

# **PUSHING THE EARTH TOWARDS SIXTH MASS EXTINCTION**

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# PUSHING THE EARTH TOWARDS SIXTH MASS EXTINCTION

- Humanity is responsible for speeding up the natural rate of extinction for animal and plant species by up to 10,000 times at the planet is on the brink



- **Top Five Extinctions**

- Ordovician-silurian Extinction: 440 million years ago.
- **Devonian Extinction: 365 million years ago.**
- **Permian-triassic Extinction: 250 million years ago.**
- **Triassic-jurassic Extinction: 210 million years ago.**
- **Cretaceous-tertiary Extinction: 65 Million Years Ago.**

# Dodo and Great Auk



# Tasmanian Tiger and Passenger Pigeon



# Stellers Sea Cow and West African Black Rhinoceros



# Pyrenean Ibex and Baiji White Dolphin



# Extinction & Reasons for extinction



- **Extinction** happens when environmental factors or evolutionary problems **cause** a species to die out. ...



- Humans also **cause** other species to become **extinct** by hunting, overharvesting, introducing invasive species to the wild, polluting, and changing wetlands and forests to croplands and urban areas.



## Reasons for extinction



- Mass extinctions happen because of **climate change**, asteroid impacts, massive volcanic eruptions or a combination of these causes. One famous mass extinction event is the one that led to the extinction of dinosaurs, 65 million years ago.

# Extinction



- Species are disappearing around 10 times faster
- Pre human times extinction rates were slow
- Whether we avoid this mass extinction entirely depends on our actions
- Many species extinct each year out of one million species



## reasons for extinction



- Reasons: biggest is habitat loss caused by humans
- Climate change affecting species
- Overfishing lead to oceanic white tip shark extinction




- Once upon a time, they were abundant in nature
- Hunted by humans
- other species are at risk include the rhinoceros, the leopard, and mountain gorillas

## Hope: use of smart phones and applications

- iNaturalists
- One of the world's most popular nature apps, iNaturalist helps you identify the plants and animals around you. Get connected with a community of over 400,000 scientists and naturalists who can help you learn more about nature! What's more, by recording and sharing your observations, you'll create research quality data for scientists working to better understand and protect nature. iNaturalist is a joint initiative by the California Academy of Sciences and the National Geographic Society.

# Google Play: iNaturalist




## iNaturalist

iNaturalist

4.2★

5T reviews



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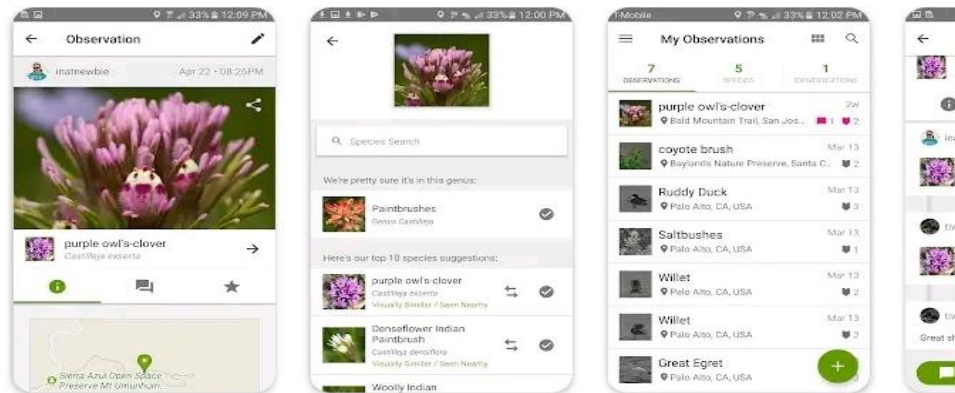
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# Sixth mass extinction



# How to prevent the extinction?



- Biologists know where the endangered species are
- They can try to save habitats and use captive breeding and other techniques to save the species





# Decline of biodiversity



- Danger is lurking near us
- Scientists warn that persistent loss and decline of biodiversity is leading humanity to the early days of 6<sup>th</sup> mass extinction
- Since 1500, more than 320 terrestrial vertebrates extinct
- Other species 25% average decline in abundance
- Status of Invertebrates is also the same



# Previous extinction



- Previous extinction due to Natural planetary transformation, catastrophic asteroids strikes
- The current die-off is due to human activities
- 1/3 of species are globally threatened or endangered
- Large animals face highest extinction rate
- Elephants, Rhinoceroses, polar bears



## Diseases and De-faunation

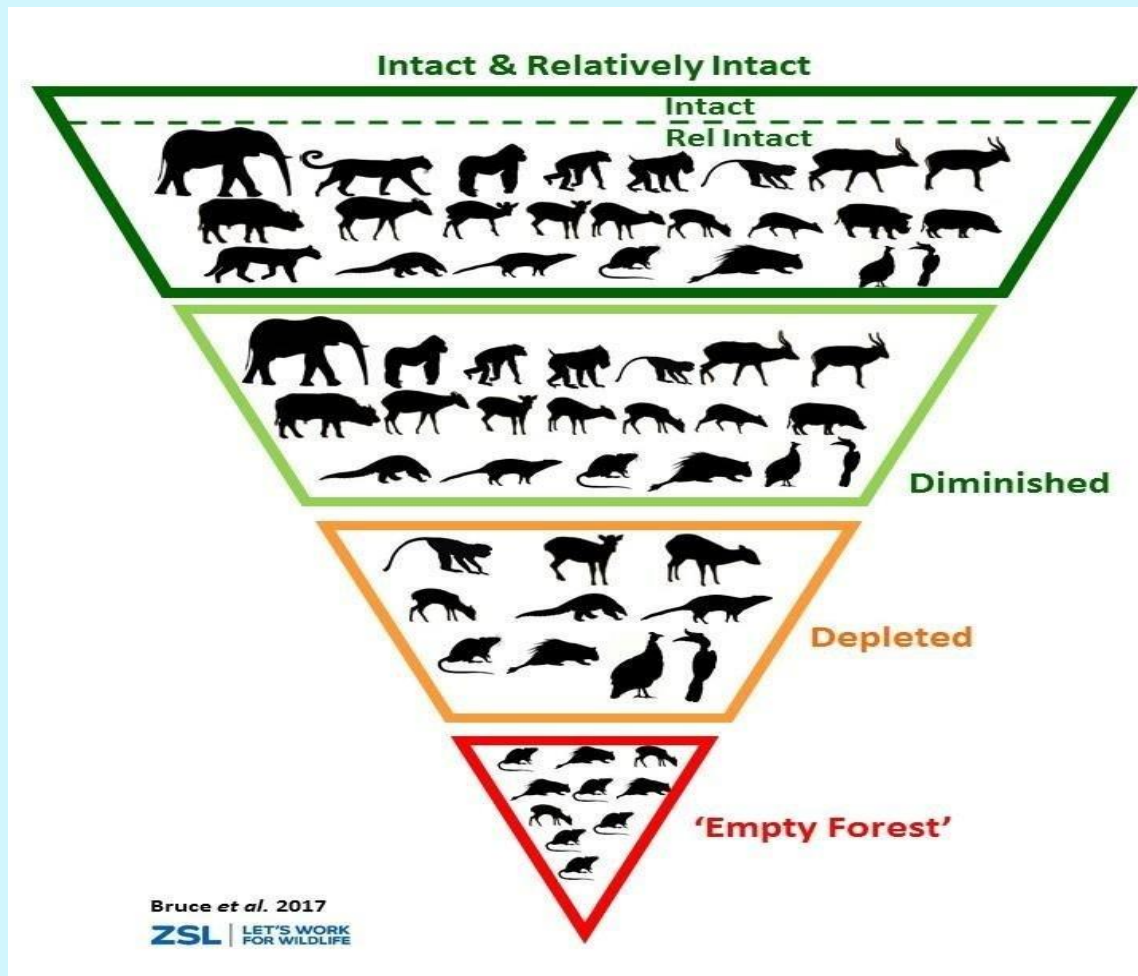
- number of rodents doubles so does the abundance of the disease causing eco parasites that they harbor
- Where Human density is high
- We get high rates of defaunation and high incidence of rodents



# De-faunation



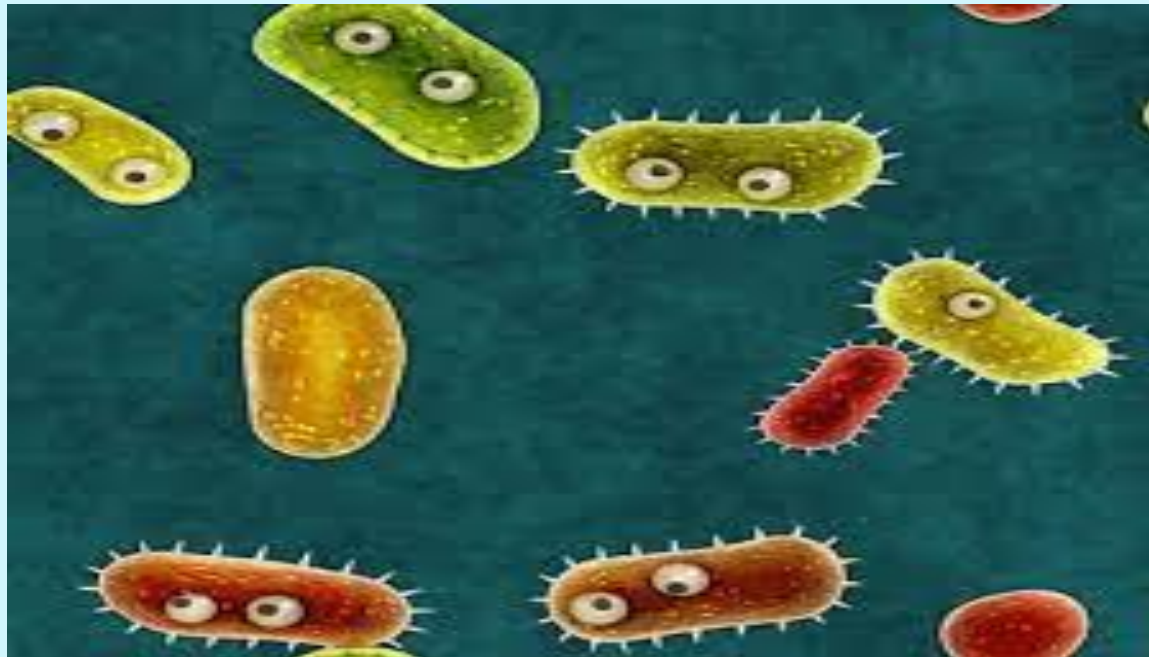
- the global, local or functional extinction of animal populations or species from ecological communities.



# Pathogens



- Thus high levels of pathogens
- Pathogens is a bacterium, virus, or other microorganism that can cause disease.



## Conditions in the last thirty five years



- Human population doubled in the past 35 years
- In the same period number of invertebrate animals beetles, butterflies spider, worms has decreased by 45%
- As with large animals, the loss is driven primarily by the loss of habitats and global climate disruption
- Could have tickle-up effects in our every day life

# Tailored Approaches



- Immediately reducing rates of habitat change
- Over exploitation would help but these approaches need to be tailored to individual regions and situations
- We tend to think of extinction as loss of species from the face of the earth
- But there is a loss of critical eco system in which animals play a central role that we need to pay attention to as well

## Reasons for vulnerability



- How can the world be at peace when our own nature is destroyed
- “Indiscriminate economic development and ecological destructive policies have left us more vulnerable to natural disasters”
  - World watch Institute  
(An environmental group in Washington)



## Human Negligence leading to destruction

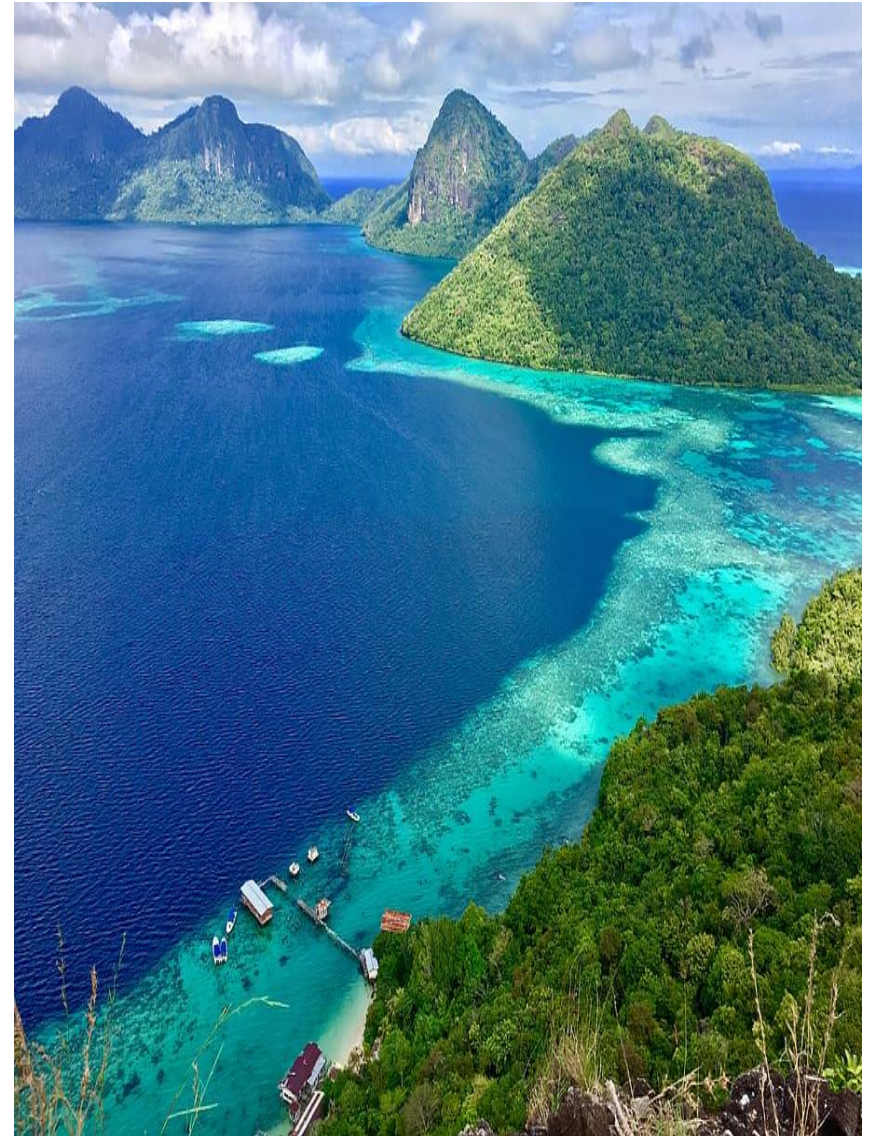


- Rampant unsustainable development leads to natural disasters
- The degree and level of destruction are the results of human negligence, human greed and human selfishness
- We should remember that we are also a vital component of nature and unless we protect and preserve the planet we will also be destroyed

# Mother earth



- Mother earth encompasses all the myriad aspects of creation, millions and millions of living beings and organisms, the stunningly beautiful landscapes, mountains, rivers, seas, forests, deserts, lakes and plains that human beings could never make but can only destroy



# Beauty of nature: Mountains and rivers





**STAY  
HOME**  
STAY SAFE

A large graphic of a house outline in white, with a heart shape at the end of the roofline. The text "STAY HOME" is written in large, bold, white capital letters across the middle of the house, and "STAY SAFE" is written in smaller, white capital letters below it.

# Questions





Thank  
You!

## terrestrial vertebrates

- **Terrestrial (land-dwelling) Vertebrates** (animals with a backbone) who spend the majority of their lives on **land**.
- **Terrestrial vertebrates** primarily include reptiles, birds, and mammals.

