# Habitat Loss

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**Over time species become adapted to the environment they live in. The natural home of a species is called a habitat. Habitat is lost when the environmental conditions no longer support the species that were adapted to it. This can happen due to a number of factors including pollution, climate change, deforestation, development and intensification of agriculture.**

Changes to conditions or complete loss of a habitat mean that species lose their niche and they will then have to compete with species they would not normally compete with for food and shelter. They may have to deal with predators that they would not normally encounter. These new stresses mean that populations are likely to decline.

Habitat loss in one area can put extra pressure on habitats in other areas. Each habitat can only support a certain number of individuals. If populations move from one area to another they still might not thrive because the existing population will be using all of the resources.

A healthy environment consists of a mosaic of habitats, where animals can move freely between them. This stops populations becoming isolated and inbreeding. As habitats become more fragmented these 'green' corridors become increasingly important. They allow species to move between areas of appropriate habitat and enable them to fulfil all of their survival needs.

Rewilding is the process of protecting an environment and returning it to its natural state, for example, by bringing back wild animals that used to live there. Rewilded landscapes are the opposite of food-producing farming but can be implemented on a small scale to encourage native, keystone species and apex predators, that occupy the top of the food chain. Brownfield sites such as landfill areas can be rewilded to help establish a more diverse and mosaic habitat and transform these areas into restorative nature reserves.

Regenerating is the process of restoring and improving an environment and helping it return to a healthier, more natural state, for example, by supporting the return of native species and creating diverse habitats. Regenerated landscapes may not be fully wild but can provide spaces where nature and people coexist, helping ecosystems recover.

## Interesting facts!

- Around half of the world's original forests have disappeared. They are still being removed at a rate 10x higher than any possible level of regrowth.
- Habitat loss poses the greatest threat to species worldwide.
- In the UK farmland birds have declined by 56% between 1970 and 2015.
- Only 12% of woodland in Wales is ancient and semi-natural, and much of it is degraded and fragmented.
- Wales has lost 30% of its sand dunes since 1900.

**Further research keywords**
State of Nature report, extinction vortex, wildlife corridor, toad crossing, green bridges, habitat mapping, mosaic habitat, regeneration, degraded landscapes, keystone species, apex predators, nature-based economies, ecosystem services, habitat restoration.

30 mins

# Safe Place Game

**Equipment required**
- Hula hoops or floor mats
- Whistle

## Before the game

1. Spread hula hoops or mats around the game area to represent the animal habitats.

## To play the game

1. Explain that animals use their habitats as a refuge to keep them safe from predators.

2. Encourage learners to run around the game area acting as if they are feeding.

3. When the whistle blows, this means danger. All the learners must get to the safe habitat before the whistle stops.

4. Anyone who hasn't made it into the safe areas are out and have to sit on the side.

5. In every round, mats / hula hoops are removed, making fewer safe places and further apart.

6. The effects of habitat loss can then be talked about and learners can discuss how much harder it was to get to safety as the habitat disappeared.

Activity Guide

# Habitat Match

**Equipment required**

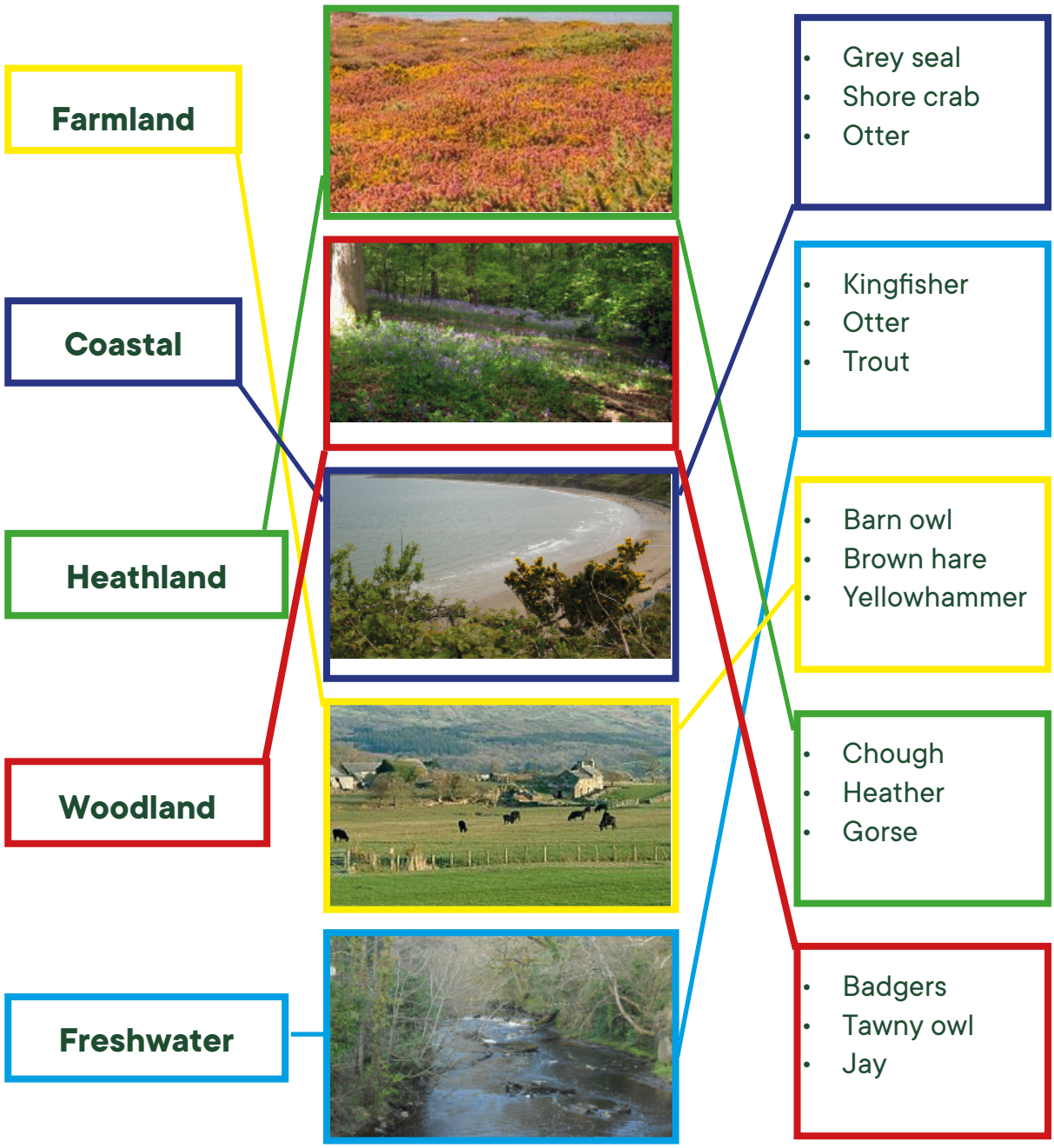
- Print out of the 'Habitat Match' worksheet, one per learner

**To complete the activity**

1. Support learners to complete the worksheet.



## Answers - Habitat Match



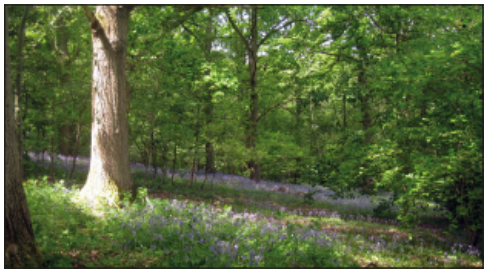
# Habitat Match

**Game rules:** Match the habitat name to the photo and some of the species that live there by drawing a line between them.

**Farmland**

- Grey seal
- Shore crab
- Otter

**Coastal**



- Kingfisher
- Otter
- Trout

**Heathland**

- Barn owl
- Brown hare
- Yellowhammer

**Woodland**

- Chough
- Heather
- Gorse

**Freshwater**

- Badgers
- Tawny owl
- Jay

*The total size of all the UK's gardens is bigger than all our National Nature Reserves.*

1 hr

# Corridors

**Equipment required**

- Print the two 'Corridors' worksheet for all learners
- Coloured pencils or pens
- Scrap paper

## To complete the activity

1. Explain that animals use their habitats for different things and being able to move between different areas is very important.

2. Support learners to begin work on their worksheets, trying to find a way to fit different land uses in whilst still allowing travel between habitat areas.

3. Encourage learners to invent and draw ways for the animals to cross any features that block their route.

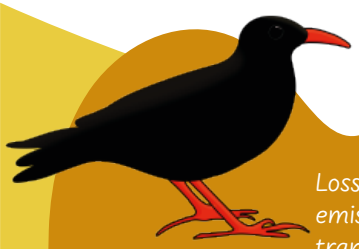
# Corridors

*Wildlife corridors are a way of keeping areas of habitat connected even when development cuts off areas that were previously linked. They allow animals to move safely across large areas. They can take many forms including; hedgerows, road verges, field margins and urban gardens.*

**Game rules**

- *The grid already contains roads and rivers.*
- *You must add 30 green habitat squares and 30 red town squares to the grid.*
- *You need to make sure there is a green path from the start to the end that animals can follow safely.*
- *You can move between squares that are next to each other, but not diagonally.*
- *Whenever your route has to cross a road or a river you must invent a safe way for animals to cross it.*

*Draw and describe your invention below:*



*Loss of forests causes more $CO^2$ emissions than all the world's transport.*

# Corridor Game Board

End

Start

30 habitat squares

30 town squares

* Tick off each square as you add it to the grid

Heathland is a rarer habitat than rainforests.

1 Hours

# Regenerating Our World



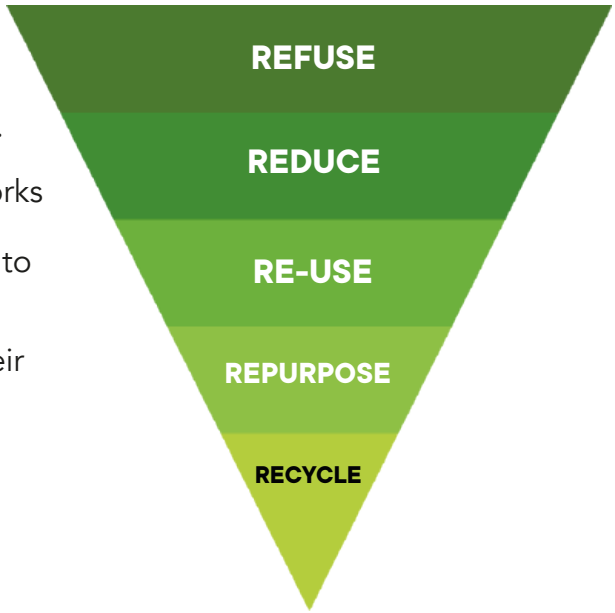
**Equipment required**

- Print out the 'Lost and Found Creatures' sheets (L_HL_1), one per group
- A variety of recyclable and non-recyclable items (cardboard, plastic bottles, paper, food scraps, food wrappers, plastic toys etc.)
- Recycling boxes or trays (labelled: paper, plastic, metal, glass, cardboard)
- Scissors
- Glue, tape or other adhesives
- Large sheet of cardboard or paper, one per group
- Paint, crayons, coloured pencils or markers
- Internet enabled device and internet access

**To complete the activity**

1. Before learners arrive, scatter recyclable and non-recyclable items around the classroom. Ask learners to help you sort the items into correct boxes/trays (paper, plastic, metal, glass, cardboard), explaining their choices. Encourage discussion about why certain items can be recycled and others cannot. Explain that every product we use—whether it's plastic, metal, or cardboard—comes from nature. These resources are taken from habitats like forests, rivers, and oceans, which can harm wildlife. That's why we talk about a circular economy— an economy where we keep materials in use for as long as possible, so we don't keep destroying natural habitats to get new resources.

2. Support learners to consider the 5 Rs of recycling and their importance in environmental conservation:
Refuse, Reduce, Reuse, Repurpose and Recycle.




Explain to learners that the circular economy works by following these Rs. The less we need new materials, the fewer habitats are destroyed to get them. In pairs, ask learners to consider:

- How could they incorporate the 5 Rs into their daily lives?
- What effect would this have on nature and wildlife? Why?


# Regenerating Our World

3. Explain to learners that Landfills are part of the linear economy. When we throw things away, they go to landfill, which takes up land where wildlife used to live. If we follow the circular economy, we keep items in use, which helps prevent land from being turned into landfill and protects wild habitats.

4. Share the video 'Growing Nature Reserves on top of your Trash' - www.tiramor.cymru/habitatloss (Resource 1)
Discuss:
- What are the benefits of regenerating landfill sites?
- How does regeneration help return habitats to wildlife?
- Why is it even better to avoid creating landfill sites in the first place?

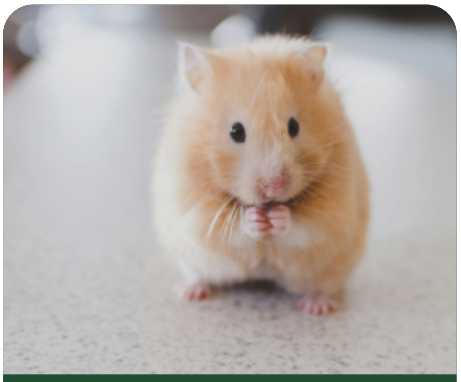
5. Provide each group with a 'Lost and Found Creatures' sheet (L_HL_1). Discuss the habitats these creatures rely on and how they may lose their habitat due to landfill expansion. Encourage learners to identify the specific habitat for each creature and consider how landfill growth directly threatens these environments.

6. Ask groups to design a 'regenerated landfill' on the large sheet of cardboard/ paper, incorporating elements like:
- Native plants and trees
- Ponds or water features
- Shelters for different animals
- Recycling bins to emphasize waste management

7. Encourage learners to decorate their regenerated landfills using recycled materials and various arts materials. They may include the creatures from the 'Lost and Found Creatures' sheet (L_HL_1) in their new habitat (e.g. insects in meadows, dragonflies in wetlands or birds in tree shelters).

8. Invite each group to present their ideas. Ask:
- Which animals can be found in your regenerated landfill site?
- How does your design help protect habitats and wildlife?
- Could further improvements be made? Why do you think that?
- How might the circular economy keep your regenerated landfill thriving and prevent other natural spaces from turning into landfill?

Share the Wild Landfill documentary 'Today's Landfills are becoming tomorrow's New Ecosystems' - www.tiramor.cymru/habitatloss (Resource 2).



Mouse

Photo by Ricky Kharawala on Unsplash

Shrew

Photo by Nick Fewings on Unsplash

Vole

Photo by Heather Wilde on Unsplash

Blackbird

Photo by Jim on Unsplash

Owl

Photo by Zdenek Machacek on Unsplash

Jay

Photo by Damian Kwiatkowski on Unsplash

Hedgehog

Photo by Tadeusz Lakota on Unsplash

Frog

Photo by Gary Yost on Unsplash

Newt

Photo by Asha Taylor on Unsplash

Butterfly

Photo by David Clode on Unsplash

Bees

Photo by Massimiliano Latella on Unsplash

Beetle

Photo by Brandon Stoll on Unsplash