The roots of Nature for preserving Biodiversity

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Biomass and anthropogenic mass estimates since the beginning of the twentieth century on a dry-mass basis.

Relative biomass on Earth. The planet's biomass is classified by kingdom of life and other major groupings, and the size of each group's relative footprint is displayed using gigatons of carbon as the common measure.

Picture: https://www.britannica.com/science/living-things

Relative biomass on Earth of mammal groups using gigatons of carbon as a common measure of comparison.
Diversity lost: COVID-19 as a phenomenon of the total environment

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Media Release:

Nature’s Dangerous Decline ‘Unprecedented’; Species Extinction Rates ‘Accelerating’
How many extinctions?

Targeting an extinction rate
Extinction rates (E/MSY) across a variety of taxonomic groups for different historical periods are related to the proposed extinction rate target for the next 100 years and the aspirational target (background extinction rates) from 2120. Bars show the full range of possible values for E/MSY when E, S, and Y are represented by ranges of possible values. Data encompass all plants, animals, and fungi unless indicated otherwise.

Figure 2. (a) The expected difference between the curve shapes of sample-area (mainland) and isolate (island) SARs. Islands and other isolates typically have fewer species than same-size sample areas, because of minimum-area effects (represented by grey shading). (b) The two processes of species extinction from habitat loss: (1) the original number of species, (2) the number after the immediate extinctions from decreased area and (3) the number after relaxation of species numbers down to equilibrium.

A century ago, only 15% of Earth’s surface was used to grow crops and raise livestock. Today, more than 77% of land (excluding Antarctica) and 87% of the ocean has been modified by the direct effects of human activities. This is illustrated in our global map of intact ecosystems (see ‘What’s left?’).
Primary Forests

Sabatini, F. Et al. (2021). European primary forest database v2.0. Scientific Data, 8(1), 220. https://doi.org/10.1038/s41597-021-00988-7
The EU Biodiversity Strategy

ONE VISION
By 2050, all of the world’s ecosystems are restored, resilient, and adequately protected

ONE GOAL
Put Europe’s biodiversity on the path to recovery by 2030 for the benefit of people, the planet, the climate and our economy

FOUR PILLARS

1. Protect Nature
   - Expand protected areas to 30% of the EU’s land and sea, and put a third of these areas under strict protection

2. Restore Nature
   - Restore nature and ensure its sustainable management across all sectors and ecosystems

3. Enable transformative change
   - Strengthen the EU biodiversity governance framework, knowledge, research, financing and investments

4. EU action to support biodiversity globally
   - Deploy EU external actions to raise the level of ambition for biodiversity worldwide, reduce the impact of trade and support biodiversity outside Europe

Strictly protect 10% of our land and sea for nature

The new Strategy also calls for at least one third of these protected areas – representing 10% of EU land and 10% of EU seas – to be strictly protected by 2030. Today, only 3% of land and less than 1% of marine areas are strictly protected.

Why do we need to protect biodiversity?

Biodiversity is essential for life. Our planet and the economy depend on it. When nature is healthy, it protects and provides.

"Making nature healthy again is key to our physical and mental wellbeing and is an ally in the fight against climate change and disease outbreaks. It is at the heart of our growth strategy, the European Green Deal, and is part of a European recovery that gives more back to the planet than it takes away."

Ursula von der Leyen, President of the European Commission
Strictly protected areas

Zannini et al. (submitted) Expanding strictly protected areas towards the EU2030 target.

<table>
<thead>
<tr>
<th>IUCN category</th>
<th>Denominazione</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ia</td>
<td>Strict nature reserve</td>
<td>Protected areas that are strictly set aside to protect biodiversity and also possibly geological features, where human visitation, use and impacts are strictly controlled and limited to ensure protection of the conservation values.</td>
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<tr>
<td>Ib</td>
<td>Wilderness area</td>
<td>Protected areas that are usually large unmodified or slightly modified areas, retaining their natural character and influence, without permanent or significant human habitation, which are protected and managed so as to preserve their natural condition.</td>
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<tr>
<td>II</td>
<td>National Park</td>
<td>Large natural or near natural areas set aside to protect large-scale ecological processes, along with the complement of species and ecosystems characteristic of the area, which also provide a foundation for environmentally and culturally compatible spiritual, scientific, educational, recreational and visitor opportunities.</td>
</tr>
</tbody>
</table>

### “Strict” Protected Areas in European Union EU27

<table>
<thead>
<tr>
<th>IUCN Type</th>
<th>Number</th>
<th>Area $km^2$</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ia</td>
<td>7812</td>
<td>11729.62</td>
<td>0.28</td>
</tr>
<tr>
<td>Ib</td>
<td>1101</td>
<td>60476.88</td>
<td>1.46</td>
</tr>
<tr>
<td>II</td>
<td>469</td>
<td>66946.88</td>
<td>1.62</td>
</tr>
<tr>
<td>Total</td>
<td>9382</td>
<td>139153.38</td>
<td>3.37</td>
</tr>
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Cumulative area and proportion with respect to the actual land area of the coverage by strictly protected areas (IUCN category Ia, Ib and II) across EU countries and biogeographical regions.

Almost all the countries are presently far from the 10% target for most of the biogeographic regions they occupy.

Zannini et al. (submitted) Expanding strictly protected areas towards the EU2030 target.
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Plant for the Planet
The Billion Tree Campaign

Starting from home
United Nations Environment Programme

The staff of UNEP, home of the Billion Tree Campaign, collectively planted 140,998 trees. To launch the effort led by the Executive Director of UNEP and the Director of the Division of Environmental Law and Conventions, staff members from around the world working at the UNEP Nairobi headquarters planted native trees in Kenya’s Rift Valley. Local farmers, volunteers and the Kenya Forest Service helped out.
We need an ambitious target to guarantee the existence of spaces in which Nature could continue its fundamental processes without a direct human control.

“One patch of Nature for each citizen exclusively dedicated to natural processes, to realise a network of *Noah Arches of Biodiversity*, up to 10% of surface, for preserving fundamental ecological and evolutionary processes”

In Italy, for example, we could dedicate to this target 500m$^2$ for each citizen, obtaining 10% of country area as strictly protected area, to release benefits for surrounding areas for present and future generations.