



Habitat Fragmentation

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What is it?

Fragmentation happens when **parts** of a habitat are **destroyed**, leaving behind **smaller unconnected areas**. This can occur naturally, as a result of fire or volcanic eruptions, but is normally due to human activity.

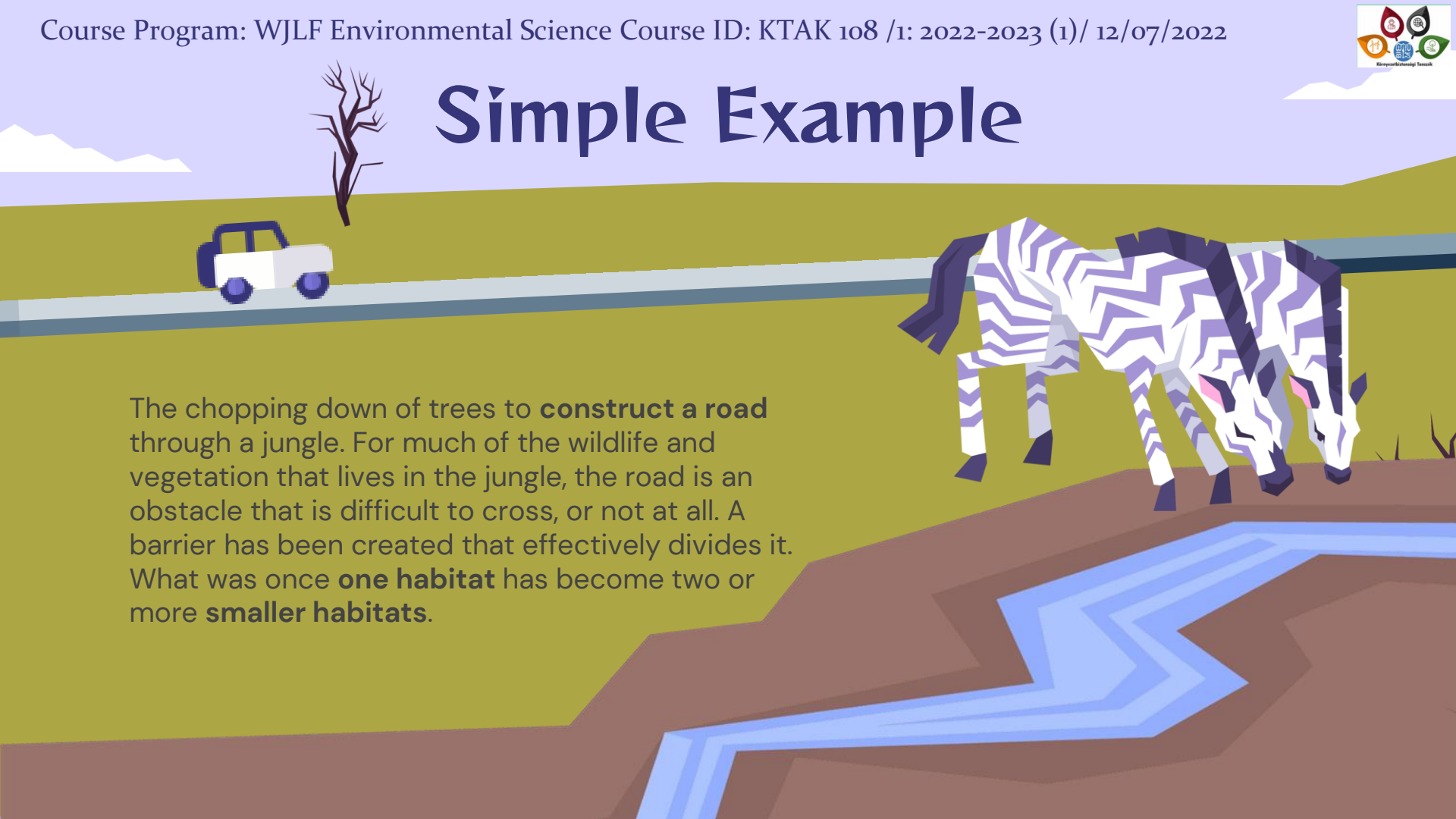


Why is it important?

'Landscape connectivity' and **'dispersal individuals'** are key ideas in conservation biology and are crucial for population persistence, patterns of biodiversity, and functioning of ecosystems across landscapes.



Simple Example



The chopping down of trees to **construct a road** through a jungle. For much of the wildlife and vegetation that lives in the jungle, the road is an obstacle that is difficult to cross, or not at all. A barrier has been created that effectively divides it. What was once **one habitat** has become two or more **smaller habitats**.

Simple Example



- Prey, such as wild boar, are forced to **specific, small areas** of the jungle with vegetation for plant consumption.
- Predators, such as tigers, are attracted to these **smaller hunting grounds** with increased open space.



Causes



Roads and Highways

a **long stretch** with a smoothed or paved surface, made for traveling by motor vehicle, carriage, etc., between two or more points



Zoning/Fencing

a **physical barrier** intended to prevent escape, intrusion or to mark a boundary.




Deforestation

the **removal of a forest** or stand of trees from land that is then converted to non-forest use



Negative Effects



Reduction in habitat quality

Fragmented habitats are often **lower quality**. This is known as the '**edge effect**'. As a habitat is broken into smaller sections, the proportion of edge - where one habitat meets another - increases.



Increased extinction risk

Fragmentation **limits wildlife mobility**. Individuals struggle to move between habitat patches, which can lead to **inbreeding** and a **loss of genetic diversity**. This reduces the long-term health of a population, making it more vulnerable to disease and at greater risk of extinction.



Loss of total habitat area

The destruction of habitat leaves species with **less space** to find everything they need to survive.

How can you help?



Information

Keep yourself informed about your local natural habitats. No two regions are the same



Representation

Support and push for legislation that help reduce habitat fragmentation



Reforestation

By helping plant native flora to buffer, extend, improve connectivity and create new habitats



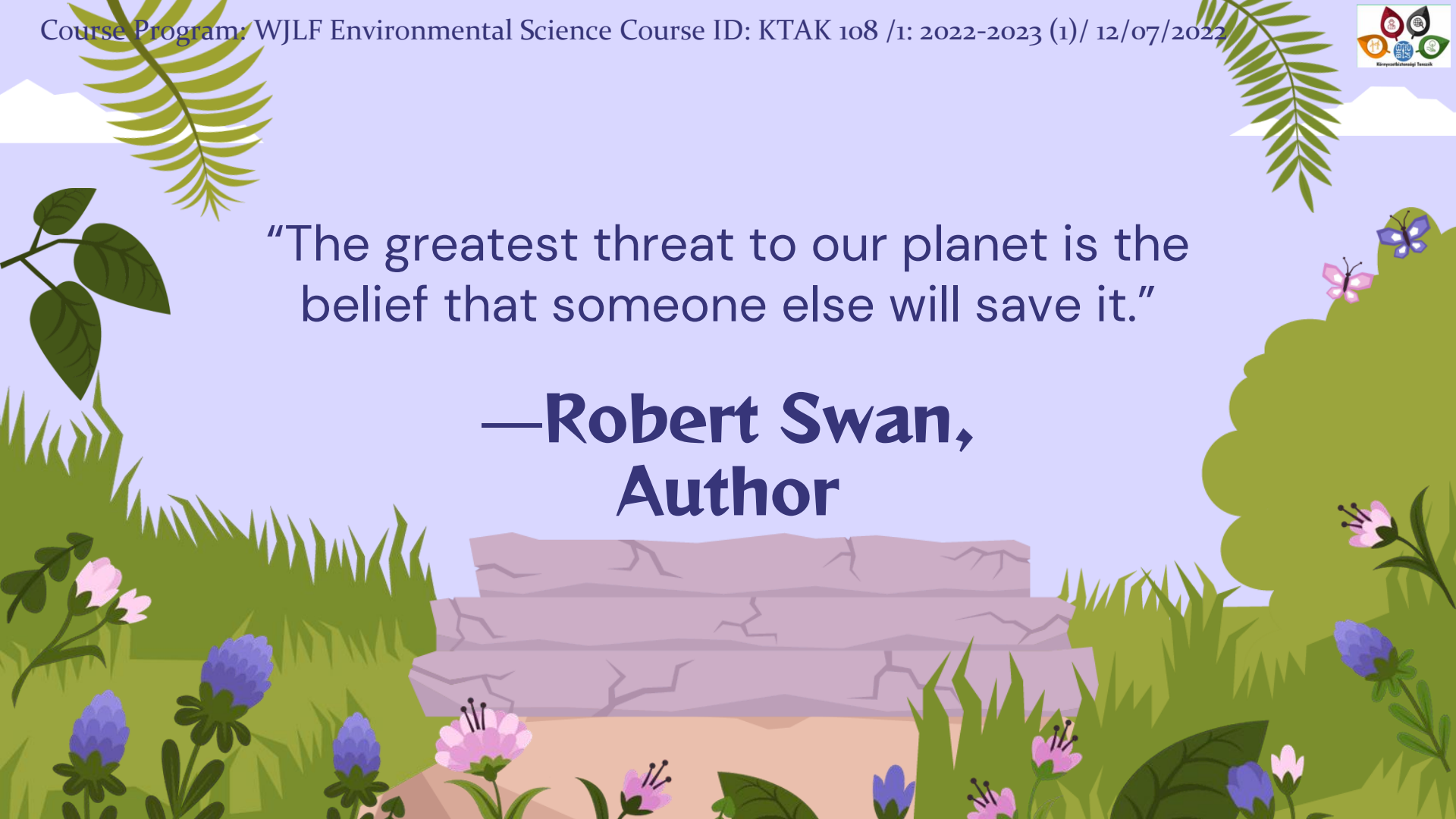
Sustainability

We need to learn to co-exist with the natural ecosystems of the world



“The greatest threat to our planet is the belief that someone else will save it.”

—**Robert Swan,**
Author



Resources

Articles/Blogs:

- T. Datry, R. Corti, J. Heino, B. Hugueny, R. J. Rolls, A. Ruhí, (2017). Habitat Fragmentation and Metapopulation, Metacommunity, and Metaecosystem Dynamics in Intermittent Rivers and Ephemeral Streams. *Intermittent Rivers and Ephemeral Streams* ch. 4.9 p. 377-403
<https://doi.org/10.1016/B978-0-12-803835-2.00014-0>
- J. Martin, (2018) What is habitat fragmentation and what does it mean for our wildlife? Woodland Trust. <https://www.woodlandtrust.org.uk/blog/2018/08/what-is-habitat-fragmentation-and-what-does-it-mean-for-our-wildlife/>
- J. E. Rogan, T. E. Lacher, (2018), Impacts of Habitat Loss and Fragmentation on Terrestrial Biodiversity, Reference Module in Earth Systems and Environmental Sciences, <https://doi.org/10.1016/B978-0-12-409548-9.10913-3>
- A. Chamorro, J. R. Giardino, R. Granados-Aguilar, A. E. Price, (2015) A Terrestrial Landscape Ecology Approach to the Critical Zone, *Developments in Earth Surface Processes*, Vol. 19 ch. 7, <https://doi.org/10.1016/B978-0-444-63369-9.00007-0>



Thanks!

Do you have any questions?

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