

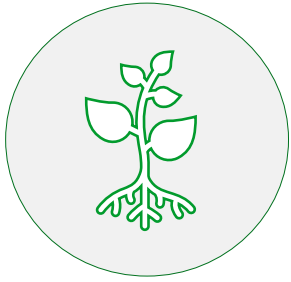
## Table of contents

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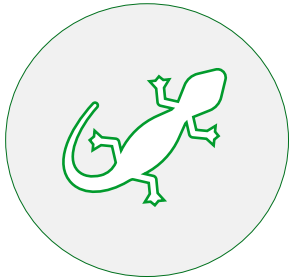
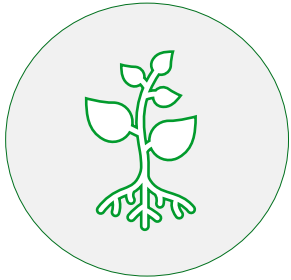
1. What is biodiversity?
2. How much biodiversity is there?
3. Status and trends of biodiversity
4. Threats
5. The importance of biodiversity
6. Future outlook



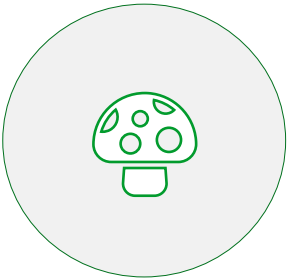
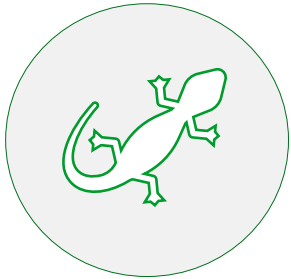
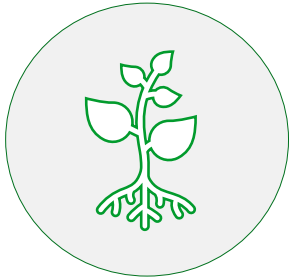
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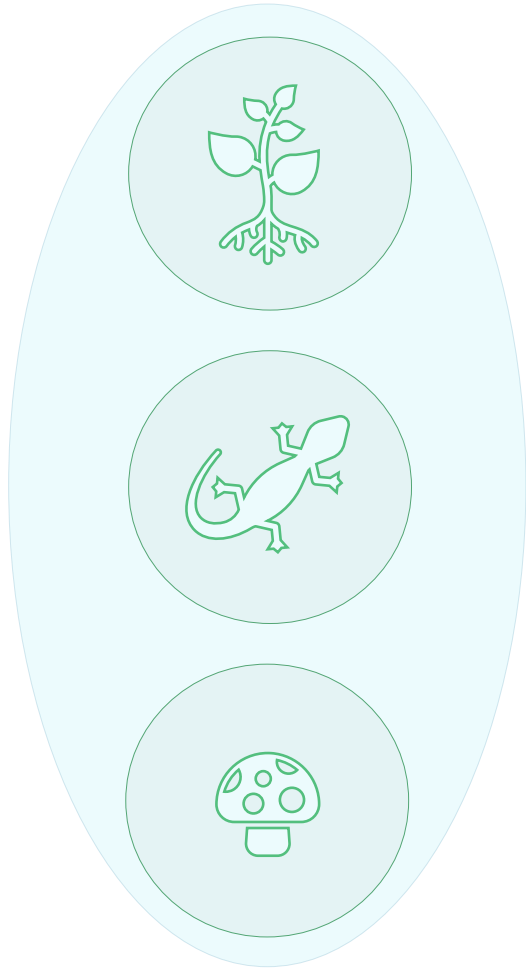
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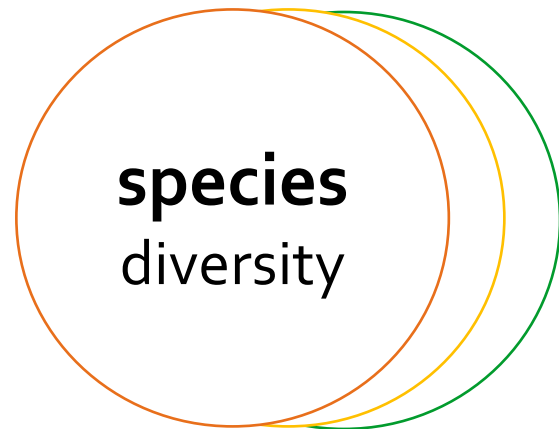


## Biodiversity: biological + diversity

» *Biological diversity means the variability among living organisms from all sources including, inter alia, terrestrial, marine and other aquatic ecosystems and the ecological complexes of which they are part; this includes diversity within species, between species and of ecosystems.*

Convention on Biological Diversity, art.2

# 1. What is biodiversity?





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**species**  
diversity

**genetic**  
diversity



# 1. What is biodiversity?



**species**  
diversity

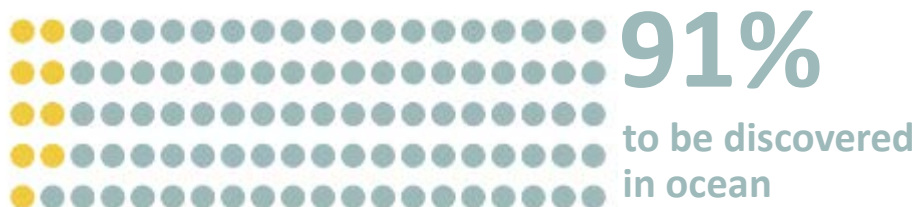
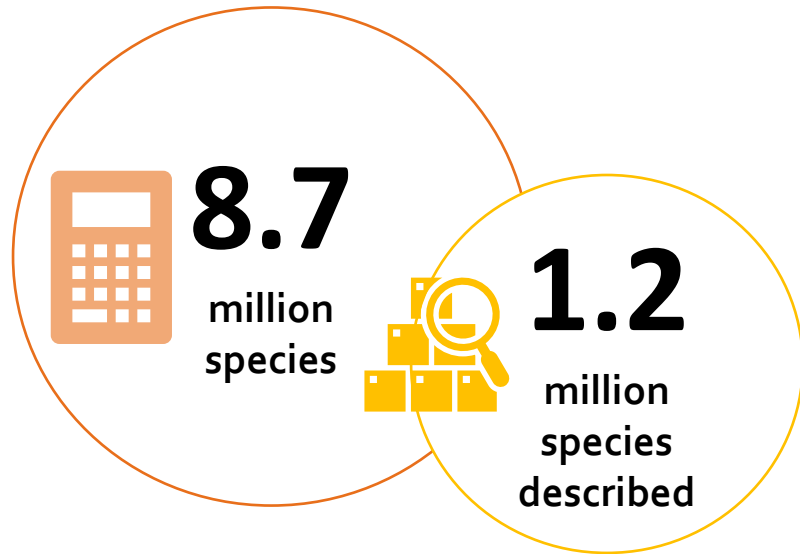
**genetic**  
diversity

**ecosystem**  
diversity

Photos: [Unsplash](#)

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## 2. How much biodiversity is there?



### 3. Status and trends of biodiversity

- » The IUCN (International Union for the Conservation of Nature) Red List of Threatened Species™
- » The IUCN Red List Index
- » The Living Planet Index
- » The IPBES (Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services ) Global Assessment Reports

### 3. Status and trends of biodiversity

- The IUCN Red List



The International Union for Conservation of Nature (IUCN)'s Red List of Threatened Species is considered the world's most comprehensive information source on the global extinction risk status of animal, fungus and plant species.

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**Only 120,000 species assessed**



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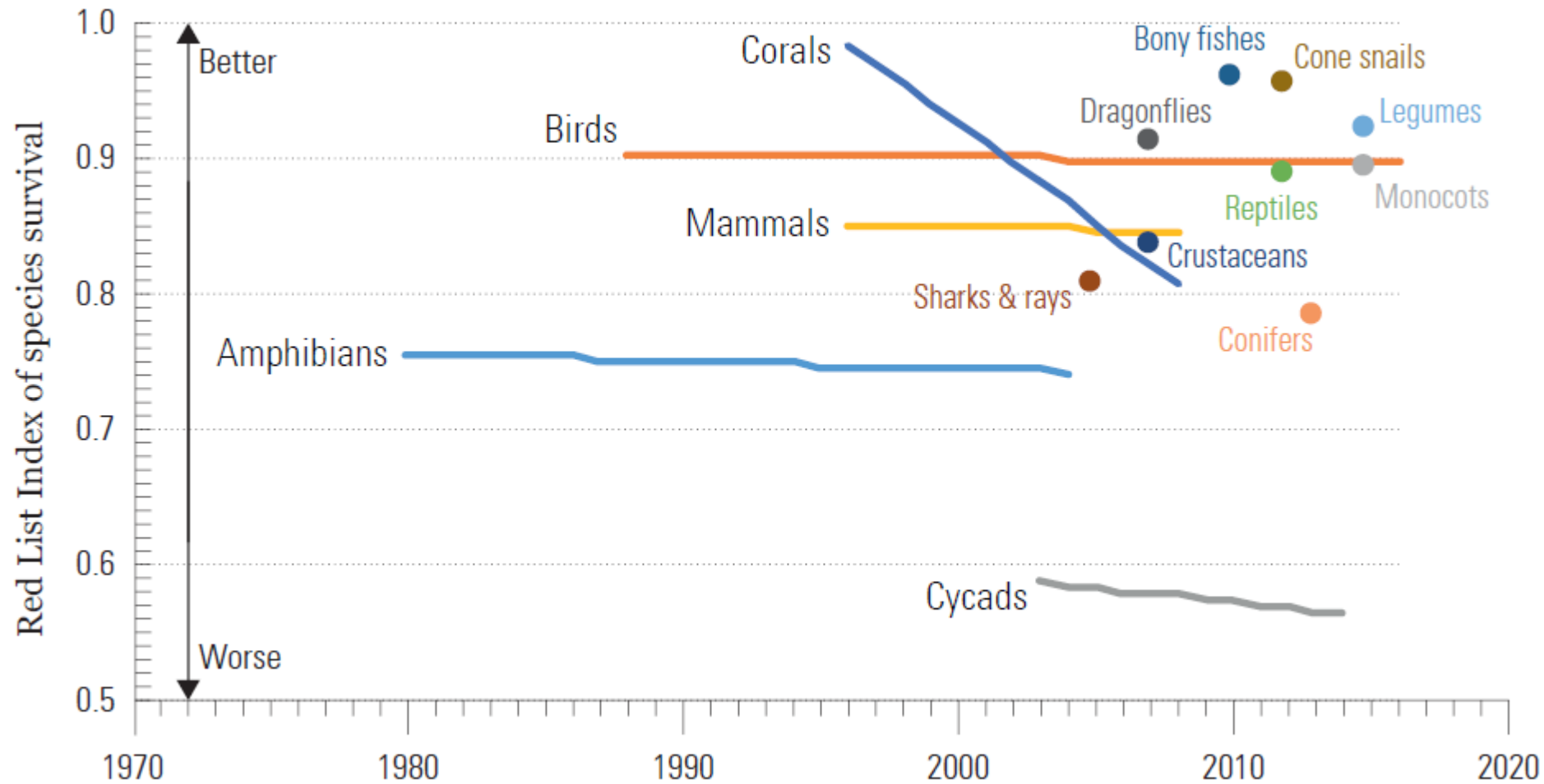
**More than 32,000 species  
are threatened with extinction**

That is still 27% of all assessed species.



### 3. Status and trends of biodiversity

- The IUCN Red List Index



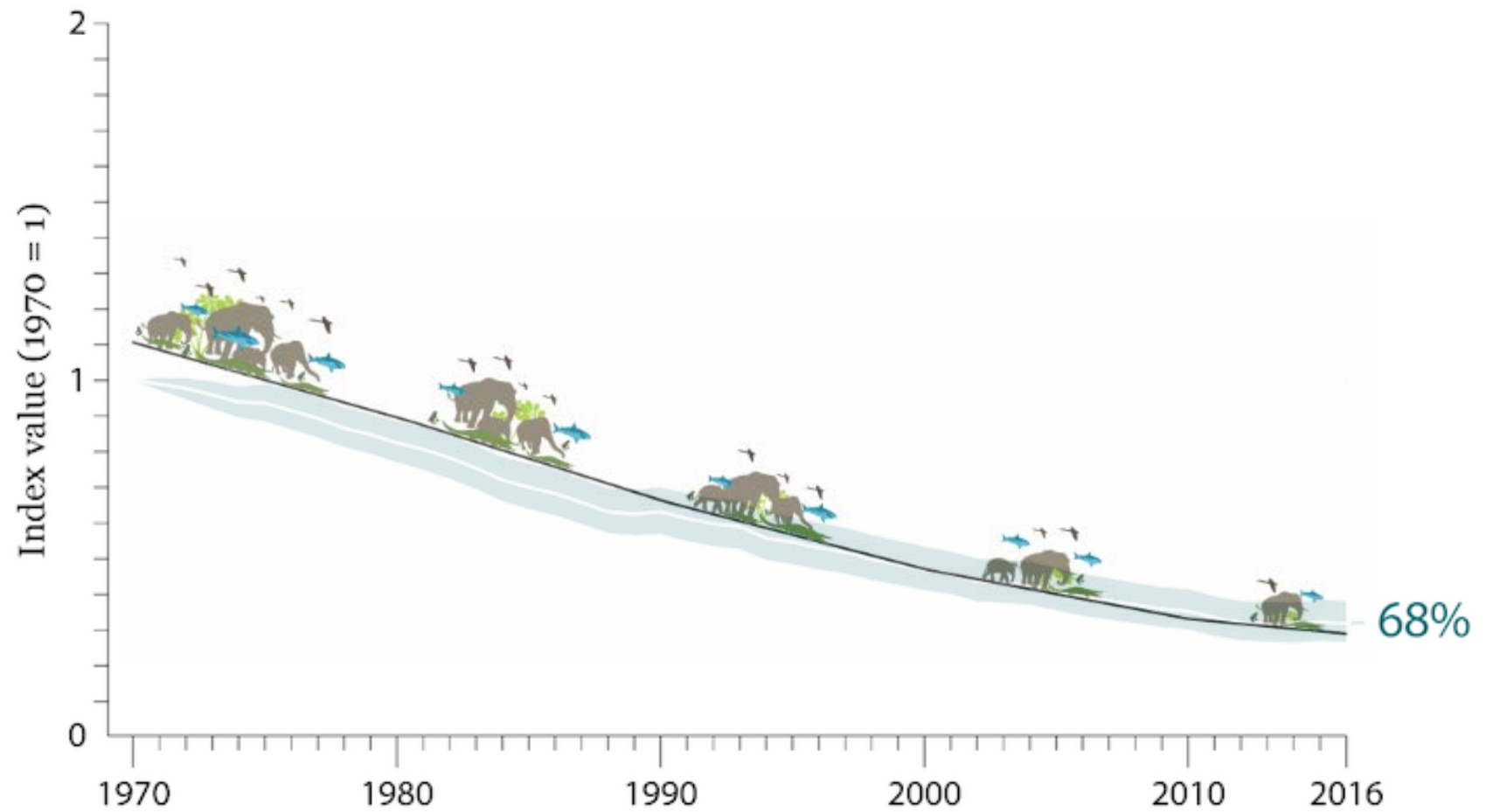
**Source:** WWF (2020) *Living Planet Report 2020 - Bending the curve of biodiversity loss*. Almond, R.E.A., Grooten M. and Petersen, T. (Eds). WWF, Gland, Switzerland.



### 3. Status and trends of biodiversity

- The Living Planet Index

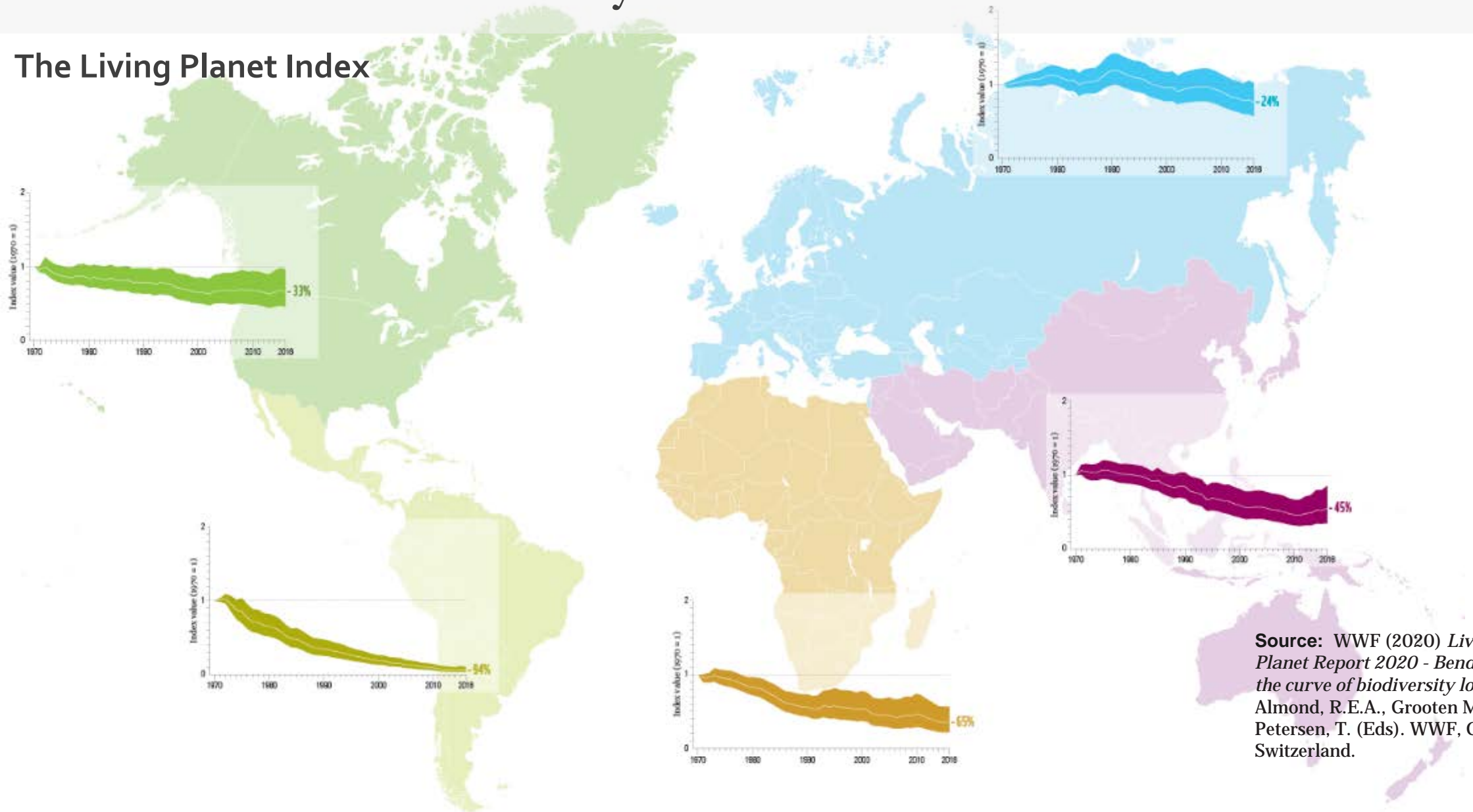
The population sizes of mammals, birds, fish, amphibians and reptiles records a decline of 68% in average population abundance since 1970.



**Source:** WWF (2020) *Living Planet Report 2020 - Bending the curve of biodiversity loss*. Almond, R.E.A., Grooten M. and Petersen, T. (Eds). WWF, Gland, Switzerland.

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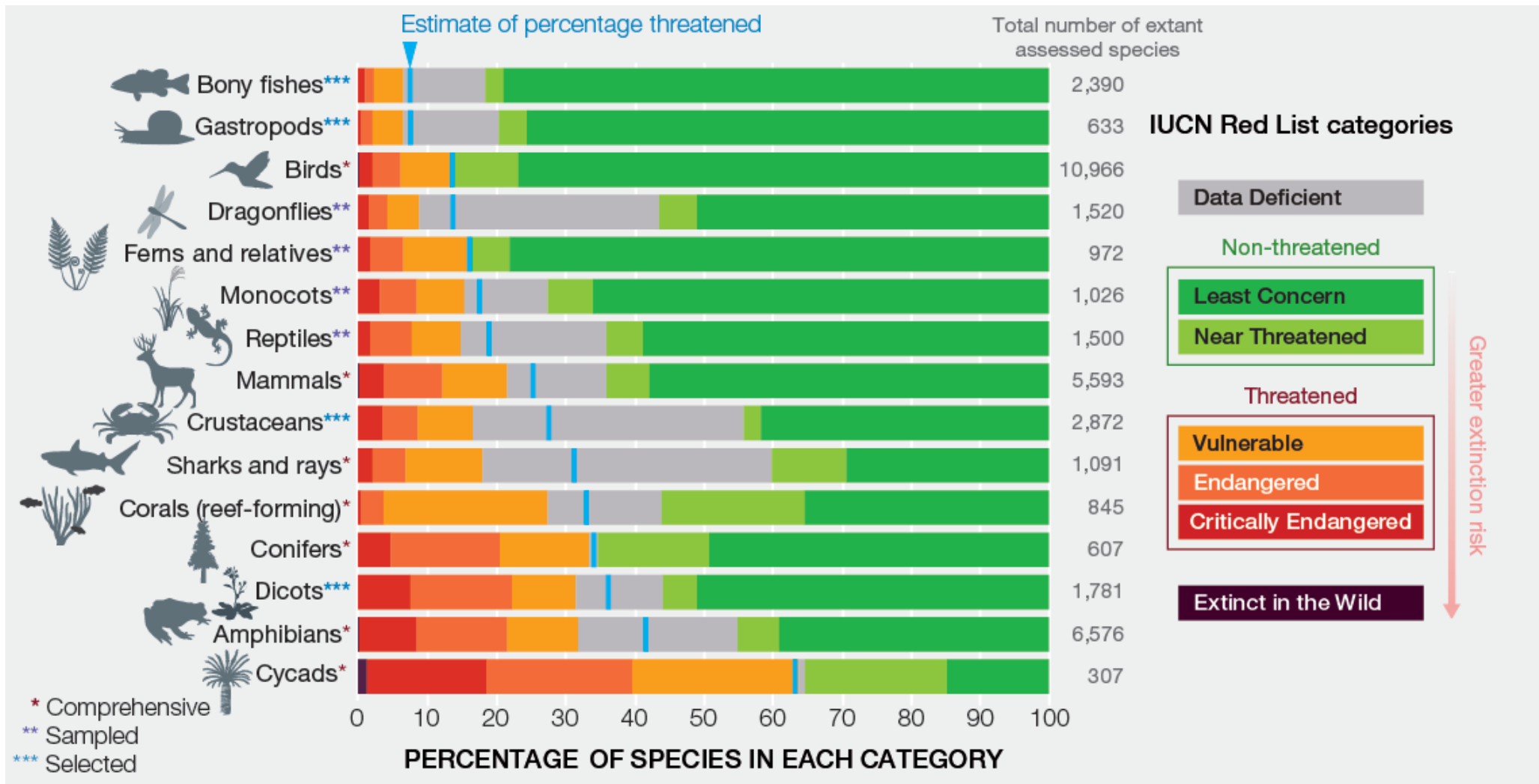
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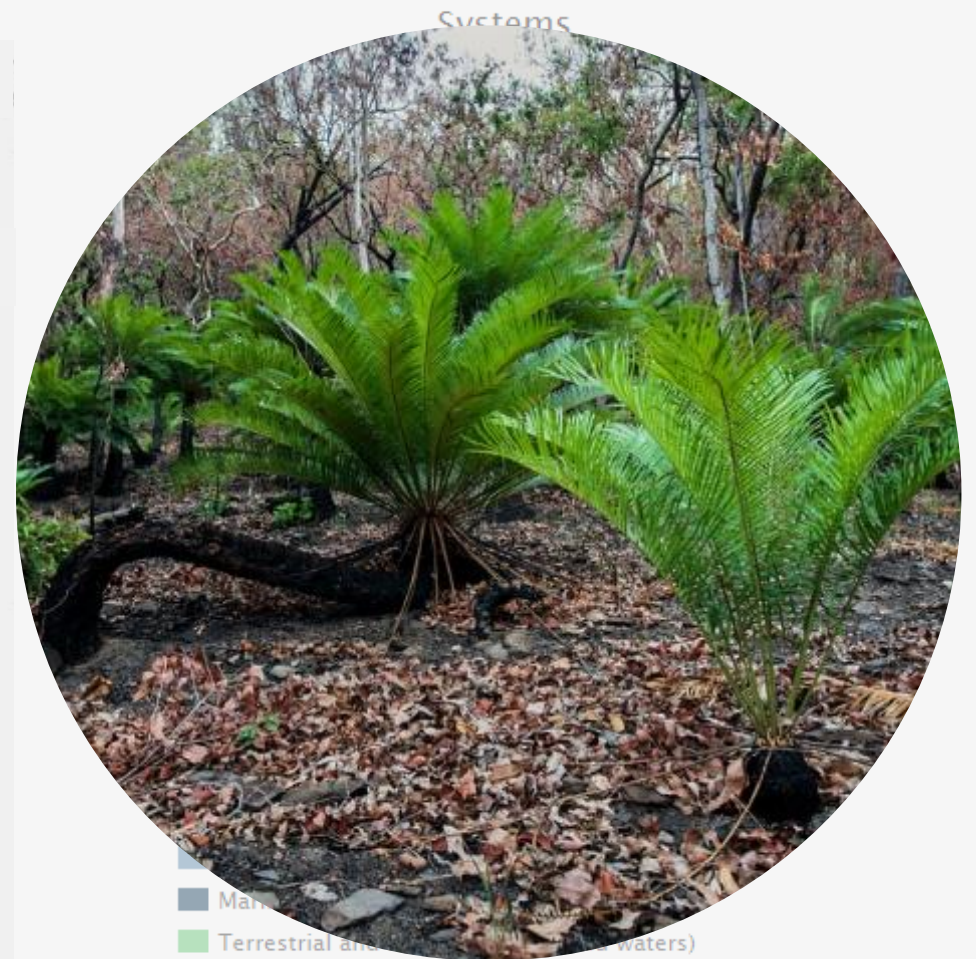
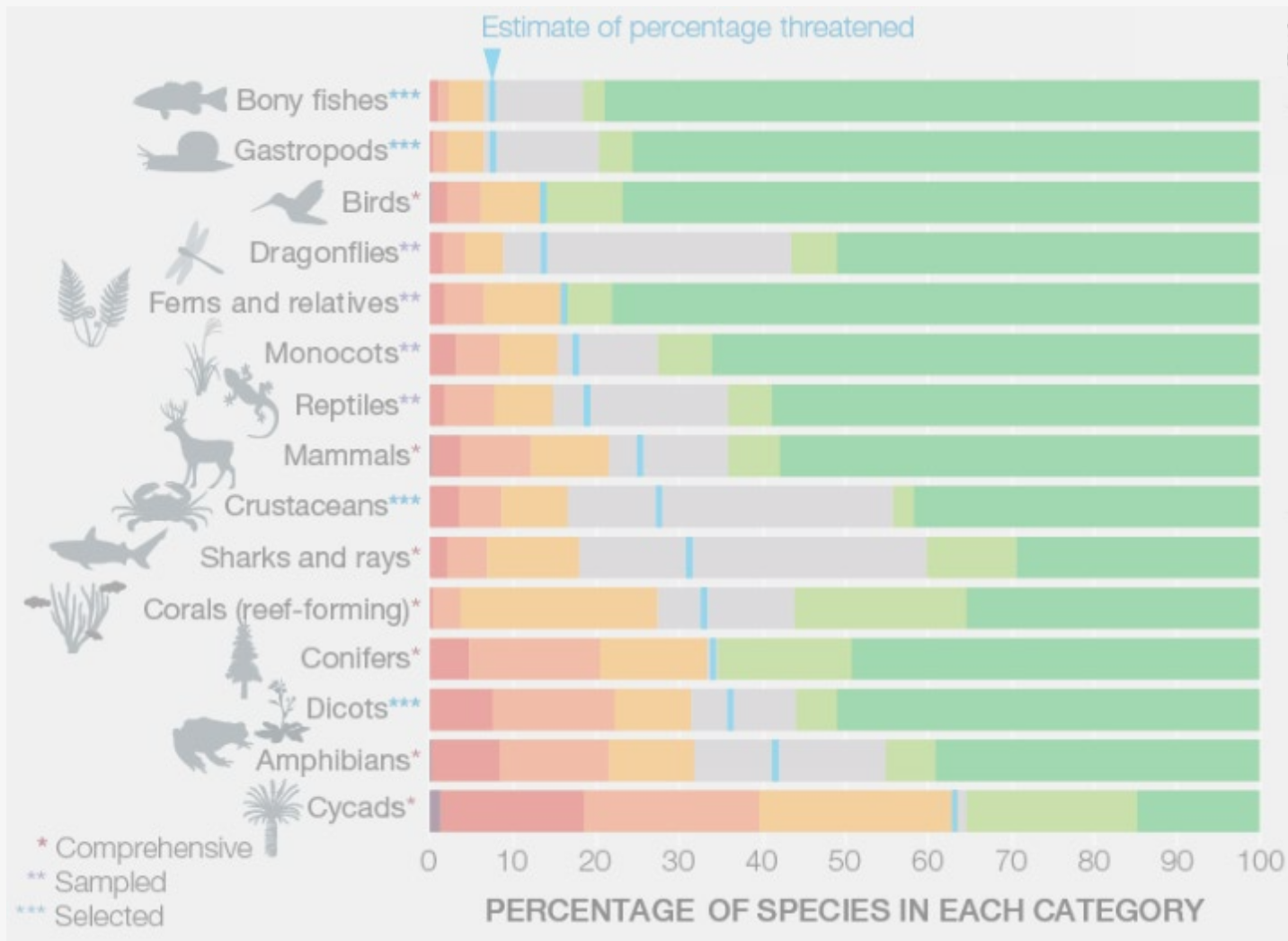
### 3. Status and trends of biodiversity

- IPBES Global Assessments



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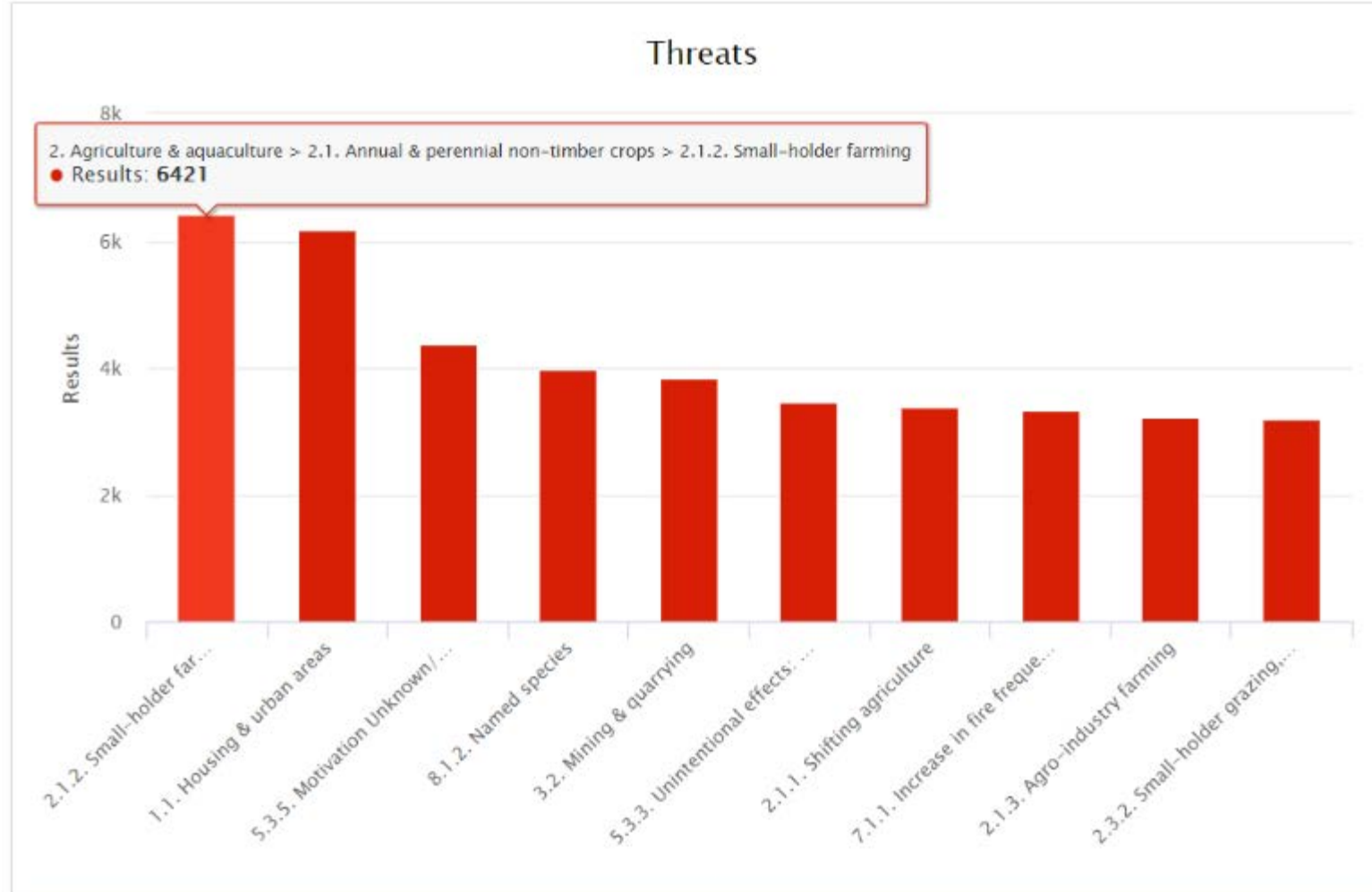


- Marine
- Terrestrial and Freshwater (=Inland waters)
- Freshwater (=Inland waters) and Marine
- Terrestrial and Marine
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Photo by [David Clode](#) on [Unsplash](#)



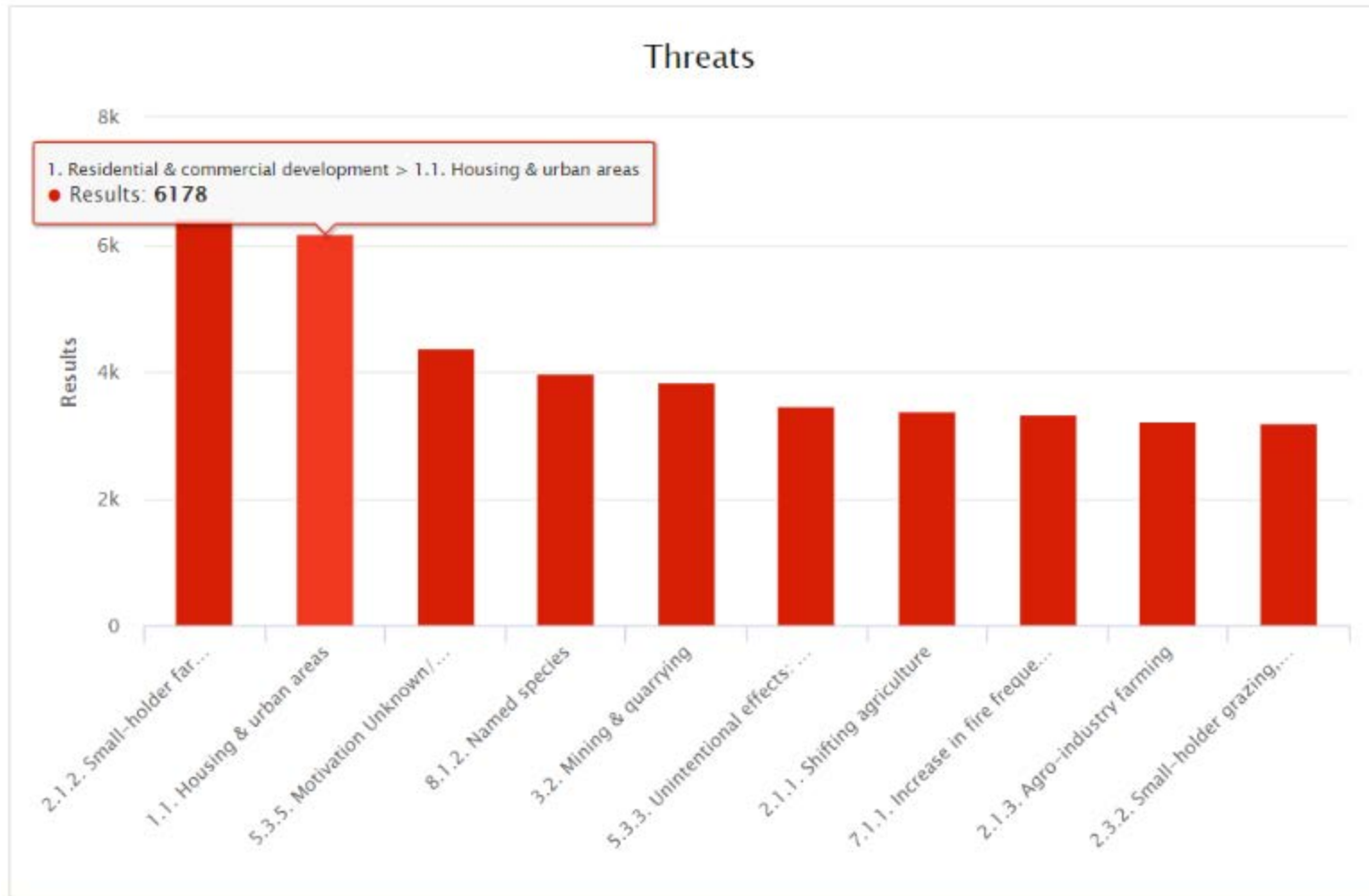
## 4. Threats



● Results: n° of threatened species

Source: IUCN 2020. The IUCN Red List of Threatened Species. Version 2020-2. <https://www.iucnredlist.org>. Downloaded on 04 Nov 2020.

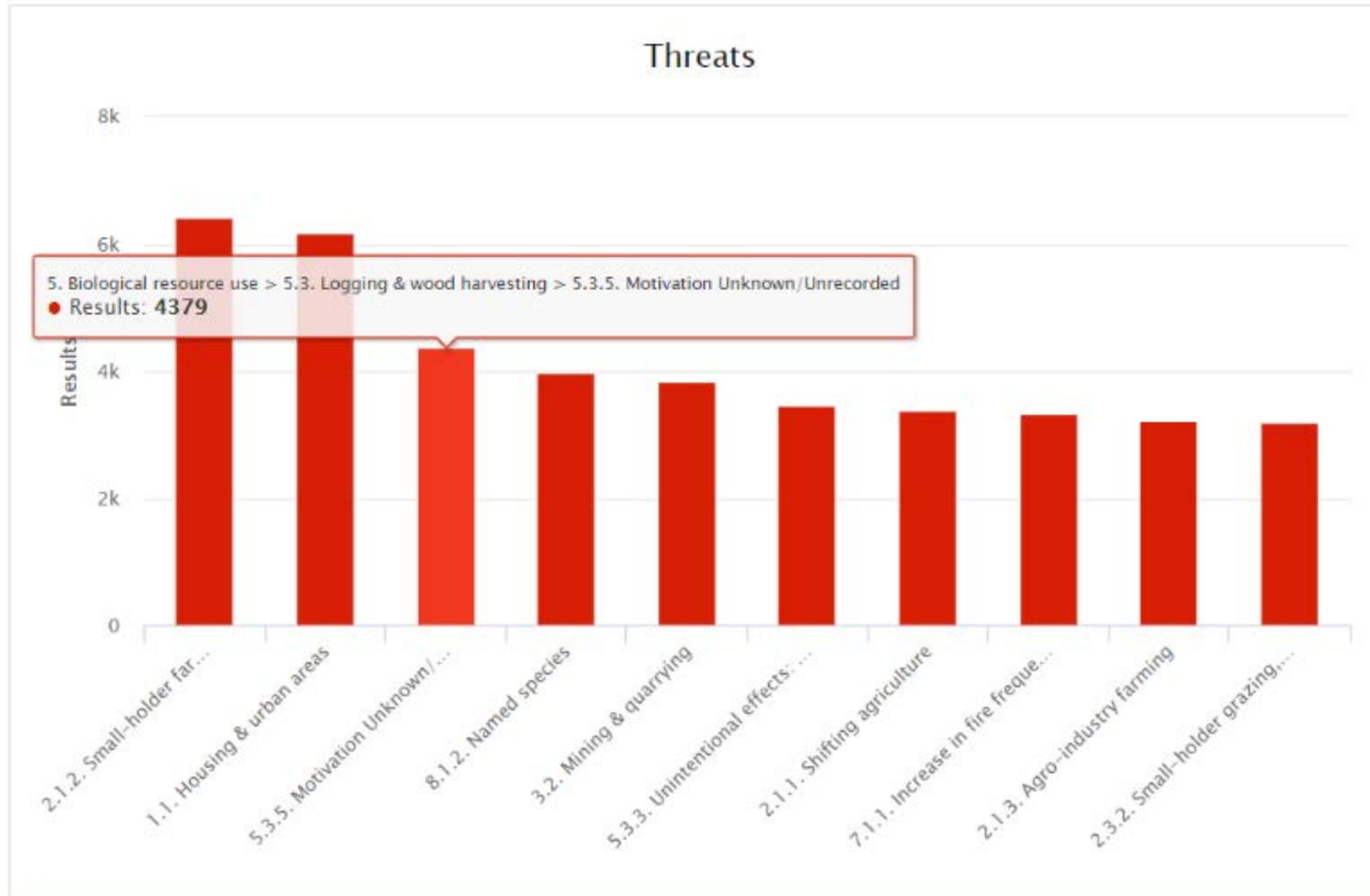
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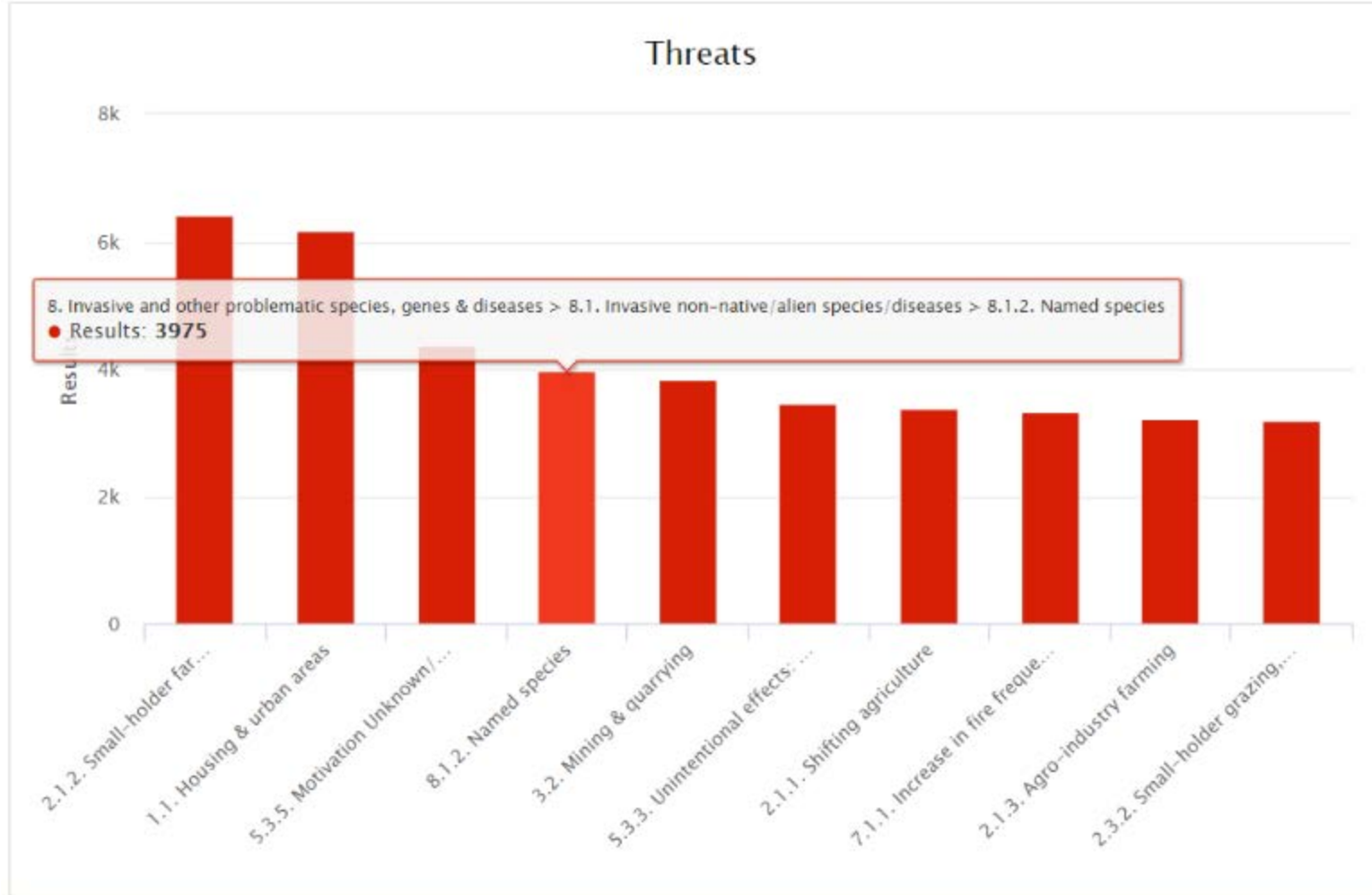


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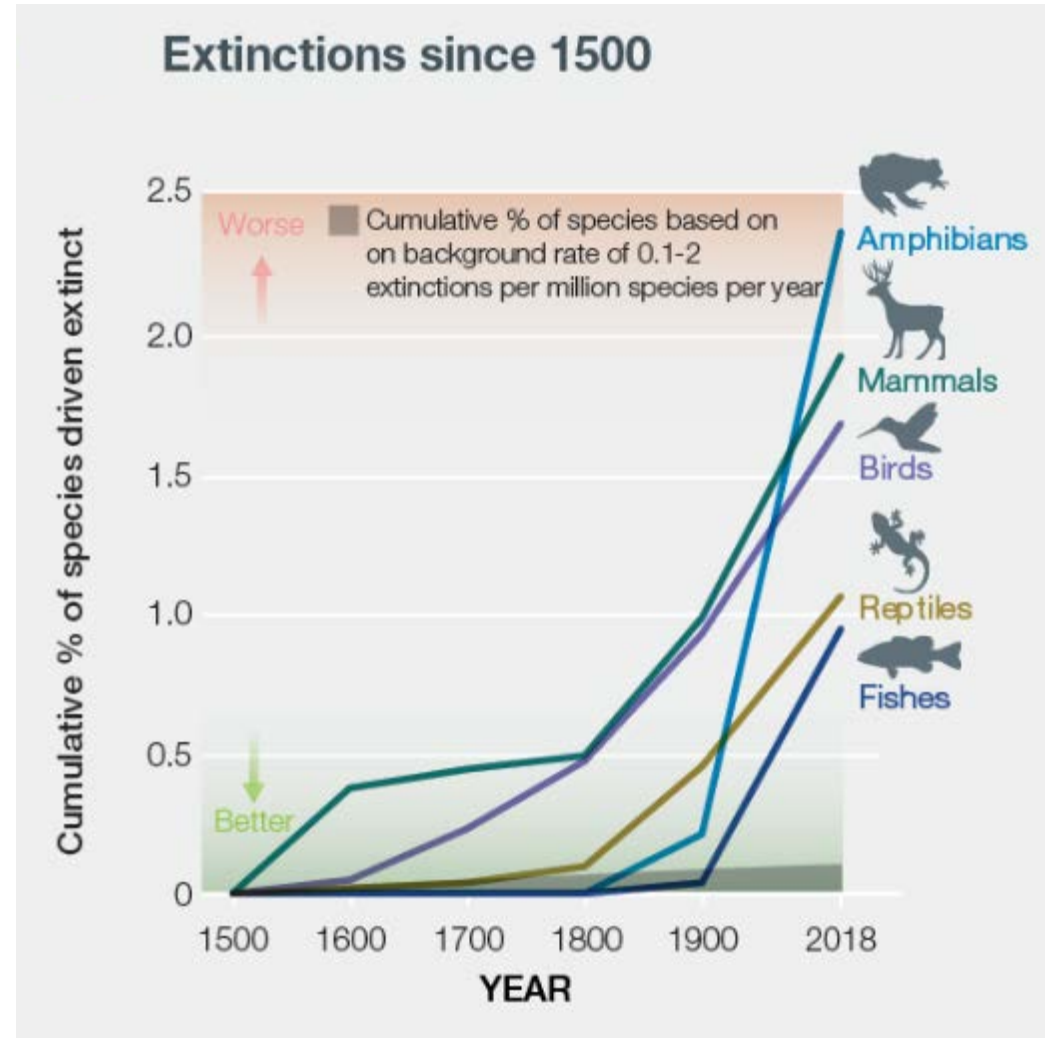
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## 5. Importance of biodiversity

“So what? Extinction is a natural process...”

Indeed, but not at this rate.

- Since 1970, the loss of species has been accelerating in a dramatic and serious way.
- Losing 'critically endangered' species could propel the world into a **sixth mass extinction**.



**Source:** IPBES (2019): Summary for policymakers of the global assessment report on biodiversity and ecosystem services of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services. IPBES secretariat, Bonn, Germany. 56 pages.

## 5. Importance of biodiversity

**“So what? Too bad. Sorry. Why would we be interested in saving a creature such as... this one?”**

**The case of the naked mole-rat**  
(*Heterocephalus glaber*)

- can live for an incredibly long time
- has an exceptional resistance to cancer
- could help us find a cure to cancer!



**Photo:** Jedimentat44 on flickr., CC BY 2.0 <<https://creativecommons.org/licenses/by/2.0/>>, via Wikimedia Commons

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- » Biodiversity, a vanishing library
- » Genetic loss is irreversible
- » Loss of opportunity

Photo by [Jaredd Craig](#) on [Unsplash](#)

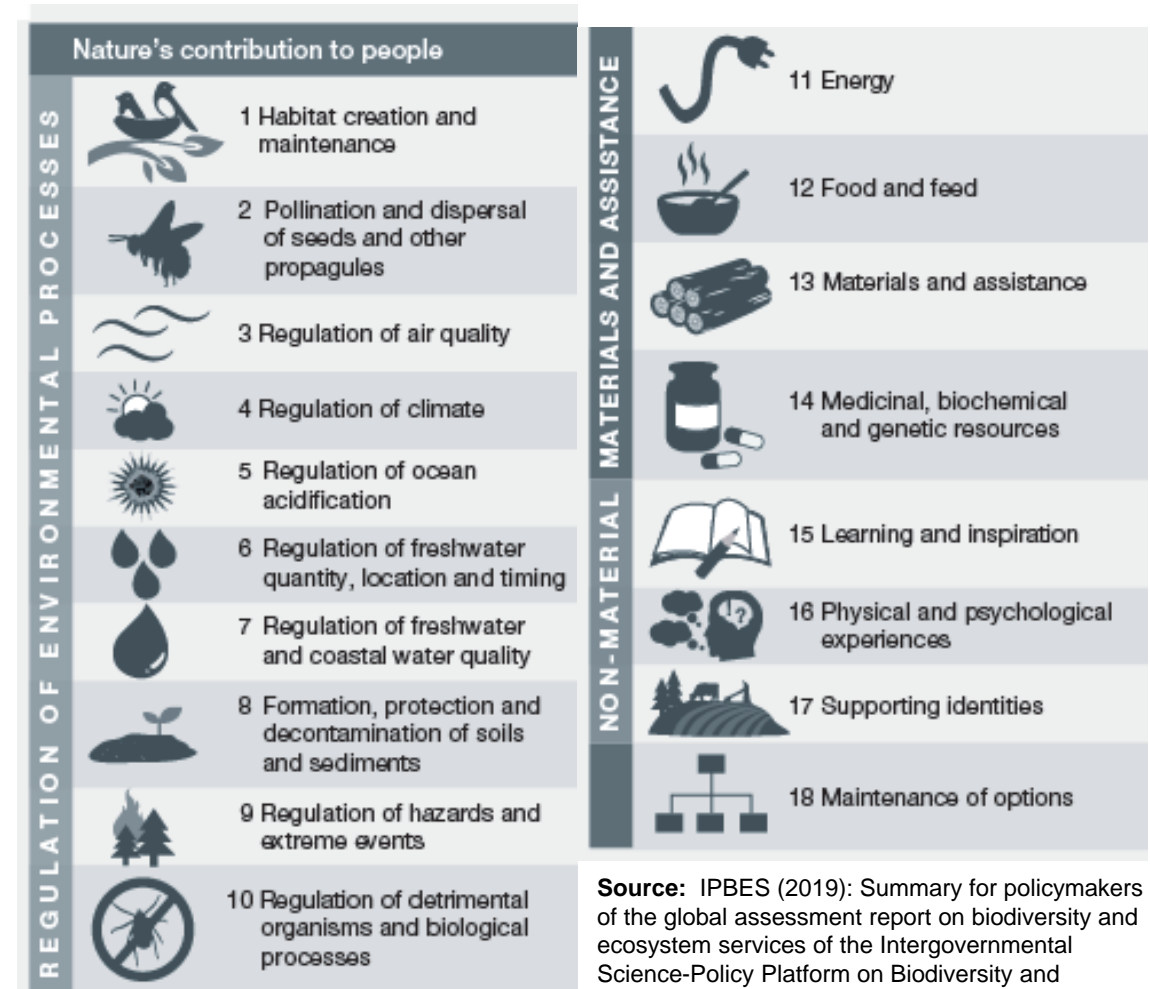




## 5. Importance of biodiversity

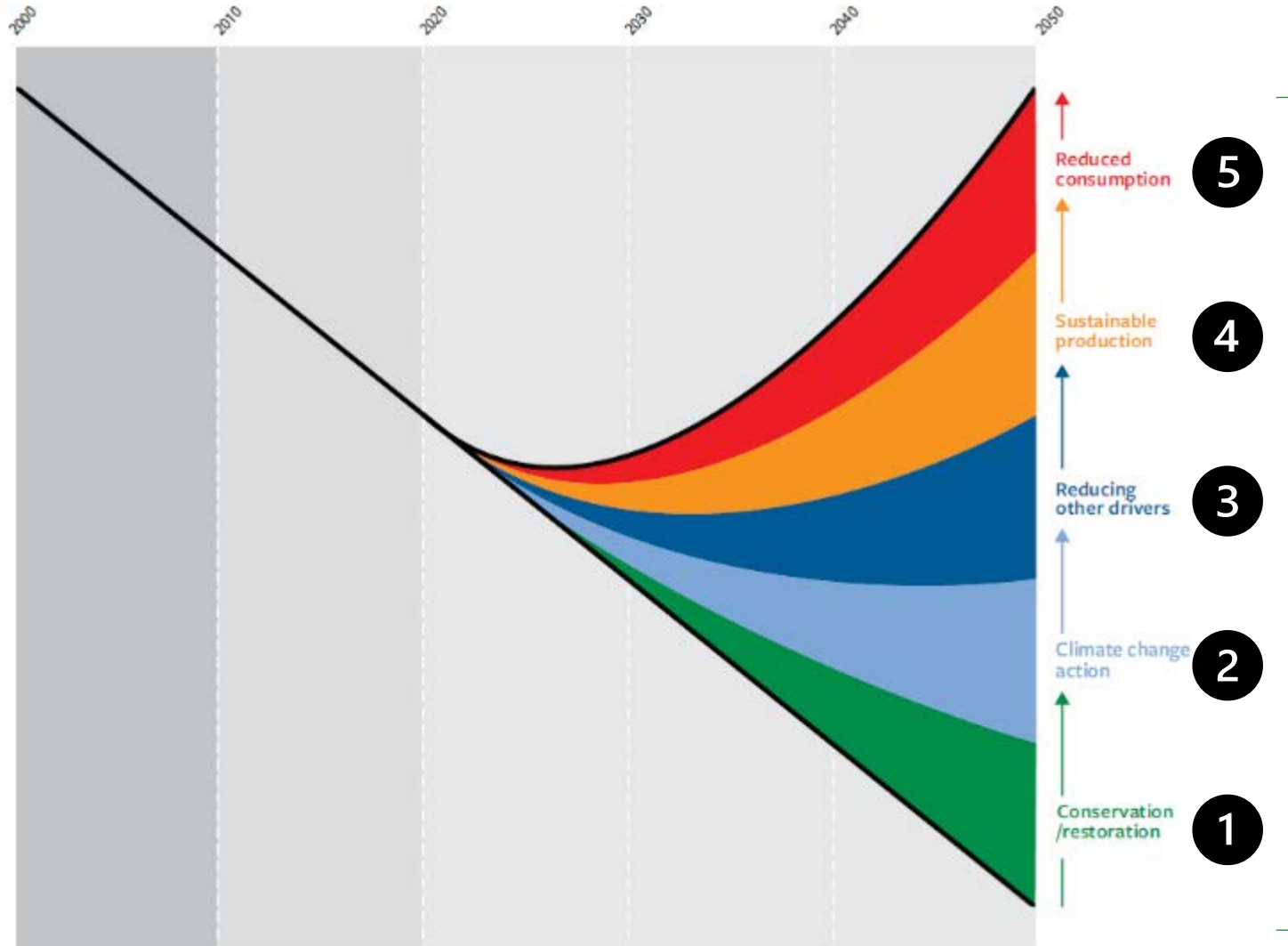
### Biodiversity is essential for human wellbeing

- 50% the approved drugs are derived from plants.
- All food systems depend on biodiversity. Biodiversity ensures the sustainable productivity of soils and provides genetic resources for crops, livestock and marine species.
- Healthy ecosystems also keep us safe: they guard against water-related hazards and disasters (i.e. mangroves against tsunamis).
- Having green spaces and trees in cities decreases hospital admissions, reduces stress and lowers blood pressure.
- The Economics of Ecosystems and Biodiversity (**TEEB**) estimated that investing US\$45 billion/year into protected areas alone could secure a return of ecosystem services worth US\$5 trillion a year.



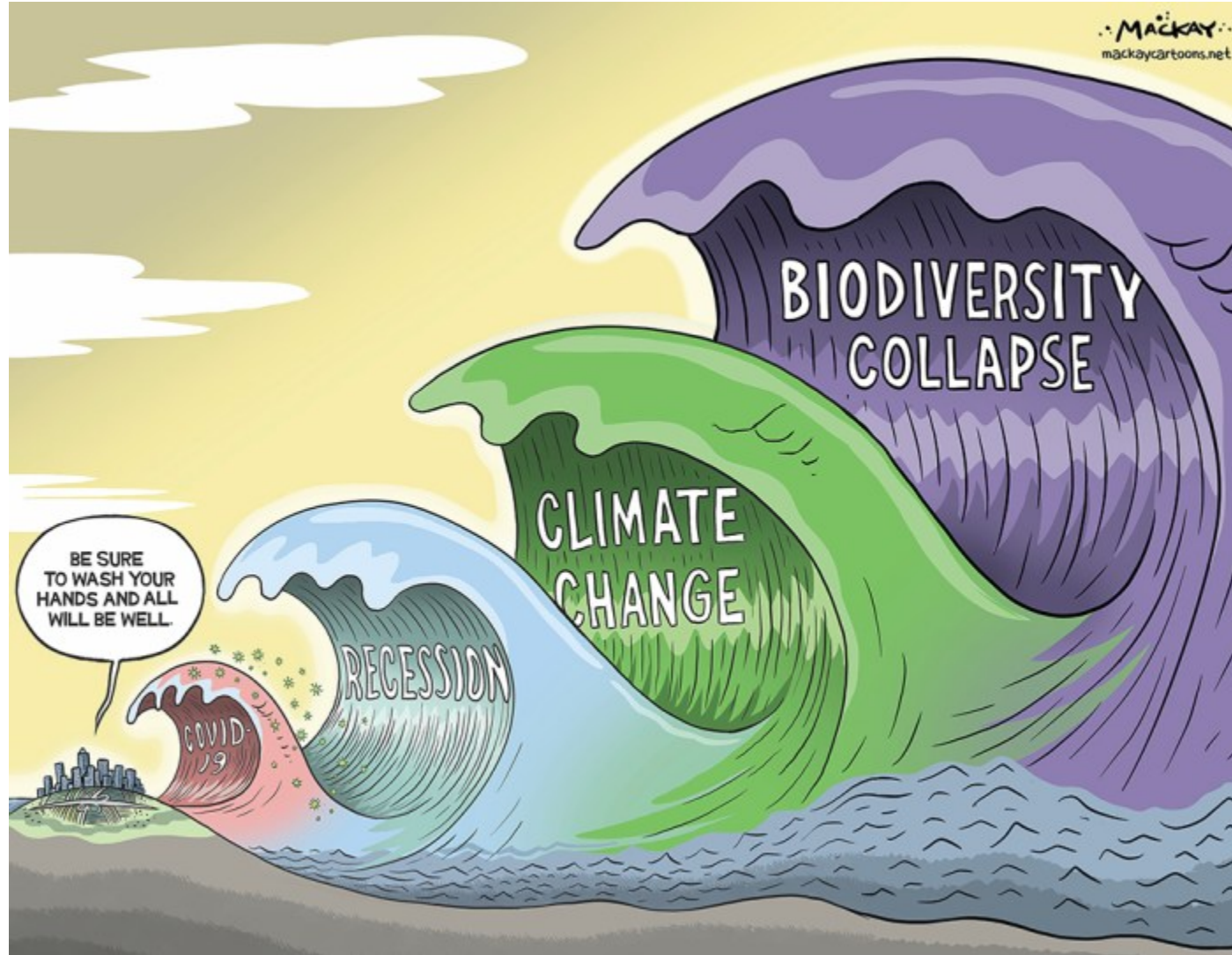
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## 6. Future outlook



- **Conservation works!**  
Since 1993, 48 mammals and bird species saved. Without conservation efforts, extinction rates for these animals would be 3 or 4 times higher.
- **But we need more** collective and coordinated actions

## 6. Future outlook





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