat to our safety and property. This can lead to human and animal safety as well.
- **Extinction.** Climate change is expected to the most severe impacts of climate change face the highest threat of extinction.

2. Deforestation

Deforestation is the clearing or thinning of forests to make the land suitable for other uses, such as agriculture, livestock farming or urbanisation. It is one of the leading ecological issues threatening biodiversity, shrinking and eliminating many wildlife habitats.

Australia's koala population is especially vulnerable to deforestation, as their diet consists exclusively of eucalyptus leaves. When these trees are cut down, koalas face malnutrition and starvation. As a result, koala populations are decreasing, and the species is now recognised as vulnerable on the IUCN Red List.

Similarly, the orangutan lives in rainforests, orangutans, deposed on the lush rainforests of Borneo and Sumatra to survive, spending up to 90% of their time in the tree canopy. A quarter of Borneo's rainforest, the habitat of over 267,000 orangutans could be lost by the next decade through deforestation, endangering these great apes.

Caption: Koala in a tree. © Jo Pye

3. Habitat fragmentation

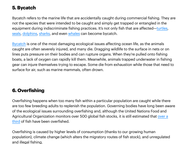
Habitat fragmentation refers to the breaking up of wildlife habitats into smaller pieces. This can happen due to roads, farms, or urban developments, which can isolate wildlife populations and hinder their movement and interactions. This fragmentation prevents wildlife from moving safely across the land, disrupting seasonal feeding patterns and migration. Forced into smaller spaces and separated from larger populations, species are exposed to stronger competition and face inbreeding, both of which may deplete their populations and threaten biodiversity.

Many species are more impacted by ecological issues associated with habitat fragmentation. Here are just a few examples:

- African elephant elephants' territories have been shrunk by human land use. These animals typically need spaces of over 30,000 square kilometres to roam.
- African wild dogs' hunting ranges have been interrupted by human settlements.
- Bears are losing grizzly grounds due to agriculture and urban development.
- Black rhinos are being forced to live in smaller areas, lowering their breeding rates and increasing levels of disease.
- Caribou face difficulty migrating, feeding, and breeding due to human development in their habitat.

Caption: Grizzly bears are losing their grounds to human development. © Jo Pye

4. Poaching



Caption: Elephants are threatened by poaching. © Jo Pye

Poaching is defined as the illegal hunting or live capture of any wild animal that you do not own. It is a serious crime in most cases, poaching has become a sophisticated and large-scale operation, driven by financial gain. It is a major threat to many wildlife species as pets, traditional medicine ingredients, and luxury items, as well as the large fees paid to poachers for their services. Unfortunately, many of the animals most prized by humans are also the most vulnerable, including elephants, gorillas, lions, elephants, and rhinos.

Of all the ecological issues discussed here, poaching is particularly complex because, in some cases, poachers are driven to poach because they are living in poverty and struggling to feed their such communities, we need to prevent poachers, support alternative livelihoods for poachers so they can find more wildlife-friendly income streams and support rangers, who work on the front lines to prevent wildlife crime.

Caption: A Cape Buffalo herd. Many species are threatened by disease. © Jo Pye

5. Bycatch

Bycatch refers to the marine life that are accidentally caught during commercial fishing. They are not the species that were intended to be caught and simply get trapped or entangled in the equipment. Unfortunately, this bycatch includes many of the fish that are affected—turtles, seals, dolphins, and even whales can become bycatch.

Bycatch is one of the most damaging ecological issues affecting ocean life, as the animals caught can be injured, stressed, and even die. Dragging wildlife to the surface in nets or on lines puts pressure on their bodies and can rupture organs. When they're pulled onto fishing boats, a lack of oxygen can kill them. Animals which survive trapped underwater in fishing gear can injure themselves trying to escape. Some die from exhaustion while those that need to surface for air, such as marine mammals, often drown.

Caption: Bycatch affects many species, including whales. © Jo Pye

6. Overfishing

Overfishing happens when too many fish within a particular population are caught while there are too few left behind to allow them to replenish the population. Overfishing has been a long-term issue of the ecological issues surrounding overfishing and, although the United Nations Food and Agricultural Organization oversees over 200 global fish stocks, it is still estimated that over a third of fish have been overfished.

Overfishing is caused by higher levels of consumption (thanks to our growing human population), climate change (which alters the migratory routes of fish stocks), and unregulated and illegal fishing.

Overfishing impacts biodiversity because, as large fish populations become depleted, fishermen need to cast their net further and further to find the same amount of fish. This can damage habitats, including coral reefs, and lead to bycatch (see above) and other issues in food webs and ecosystems. One issue with fishing in deeper waters is the high bycatch rate—the parts of the ocean that lie outside of national jurisdiction—are mostly not protected by law. This is why IFAW is advocating for the ratification of the High Seas Treaty, which would enable Marine Protected Areas to be established in these large swaths of the sea.

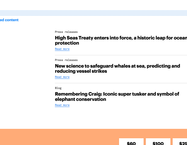
Sharks are often overfished and killed for their fins, pushing some species towards extinction. For rare a decade, IFAW has been working with member countries of CITES to limit the shark trade, ensuring it is sustainable.

Caption: Overfishing affects many species, including sharks. © Jo Pye

7. Pollution

Pollution occurs when harmful materials, called pollutants, are released into the environment. Human activities are the main source of pollution, and it can take many forms, with consequences for much of the pollution damaging the land, water, and air. We create pollutants like car fumes and smoke that pollute the air, plastics and other discarded trash that pollute the water, and sewage, industrial waste, and pesticides that pollute the land and eventually the waterways. Noise pollution is also a major issue impacting marine animals like whales.

No wildlife is safe from the damaging ecological issues of air and water pollution. Air pollution can alter the behavioural patterns of migratory animals, while chemical pollutants in bodies of water can harm animals' health, causing them to grow sick and even die. Microplastics, for example, their system by using them contaminated with industrial pollutants, can wildlife suffers immune, nervous system, and hormonal issues at the hands of pollution.



Caption: Pollution affects many species, including whales. © Jo Pye

8. Drought

Droughts, which can occur anywhere in the world, are prolonged periods of dry weather with a lack of precipitation, which can eventually lead to water shortages. Droughts can have a catastrophic effect on the health of animals and humans alike. The ecological issue impacts wildlife in many ways, including by reducing the availability of food and water and changing the migration patterns of many species, increasing the risk and severity of droughts.

Droughts can reduce water and food sources for bird animals, disrupting the local food web and hindering ecosystem recovery. This then leaves animals more prone to food insecurity. Wildfires are more common during droughts because the fuel—such as grasses and trees—becomes more dry and more prone to catch fire. Human wildlife conflict can arise as smaller areas of more hospitable land are shared.

One example of an ongoing drought that has severely impacted both people and wildlife is occurring in the horn of Africa region. Since 2020, the region has been experiencing extremely low rainfall, causing crops to fail and livestock to perish, threatening the food security of 36 million. Ardabesi accounted alone lost 5,000 wild animals from the drought, as of February 2022. Domestic livestock have also been severely impacted, leading to a loss of livelihood for many farmers.

In Zimbabwe, IFAW has partnered with ZimParks to found Save to Life, a project that provides communities facing severe drought with access to clean, safe water. Providing drought access to communities also benefits wildlife in that it reduces human-wildlife conflict that can occur due to resources being so limited.

Caption: Drought affects many species, including elephants. © Jo Pye

9. Oil and gas development

Not only do oil and gas release greenhouse gases into the atmosphere and pollute the air, but their industrial development also disrupts and displaces wildlife. It can be responsible for:

- Habitat fragmentation, which interferes with feeding and breeding
- Leaks and spills that damage ecosystems
- The introduction of invasive species, which threaten native species
- The alteration of habitats as roads and pipelines are brought into previously inaccessible areas
- Loss of vegetation and soil damage
- Reduced air quality due to emissions and dust

In addition, oil spills are notorious for their catastrophic impact on marine wildlife. The BP Deepwater Horizon spill of 2010 has allowed scientists to explore the far-reaching consequences of oil spills on marine ecosystems, showing that they permanently damage the ocean ecosystem, as well as initially harming tens of thousands of animals.

In December 2021, an oil spill in Italy impacted wildlife, including as many as 200 pilchard. A team consisting of IFAW and Wildlife Trust of India (WTI) experts provided rehabilitation and treatment to over 1,000 oil-affected birds. The team also conducted research into the impact of the spill. IFAW has also worked with local organisations in Lebanon and Kuwait, including Sanctuary Cedars Arabia, Sudan, Jordan, Yemen, and South Africa, training responders on how to safely and effectively care for oil-spill-affected wildlife.

10. Soil erosion and degradation

Soil erosion occurs when the top layer of the soil is worn away and shifted over time, changing the shape of the land. This can be a natural process, as forces such as water and wind strip away and move the topsoil. But it can also be caused by human activity.

Up to a third of the world's arable land is high degree of degradation. Soil degradation occurs when the soil's quality—and its potential to support plants and animals—diminishes. This includes chemical, physical, or biological changes that impact the soil composition, structure, and fertility, which can lead to soil degradation and the loss of natural processes that can also be useful to human activities, including farming and animal farming.

Soil erosion can become an ecological issue for wildlife because it decreases soil fertility, which can reduce the health and biodiversity of vegetation. Fewer plants also means there are fewer species to absorb carbon dioxide and prevent the effects of global warming. It's estimated that healthy soils could absorb up to 5% of all the greenhouse gas emissions made by humans annually.

Meanwhile, soil degradation also affects wildlife through increased landslides, which can destroy habitats, and desertification, as vegetation can no longer be supported by unhealthy soil.

Support IFAW's work to protect wildlife

Education, bold action, and practice support are at the heart of solving the ecological issues affecting wildlife. We need to work with local, national, and global leaders, engage the community action, governmental policy changes, and improved industry standards and initiatives.

Your donations help us take bold and decisive action, tackling issues at the source to help protect wildlife in a sustainable way. With your help, we can create a future where wildlife and their habitats can not only survive but thrive.

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