

John Hannigan
Environmental Sociology

Chapter 8:
Biodiversity Loss

1

What is biodiversity?

Biodiversity (from "biological diversity") refers to the variety of life on Earth at all its levels, from genes to ecosystems.

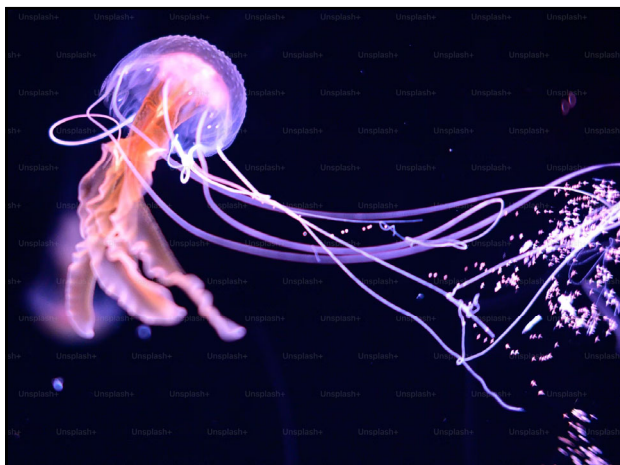
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Why is it important?

Biodiversity is essential for the processes that support all life on Earth, including humans.

Without a wide range of animals, plants and microorganisms, we cannot have the healthy ecosystems that we rely on to provide us with the air we breathe and the food we eat.

What is biodiversity loss?

6

Pictures of biodiversity lose



7



8

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9

What is meant by biodiversity?
What is meant by biodiversity loss of the ecosystem vs biodiversity loss of species?

The variety of habitats that host living organisms in a particular region is shrinking vs the shrinking of specific species.

What explanations might scientists give for the value of genetic diversity?

10

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- It is viewed as the basis for organisms to adapt to environmental change
- It provides variations that may be used as medications or for other human purposes

Which came first concerns about biodiversity or concerns about climate change?

11

11

Biodiversity loss appears to have been first introduced in 1917 with regard to migratory birds with some species becoming endangered

What is an "overarching" controversy related to the causes of biodiversity loss?

Some argue it is the natural way of things and others argue it is occurring "unnaturally"

Why is biodiversity loss a concern and whom is concerned?

12

12

1. Biotechnology uses genetic resources to develop new products such as medicines that come from plants (e.g., economic motive by pharmaceutical corporations)
2. Conservation biologist are concerned about the dynamics of extinction. They question the human right to wipe out whole species (humane values motive)

13

13

What has been done to protect against biodiversity loss?

1. The society for conservation biology was created to provide a forum for communicating knowledge about biodiversity loss
2. Research funds for Conservation biologists, e.g., \$100 million a year for research projects around the world
3. Conventions to spread knowledge about the problem, e.g., Convention on Wetlands of International Importance

14

14

4. National and international laws to protect endangered species as well as ecosystems
5. Setting aside areas to be protected, e.g., Serengeti National Park in Tanzania

15

15

When considering how biodiversity has come to be an established concern and area of study, Hannigan reviews his "three stages."

Assembling, Presenting, and contesting the claim

What is involved with assembling a claim and how would this be applied to biodiversity (particularly the type of data collected)?

16

16

1. There has been a steady outpouring of studies raising the alarm, including mathematical models and observed rates of loss
2. Biodiversity Intactness Index—allows for the measurement of an area in terms of its biodiversity loss
3. Convergence of data from three areas of research: forestation, species extinction, tropical biology

17

17

2. Presenting the claim—how might this be related to biodiversity loss?

Why do advocates seem to be able to keep the biodiversity issue on the minds of the public? Why would the public care?

18

18

1. Human concern for other living things makes it easy to popularize
2. People can easily envision the problem (perhaps unlike climate change)
3. It's scientifically credible
4. No powerful opponents against it (unlike oil companies and climate change)

19

19

5. People's desire for products, yet to be discovered from various species of plants, fungi, etc.

Why is it difficult to maintain the public's attention re: biodiversity loss?

20

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1. Most threatened species are fungi, insects, and bacteria that don't gain public interest
2. It's unclear what action needs to be taken to reduce loss, particularly in tropical areas
3. When the costs seem to outweigh the immediate benefits, attention lags
4. Controversies aren't as apparent so people give less attention

21

21

3. Contesting the claim—Are there any controversies related to biodiversity? What about less obvious controversies between countries/large technology firms?

22

22

Plants in less developed nations (in the south) are taken by companies (in the north) with no compensation to the countries or local communities, so they yell foul.

American biotechnology trade associations have put pressure on the U.S. government to avoid agreeing to any provisions to southern countries such as sharing their technology in exchange for their "invading" the floral

23

23

The influence of Artificial Intelligence on the media

<https://www.youtube.com/watch?v=uiUPD-z9D1g>

24

24

Creating a News Report

https://www.youtube.com/watch?v=8_NmVtnEEA8

The truth about hydrogen

<https://www.youtube.com/watch?v=AGTjKJHu99c>

25

Why most Americans support the EPA (4:07)

<https://www.youtube.com/watch?v=G2Nmhcxf2k>

Sackett v. EPA: How One Couple's Battle Against the Feds Might Protect Your Land (7:38)

<https://www.youtube.com/watch?v=40iHXA0jJ3U>

The Reasoning and Impact of the Supreme Court's Ruling in Sackett v. EPA (first 3 minutes)

<https://www.youtube.com/watch?v=UMOSEoUy1pI>

Supreme Court decision weakens EPA authority, scales back scope of Clean Water Act

<https://www.youtube.com/watch?v=f-ZBkxeCvEO>

26

How Obama's EPA Nearly Bankrupted John Duarte's Farm (5:16)

<https://www.youtube.com/watch?v=qlBX6UoBfx8>

War on the EPA (3:00)

<https://www.youtube.com/watch?v=JJ1P9IcTGvY>

27

The Future Of Nuclear Power - Holtec SMR 160 (8 min)
https://www.youtube.com/results?search_query=The+Future+Of+Nuclear+Power++Holtec+SMR+160

Nuclear micro reactors to hit the market (2:40)

<https://www.youtube.com/watch?v=4z8btEldwBs>

The tiny reactors carry some of the same challenges as large-scale nuclear, such as how to dispose of radioactive waste and how to make sure they are secure. Supporters say those issues can be managed and the benefits outweigh any risks.

28

What Is the Most Sustainable City in the World? (2020: 7:48)
https://www.youtube.com/watch?v=fsWrOLfM_uQ

5 Most Polluted Cities on Earth
(start at 5:00; goes until 11:05—6 minutes total)
<https://www.youtube.com/watch?v=69jwIw4JeVk>

29

Innovating to zero! | Bill Gates, 2010

(18:00/29:32)

<https://www.youtube.com/watch?v=JaF-fq2Zn7I>

The Future Of Nuclear Power - Holtec SMR 160 (8 min)
https://www.youtube.com/results?search_query=The+Future+Of+Nuclear+Power++Holtec+SMR+160

Bill Gates' Terrapower and the Sodium Reactor | Rock Logic | 2022 (start at 1 min - 6 mins)
https://www.google.com/search?client=firefox-b-1-e&q=rocklogic+and+terra#fpstate=ive&vld=cid:d6a53627,vld:_3mZlPO60zw

Nuclear micro reactors to hit the market
<https://www.youtube.com/watch?v=4z8btEldwBs>

Bill Gates on How we're doing on the path to zero emissions, 2022 (3 min)

<https://www.youtube.com/watch?v=ipkPcrNsCv8>

30



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