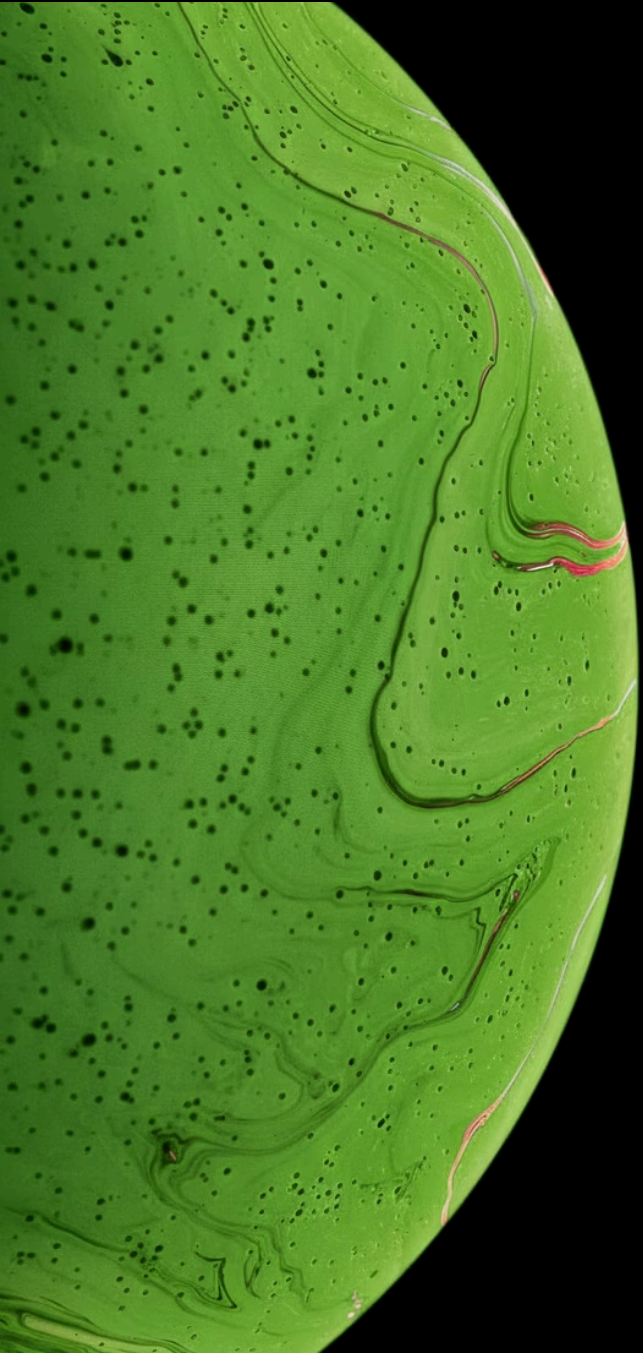


THE IMPORTANCE OF PLANTS

Good morning everyone, I am Nicola Palmieri from the association il Pianeta Naturale, partner of the European project WAVE approved by the Erasmus+ KA 210 program.





THE IMPORTANCE OF PLANTS

Today we talk about the fundamental importance of plant organisms for life on Earth.

Plants are not just important: they are fundamental for life on Earth.

THE ORIGINS OF LIFE

Their ancestors, stromatolites – structures built by cyanobacteria – began producing food and oxygen as early as 3.5-3.7 billion years ago.





THE ORIGINS OF LIFE

Stromatolites were the pioneers, the founders, the sole primary engine of life on a still inhospitable planet.

The crucial point is this: they, the **autotrophic organisms**, could and can survive perfectly without anyone's help.

THE ORIGINS OF LIFE



Organic Matter Production

They converted CO₂ and water into complex organic compounds, essential for life.



Solar Energy Harnessing

They used sunlight as the sole energy source for their vital processes.



Adaptation to a Hostile Environment

They thrived in an era when Earth was still inhospitable to most forms of life.

These autotrophic organisms not only demonstrated an extraordinary capacity for survival but also laid the foundations for the evolution of more complex ecosystems, gradually transforming an inhospitable planet into the cradle of biodiversity we know today.



THE OXYGEN REVOLUTION

Their "waste product" - oxygen - revolutionized the planet, allowing the evolution of all other forms of life, including us and, ironically, the organisms that would later "parasitize" them.

Plant supremacy

PLANTS DOMINATE THE BIOSPHERE

Even today, despite all human devastation, plants dominate the Earth's biosphere. To understand this supremacy, one only needs to look at the numbers of biomass distribution on Earth.



BIOMASS DISTRIBUTION

450 

Billion tons

Plants represent
82.6% of the total
living mass

70 

Billion tons

Bacteria represent
12.8% of the total
living mass

12 

Billion tons

Fungi represent 2.2%
of the total living
mass

7 

Billion tons

Unicellular
organisms represent
1.3% of the tot. liv.
mass

4 

Billion tons

Algae represent 0.7%
of the total living
mass

2 

Billion tons

Animals represent
0.4% of the total liv.
mass

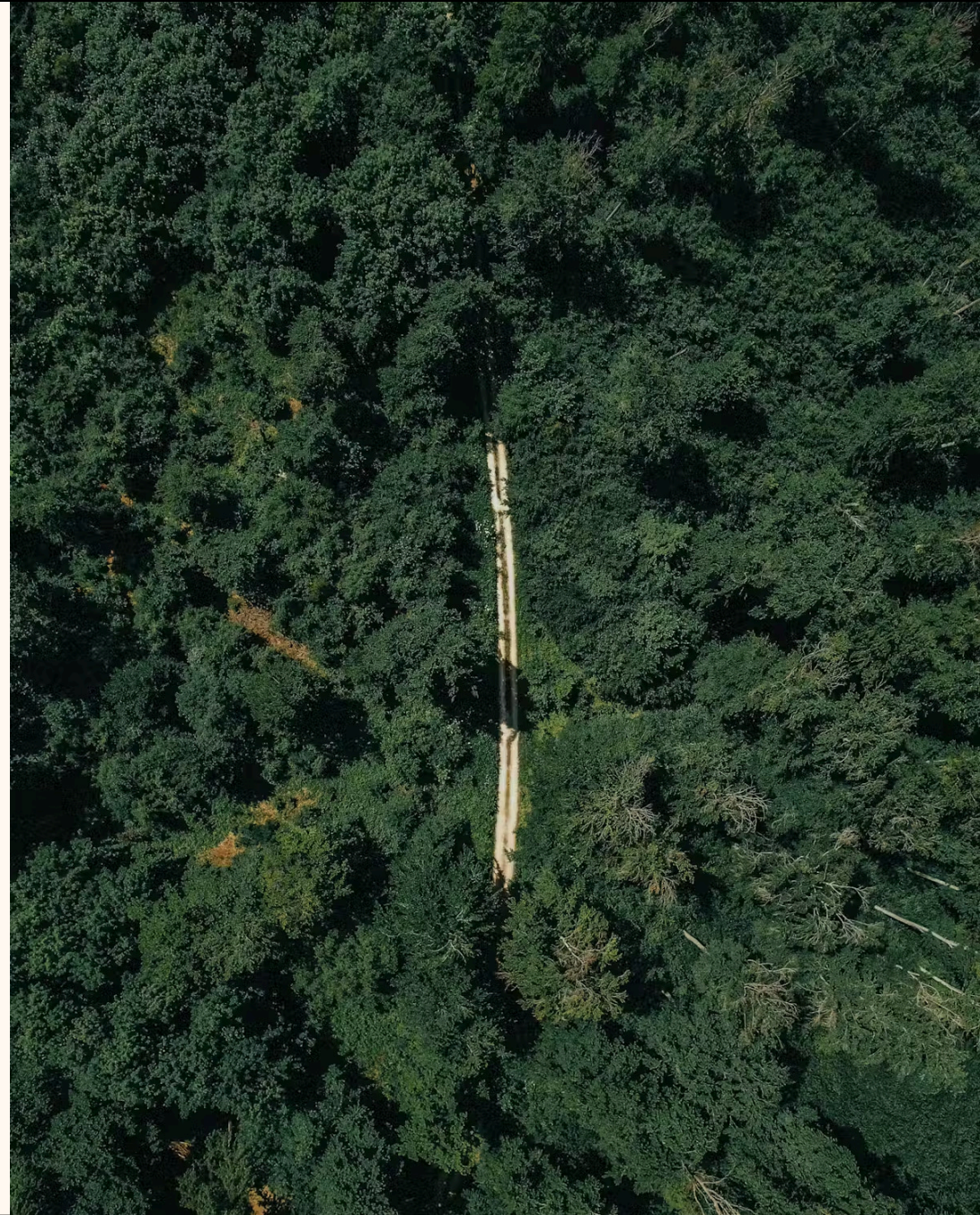
A THOUGHT-PROVOKING FACT

83% plants

0.3% animals

0.01% humans

A fact that should make us reflect deeply on our
role and our fragility.



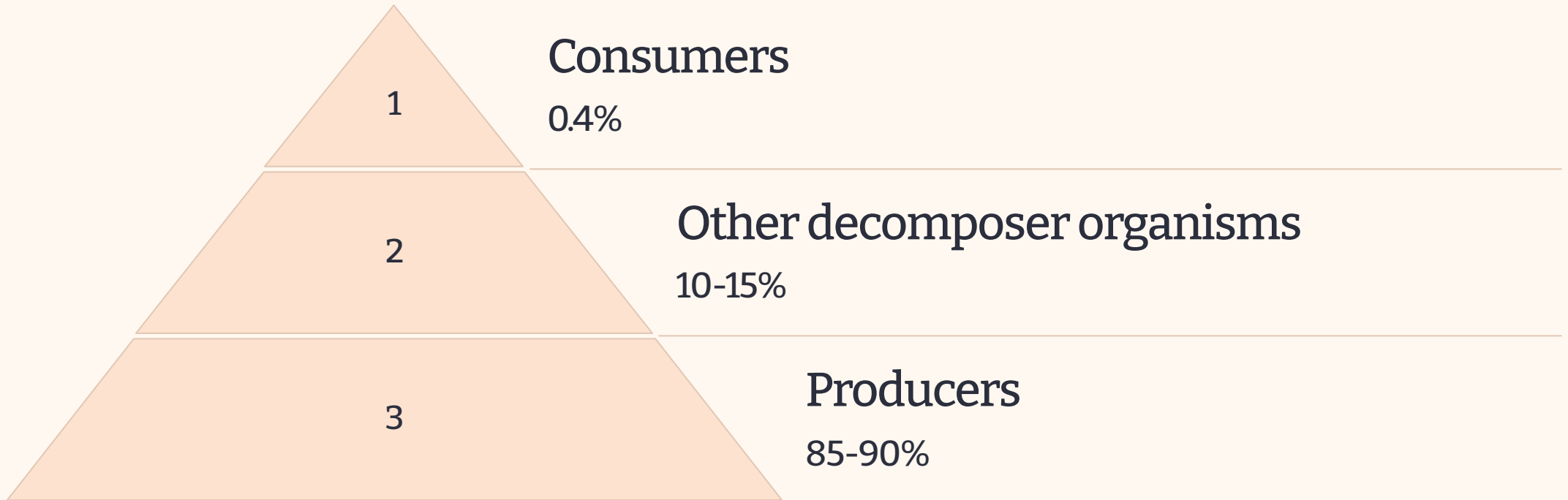


THE ECOLOGICAL PYRAMID

But how was this balance configured before massive human intervention?

In the current Earth ecosystem, relationships follow a precise ecological pyramid.

THE ECOLOGICAL PYRAMID



Autotrophic organisms - the **producers** - represent about 85-90% of the total biomass, while animals - the **consumers** - account for only 0.4%. This results in a ratio of approximately **200:1**.

THE IMPACT OF DEFORESTATION

Considering the massive deforestation of the last 10,000 years - **we are talking about three trillion trees lost** - it is plausible that in a completely natural and pre-anthropogenic terrestrial ecosystem the ratio was even higher: 300:1 or even more.

THE IMPACT OF DEFORESTATION

After the last glaciation

At that time, after the end of the last glaciation, global forest cover was not significantly more extensive than it is today

Higher Density

But the density of plants and biomass was significantly higher

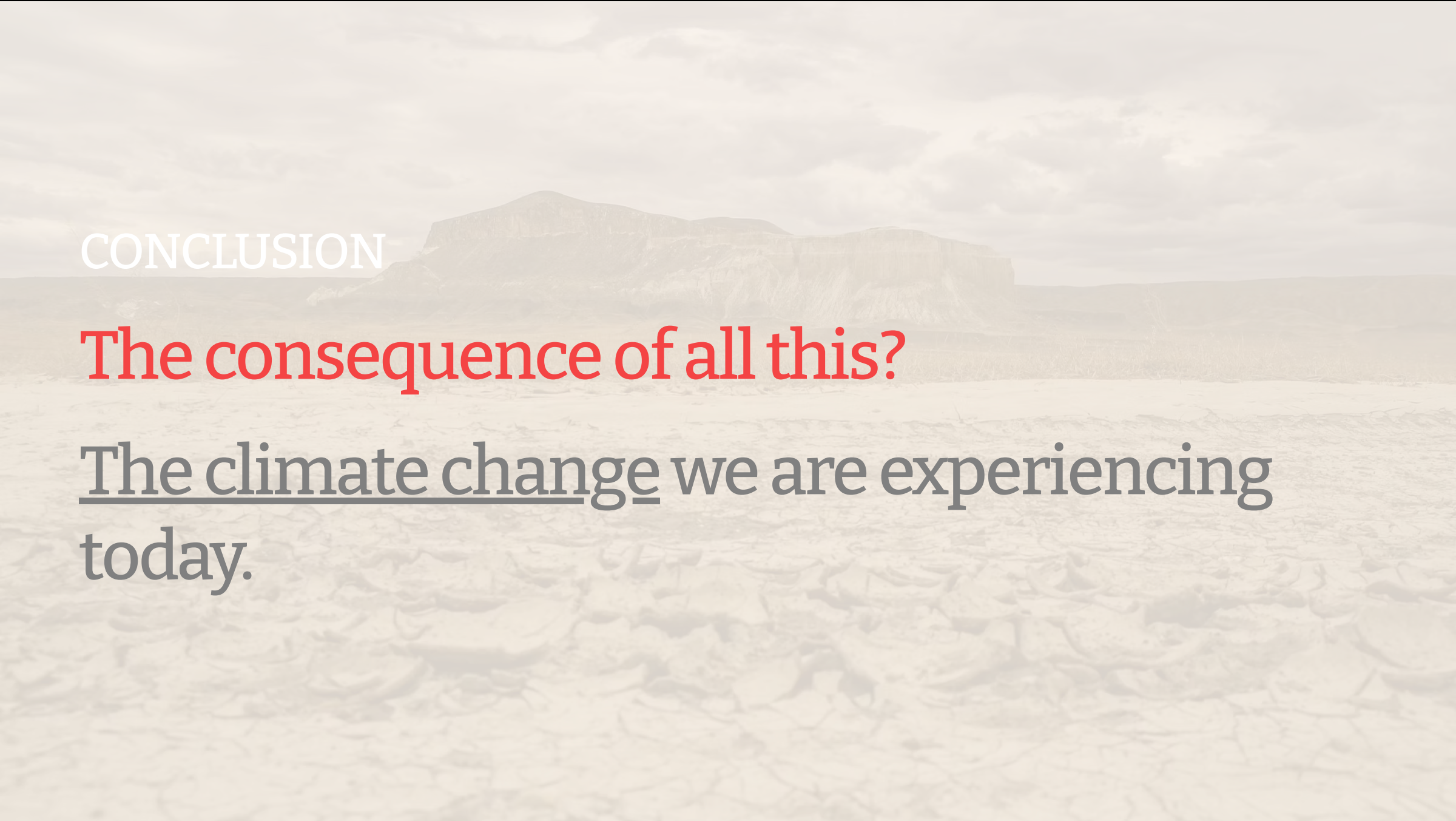


CLIMATE STABILITY

Natural habitats were not fragmented and had a much greater and more effective specific weight in **climate stability**.

The reduction of this ratio represents a dangerous alteration of the planet's **fundamental ecological balances**.





CONCLUSION

The consequence of all this?

The climate change we are experiencing today.

FINAL REFLECTION



83% Plants

Represent 450 billion tons of biomass, the foundation of every terrestrial ecosystem



0.01% Humans

Only 60 million tons, yet responsible for the destruction of entire ecosystems



3000 Billion Trees Lost

Three trillion trees felled in the last 10,000 years of human activity



Altered Ecological Balances

Plant-to-animal ratio reduced to 200:1, ecosystem fragmentation and destruction, climate stability crisis

THANK YOU

WAVE Project - Erasmus+ KA 210
The Natural Planet Association

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