CARTOGRAMS

SPECIES AT RISK

BY BENJAMIN HENNIG

Trying to get a picture of where and how many species globally are endangered or even at risk of extinction is a difficult undertaking. Mapped here is data from the International Union for Conservation of Nature's (IUCN) Red List of threatened species including endangered and vulnerable species. The main cartogram shows countries resized according to all animal and plant species assessed as being at risk of local extinction. The two smaller cartograms highlight that conservation efforts have very different spatial degrees of severity, which also partly reflects the different geographical distribution of species.

Invertebrates – estimates range between 97 and 99 per cent of all animals on Earth – are essential elements of ecosystems as waste recyclers and include insects, crabs, crayfish, corals and molluscs. By far the largest group are insects (about a million species). In the cartogram, molluscs are not included in the data while marine species at risk are assigned to the nearest territory.

In the IUCN Red List, amphibians are identified as being 'the most threatened vertebrate group assessed [...] with around 41 per cent at risk of extinction.' Most locally threatened amphibians are observed in South America with the rain forests of Ecuador and Columbia particularly standing out from the cartogram.

For all figures presented here it is important to keep in mind that only a fraction of all known species are assessed with regards to their threat level. Many more remain unknown to mankind, some of which have become extinct in recent years without us even having realised they existed.

*Benjamin Hennig (**@geoviews**) is a senior research fellow at the University of Oxford. He maintains the visualisation blog **www.viewsoftheworld.net***

CONSERVATION

THREATENED HERITAGE

A third of all natural World Heritage Sites around the world are found to be 'under threat' from extractive mining

Of the world's 229 UNESCO Natural World Heritage sites, as many as 70 are 'currently subject to extractive activity in some form', according to the WWF. Such activity is firmly opposed by the World Heritage Committee, who re-affirmed in July 2015 that 'oil exploration or exploitation is incompatible with World Heritage status'.

'Some of the world's most treasured places are threatened by destructive industrial activities that imperil the very values for which they have been granted the highest level of international recognition: outstanding natural value,' says David Nussbaum, WWF-UK Chief Executive.

While Europe and North America combined have only ten per cent of their 71 World Heritage sites overlapped by extractive activity, that figure rises to as much as 61 per cent of Africa's 41 sites, a situation which Susanne Schmitt, Extractives and Infrastructure Manager at WWF-UK, blames on the lack of information accessible for some parts of the world over others.

'Some of the regional differences could well be due to the fact that there is either no data coverage or we don't have it,' reveals Schmitt. 'The lack of coverage is a mix of either government not providing it, or it being prohibitively expensive to buy. It looks like the US comes out smelling of roses, and I'm sure it's not – there have been threats to the Grand Canyon, and there was talk about mining licences being given out on the border of Yosemite National Park.'

The report highlights the Mesoamerican Reef in Belize, Doñana National Park in Spain, and Selous Game Reserve in Tanzania, as three case studies where recent extractive activity and spills have raised concerns about the consequential long-term health of the sites. It also draws attention to the example of Virunga National Park in the Democratic Republic of Congo, Africa's oldest nature reserve. A WWF campaign highlighted UK-based energy company SOCO International's plans to explore for oil after being granted concessions to access 85 per cent of the park. In the short term, the campaign appears to have put the brakes on SOCO's plans.

Schmitt stresses that the report puts the spotlight on potential threats to these sites, in response to criticism from some extractive companies who argue they are able to undertake their work without causing much damage. 'To our minds,' she says, 'if governments are prepared to give out concessions over World Heritage sites – and people are buying them – then that is a potential threat, whatever you say.'