A Green Careers Week Challenge

Swift Street
Student Pack

Green Jobs for Nature

Swift Street

The Story of Swift Street

On the edge of a quiet residential area lies the forgotten expanse of Swift Street. Once a thriving industrial estate, it now stands as a dilapidated relic, with broken windows and litter telling a tale of neglect. Local residents feel uneasy about its presence but also fear the unknown changes redevelopment might bring.

A team of people in Green Jobs for Nature sees potential in transforming this site into a vibrant public park.

A Hidden Sanctuary

Despite its current state, Swift Street contains natural beauty. Long grass sways untouched, providing a haven for wildlife. Bats flit through the twilight, and historically, Water Voles called this place home, though they have since vanished.

Invasive species like the American Mink and Himalayan Balsam have taken hold, and a polluted stream cuts through the land, remnants of its industrial past. Tarmac patches and bare ground dominate, yet even here, solitary bees and ants thrive.

Echoes of Industry

The industrial park's closure left a hole in the local economy. Businesses that once relied on the factory workers' closed, leaving behind a boarded-up cafe and shop. The nearest supermarket is now a considerable distance away. Current use of the land is limited to vandalism and antisocial behaviour, increasing residents' fears. They long for the area to feel safer.

A Vision for the Future

There is a proposal to reclaim Swift Street for the community, this transformation aims to rejuvenate local businesses and provide a safe, welcoming environment for families.

By involving the community in the planning process, the project seeks to address their needs and concerns.

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Swift Street

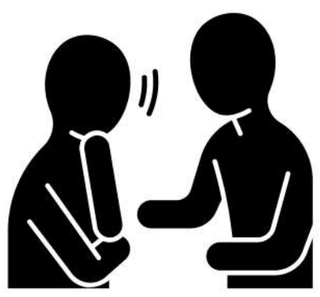
The Challenge

Over five activities you will meet a range of people carrying out roles that have all helped to contribute to what we know about Swift Street now. They will tell you about the work that they undertook as well as providing advice to you on the final part of the challenge.

It will be down to you to create a media and communications pack in order to help residents understand the changes that are being proposed and what this means for both them and the area.

Your Consultation Timetable:

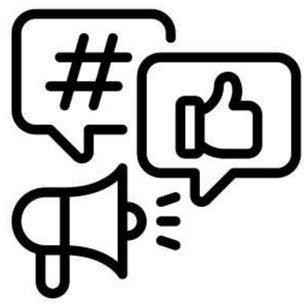
Day 1
Mapping



Day 2
Species Research

Day 3
Project Budget

Day 4
Events Planning



Day 5
Media Pack

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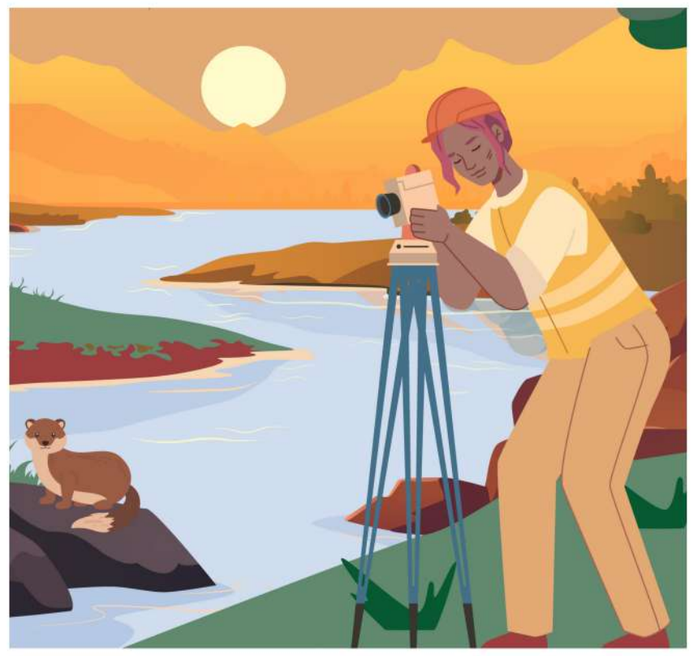
Activity One:
Mapping



Now that you have heard from both your employer and the Ecologist, it is time for you to get a clearer idea of how they come up with their results.

For this, you will need to study an area of your school grounds to see what wildlife it might support. You will be carrying out a habitat survey, this will result in you producing a map of the area you are covering.

You need to use coloured pens or pencils to colour parts of the map according to the following colour code:

Woodland (dark green)

Bushes (light green)

Long Grass (orange)

Short Grass (yellow)

Pond (light blue)

Running Water (dark blue)

Bare Ground (brown)

Buildings (black)

Hedgerow (dark green line)

Fence (black line)

Wall (red line)

Target Notes

Alongside these habitats, you will also need to record any signs that wildlife might be using the site, this involves you looking for evidence. This might be nests, feathers and even animal poo.

On your map you can mark these as a red circle with a number in. On a separate piece of paper, record these numbers in a list with a note next to them saying what evidence you have found.

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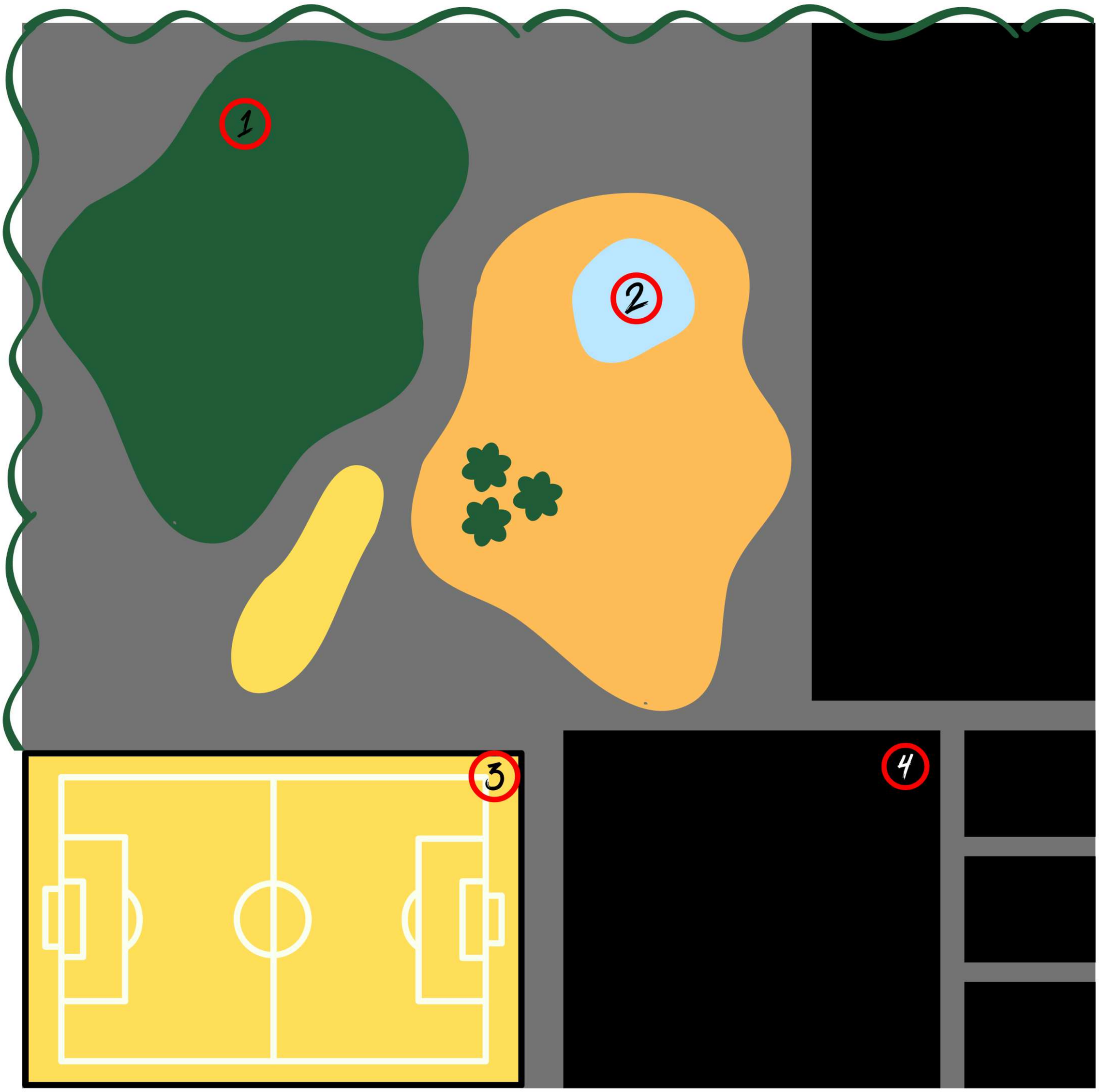
Activity One: Mapping

Phase 1 Habitat Survey Map; Example



Target Notes

1. Signs of burrowing; could be foxes
2. Mallard duck using the pond
3. Feather in corner of football pitch - could be a Gull
4. Gap in corner of building, looks like an animal might be using it

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Activity Two:
Species Research

Now that you have heard from the Environmental Adviser, it is time for you to get a clearer idea of how they come up with their recommendations.

For this, you will need to carry out research into species of interest and concern in order to find out more about them and their behaviour and how they are typically managed.

Several species of interest have been found at Swift Street, in groups you will need to research one of these species and present your findings on these. You have been asked to consider how Swift Street could be changed to support the species that you have researched.

You can produce this in a number of ways, including just writing what you think should happen. Alternatively you could draw, or sketch the changes you would make to the Swift Street site.

The species of interest are:
Earthworms
Water Vole
Beaver
Hedgehog
Bats

As well as researching online, some simple information has been added to the end of this pack.

Once you have created your ideas, you will be required to present them to the rest of your class, so choose a spokesperson from your group!

After all the groups have presented, you will discuss what the priorities should be for Swift Street as a whole in terms of these species, your plans will be saved to help you with the final activity.

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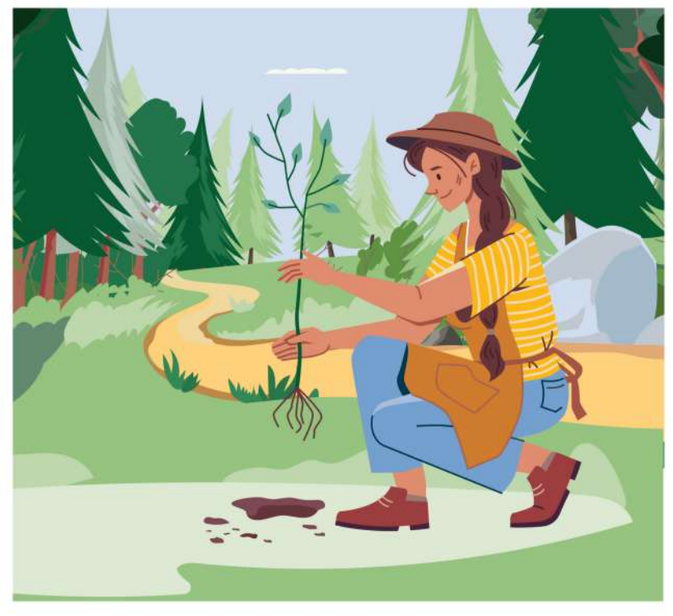
Activity Three:
Project Budget



Now that you have heard from the Conservation Ranger you will need to consider the budget that you have available and how you will manage this in order to have the greatest impact whilst balancing the concerns of the local residents.

Review the costs of different conservation activities (e.g., tree planting, pond digging) and discuss which activities you would prioritise within the budget.

The total budget for the project was around £1.2 million, but £1.1million has been spent on removing some of the older buildings that were hazardous. Some areas of tarmac have been left. That leaves you with **£125,000** to spend on improving the site for people and nature.

You will need to complete a budget for the works you are planning to do on the site, keeping within the budget.

To help with some of your decisions, the distance around the perimeter of the site is around 1000m.

Here are the quotes for the works you could choose to carry out:

Species Rich Hedgerow, with tree guards £14 per m: 1000m = £14,000
500m = £7,000
250m = £3,500

Wildlife Pond: £25,500

Pond Dipping Platform: £4,000

Wildflower Meadow: Large (8% of the entire area) = £75,000
Medium (4% of the entire area) = £37,500
Small (2% of the entire area) = £15,000

Cost of “rewilding” Milton Stream: £20,000

Cost of bat and bird boxes: £80 per box (including installation)

Cost of bench: £600 (including installation)

Cost of information panels: £500 (including installation)

Cost of accessible pathway: £100 per m: 500m = £50,000
250m = £25,000
100m = £10,000

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Activity 3a & 3b:
Community Concerns

300 local residents were asked about their current concerns, here are the results:

- 165 people are concerned about frequent vandalism in the area. **(%)**
- 70% of people do not feel safe walking around the area after dark due to the antisocial behaviour.
- 150 people are unhappy with the amount of litter and waste accumulating around the estate. **(%)**
- 40% of people believe the abandoned buildings are an eyesore and contribute to a feeling of neglect.
- 90 people are worried that the derelict state of the estate is harming local wildlife **(%)**
- 35% of people are concerned that the presence of the disused estate is negatively affecting property values in the neighbourhood.
- 40% of people believe the area lacks safe and accessible community spaces for families and children.

A**ctivity 3a: Find out which concerns are most common. Convert all the figures into percentages by dividing the value (number of people) by total value (number of people surveyed), multiply the result by 100.** For example, 150 unhappy with the amount of litter out of a survey of 300: 150/300 = 0.5 x 100 = 50%

The 300 local residents were also asked about their future concerns, here are the results:

- 75 people feel that the redevelopment might erase important aspects of the area's industrial heritage. **(%)**
- 45% of people are concerned that the change in use, particularly if it includes recreational facilities, will lead to increased noise levels that could disturb the community.
- 50% of people are concerned that the new development could lead to insufficient parking for residents.
- 150 people are worried that redevelopment might push antisocial behaviour into nearby areas, simply relocating the problem rather than solving it. **(%)**
- 105 people are worried that the disused estate, despite its current state, has become a habitat for local wildlife, and redevelopment could disturb these animals. **(%)**

Activity 3b: Find out which concerns are most common. Convert all the figures into percentages by dividing the value (number of people) by total value (number of people surveyed), multiply the result by 100.

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Activity 3c:
Budgeting

Item Chosen	Cost (£)	Reason for Including
Total Cost (£):		

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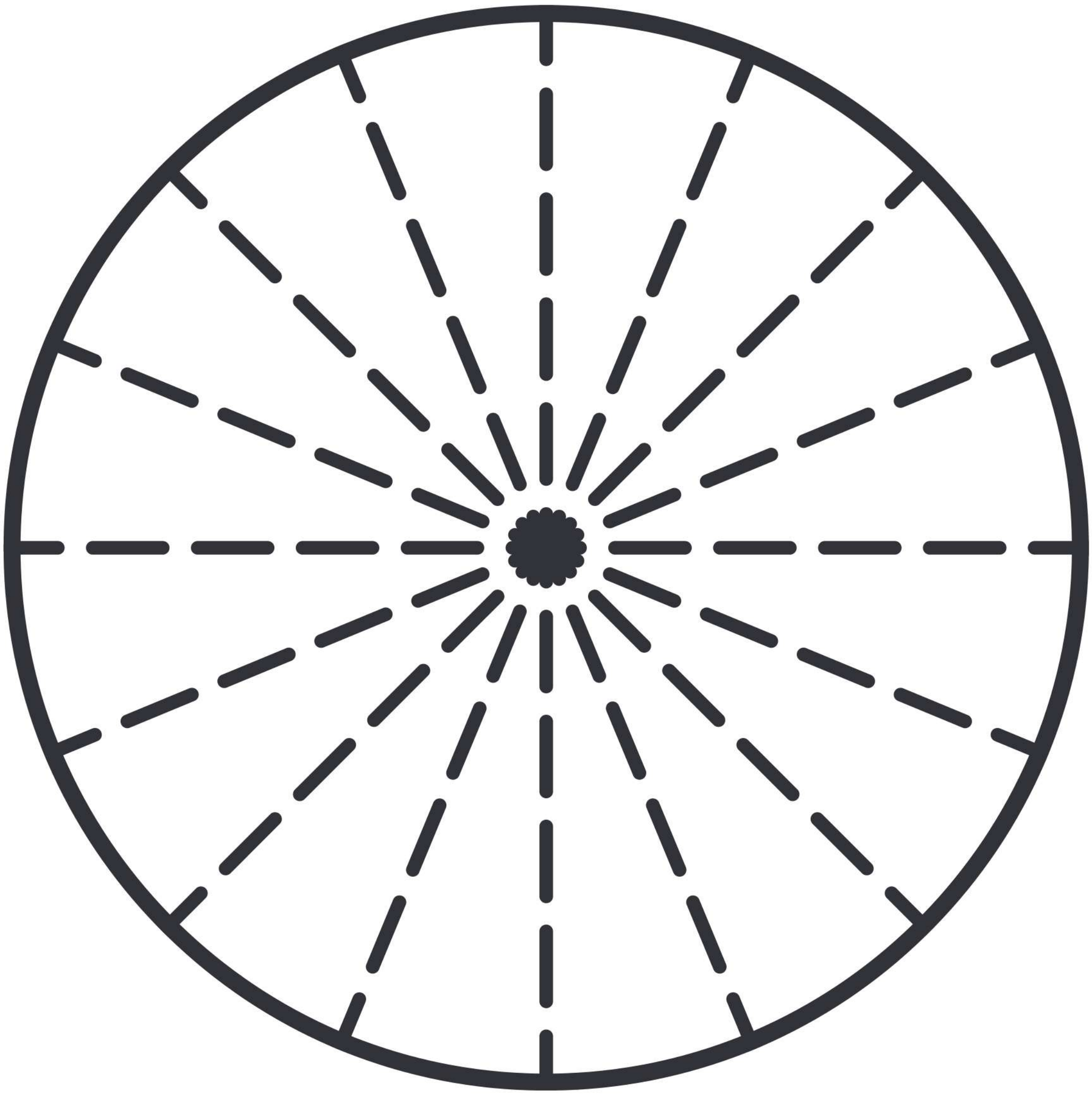
Activity Four:
Events Planning

Now that you have heard from the Environmental Educator you need to consider the benefits that this area could have for people and come up with a considered activity plan for the site. What options are relevant? What options are more important than others and in what order? How will you ensure that the site doesn't fall back into the state it is in now, with litter and damage being common?

The Ecosystem Service Wheel.

As a group, discuss what benefits humans get from nature reserves and parks. When you have decided, start to write them into the segments of the wheel below (you have 15 mins):



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Activity Four:
Activity Plan

Activity	Why It's Good for the Park (ecosystem services)	Who will it benefit?	Challenges or Problems
Name of the activity or feature (e.g., a picnic area, bike trail)	A simple reason why this activity is good for the park (e.g., helps animals, fun for people, keeps the air clean)	Who will enjoy it or use it, e.g. families, wildlife, the community?	Think about any challenges that might come up (e.g., too expensive, might disturb wildlife)

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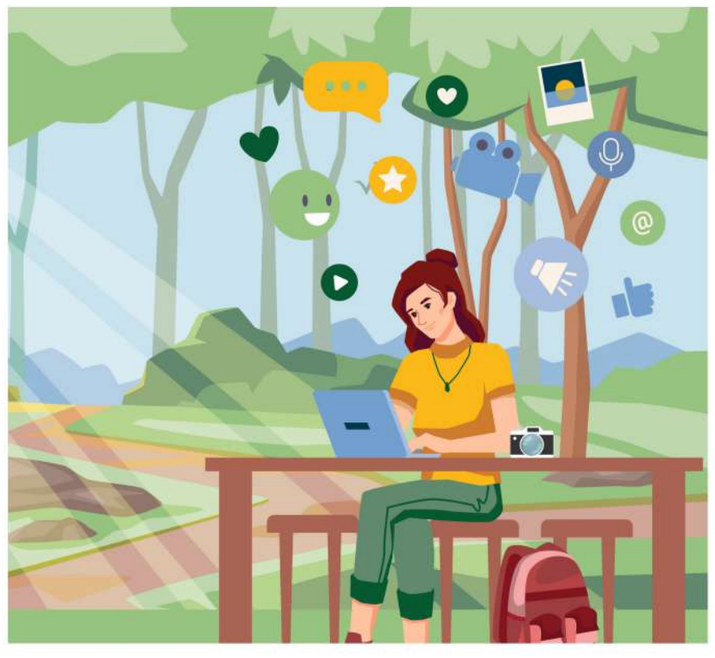
Activity Five:
Media Pack



Now that you have heard from all of the professionals working on this project, it is time for you to consider all that you have learnt. For this you can think about:

- The mapping exercise you carried out on Day 1
- The species research that you carried out on Day 2
- The budgeting that you carried out on Day 3
- The activity plan that you created on Day 4

You will need to produce a media pack that will be used to encourage people to see that change to Swift Street is a good thing - whilst taking their concerns into consideration. This pack must include:

- Social Media: Write a brief **social media post** that highlights the benefits of the project (minimum 250 words)
- Visual Information: Design an **A4 sized poster or leaflet** with key visuals that support the message.

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Glossary

Biodiversity - The variety of life in an area (i.e. the number of species in one place)

Conservation Ranger - Protect animals & plants by managing habitats on nature reserves, private estates, or coastal areas & they often speak to visitors too.

Ecologist - Study how environmental changes affect species. Some Ecologists focus on specific groups like mammals or freshwater plants.

Environmental Adviser - Help people and organisations, including farmers, businesses and local authorities, manage their land and development projects in ways that protect and enhance nature.

Environmental Educator - Help people learn about the natural world, its importance, and how to protect it.

Habitat - The area in which an animal, or plant, naturally lives

Species - A group of organisms that can breed together to produce fertile offspring

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Annex 1: Wildlife Information (to support Activity 2)

Contents

Green Jobs for Nature

(UK) Bat Species: An Overview

Bats are fascinating and important creatures within ecosystems. The UK is home to 18 species of bats, each with unique characteristics and behaviours.

Common Pipistrelle

Call Frequency: 45 kHz

The common pipistrelle is the UK's smallest bat, weighing as little as a 2p coin. It can eat up to 3,000 insects in a single night!

Soprano Pipistrelle

Call Frequency: 55 kHz

Slightly smaller than its common cousin, the soprano pipistrelle prefers wetlands and water bodies where it can find abundant insects.

Brown Long-eared Bat

Call Frequency: 25-45 kHz

Known for its large ears, which are nearly as long as its body, this bat has excellent hearing and can even detect the rustle of insect wings.

Daubenton's Bat

Call Frequency: 35-85 kHz

Often referred to as the "water bat," Daubenton's bat skims over water surfaces to catch insects, using its large feet and tail membrane.

Noctule

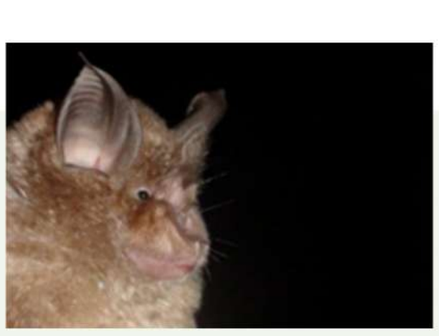
Call Frequency: 20 kHz

The noctule is one of the UK's largest bats and can often be seen flying high in the early evening before sunset, unlike most other bat species.

Greater Horseshoe Bat

Call Frequency: 80 kHz

This bat is easily recognisable by its horseshoe-shaped noseleaf, which it uses to focus its echolocation calls. It is one of the rarest bats in the UK, mainly found in the southwest



Images © Hugh Clark www.bats.org.uk

Conservation Status

Bats in the UK are protected by law due to their declining populations caused by habitat loss, pollution, and human disturbance. Conserving bats is crucial, not only for maintaining biodiversity but also for the ecosystem services they provide, such as insect control.

How to Help

To support bat populations, consider installing bat boxes, avoiding the use of pesticides, and preserving natural habitats. Additionally, joining local bat conservation groups and organizing bat walks can help raise awareness and contribute to their protection.

Understanding and appreciating these nocturnal mammals can lead to greater efforts in conserving their habitats and ensuring their survival for future generations.

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Beavers

Living around rivers, streams, and wetlands, Beavers are highly skilled architects of their environment. They build dams and lodges using branches, mud, and stones, creating wetlands that provide habitats for numerous other species. Beavers primarily feed on the bark and leaves of deciduous trees, aquatic plants, and grasses. Their activities increase biodiversity and improve water quality by filtering out pollutants.

Conservation Status

Historically widespread across Europe, the Beaver population faced dramatic declines due to overhunting for their fur, meat, and castoreum—a secretion used in perfumes and medicines. By the early 20th century, they were nearly extinct in many parts of their range. Thanks to reintroduction and protection efforts, beaver populations are recovering in several European countries. In the UK, reintroduction projects have been initiated to restore their presence and ecological benefits.

How to Help

- Create a Suitable Habitat: Make sure there are streams or ponds where beavers can build their dams and lodges. Plant native trees like willows and poplars, which beavers love to eat and use for building.
- Protect Their Environment: Keep the area free from pollution and make sure the water is clean. Avoid activities that might destroy their habitat, like cutting down trees or draining wetlands.
- Promote Awareness: Tell others about the benefits of having beavers in the environment. Beavers help create wetlands that support many other animals and plants, reduce flooding, and improve water quality.

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Earthworms

Earthworms thrive in soil, where they play a crucial role in maintaining healthy ecosystems. They burrow through the earth, which helps to aerate the soil and improve its structure. This tunneling activity also aids in the decomposition of organic matter, recycling nutrients back into the soil. Earthworms feed on dead plant material and organic debris, making them essential for soil fertility.

Conservation Status
Earthworms are found all over the world and are vital for soil health and plant growth. However, their populations can be affected by factors such as soil pollution, excessive use of chemical fertilizers and pesticides, and habitat destruction. Healthy earthworm populations are indicative of good soil health, which is crucial for sustainable agriculture and natural ecosystems.

How to Help

- Create a Suitable Habitat: Ensure the soil is healthy by adding organic matter such as compost or leaf litter. Avoid compacting the soil, as earthworms need loose soil to move and thrive.
- Avoid Chemicals: Reduce or eliminate the use of chemical fertilizers and pesticides, as these can harm earthworms.
- Provide Food: Encourage the presence of organic material like dead leaves and grass clippings in the soil.
- Educate Others: Raise awareness about practices that support earthworm populations and overall soil conservation.

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Hedgehog: An Overview

The Hedgehog, with their distinctive spiny coat, is a beloved and iconic mammal found across the UK. Despite their popularity, hedgehogs are facing a serious decline in numbers.

Over the past few decades, Hedgehog populations in the UK have plummeted. It is estimated that the number of Hedgehogs has dropped by about 50% since the year 2000. This decline is attributed to several factors:
Habitat Loss: Urban development and intensive farming practices have reduced the availability of suitable habitats for Hedgehogs.
Pesticides: The use of pesticides diminishes the Hedgehogs' food supply, such as insects, Earthworms, and other invertebrates.
Road Traffic: Many Hedgehogs are killed by vehicles as they attempt to cross roads.

Interesting Facts

Hedgehogs have around 5,000 to 7,000 spines on their back, which they use as a defense mechanism. When threatened, they roll into a tight ball, making it difficult for predators to attack.
Hedgehogs are nocturnal animals, meaning they are primarily active at night. They forage for food and can travel up to two miles in a single night in search of nourishment.
During the winter months, Hedgehogs hibernate to conserve energy. They build nests out of leaves, grass, and other vegetation and remain dormant until the weather warms up in spring.
Hedgehogs have a varied diet that includes insects, Earthworms, Slugs, Snails, and occasionally, small vertebrates. This makes them beneficial for controlling garden pests.

How to Help

- Create Hedgehog Highways: Small holes (13 x 13 cm) in garden fences allow Hedgehogs to move freely between gardens, expanding their foraging area.
- Provide Shelter: Leaving areas of your garden wild and placing Hedgehog houses can provide essential shelter and nesting sites.
- Avoid Pesticides: Reducing or eliminating the use of pesticides helps maintain the natural food supply for Hedgehogs.
- Raising Awareness: Educating people about the plight of Hedgehogs and promoting conservation activities are key to ensuring their survival. Schools, community groups, and wildlife organizations play a crucial role in these efforts.

By taking action to protect Hedgehogs and their habitats, we can help secure a future for these charming creatures, ensuring that they continue to be a common sight in UK gardens for generations to come.

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Plant Communities and their role in biodiversity

Plant communities, such as woodlands, grasslands, wetlands, and hedgerows, play a vital role in supporting biodiversity. These habitats provide essential resources for various animals, forming intricate food chains and ecosystems.

Woodlands

Woodlands are rich in plant diversity and offer numerous benefits to wildlife. Trees provide roosting sites and support a plethora of insects that bats feed on whilst the dense undergrowth and leaf litter provide shelter and abundant food sources, including insects and worms, which hedgehogs forage for.

Grasslands

Grasslands, including meadows and pastures, are open habitats full of life. Grasslands have healthy soil teeming with worms, which are crucial for soil aeration and nutrient cycling. Worms also serve as a primary food source for many animals. These areas offer rich foraging grounds for hedgehogs, who feed on the plentiful insects found here.

Wetlands

Wetlands, such as marshes and ponds, are essential for water dependent species. Beavers create wetlands by building dams, which enhance plant diversity and provide habitats for other species. Wetlands also offer food and burrowing sites for water voles, which are vital for maintaining healthy aquatic plant communities.

Hedgerows

Hedgerows are crucial linear habitats that connect different ecosystems. The rich, undisturbed soil in hedgerows supports large populations of worms, which improve soil health and fertility. Hedgerows serve as navigation aids and feeding grounds for bats, which hunt insects along these corridors. Hedgerows provide safe travel routes and food sources for hedgehogs and other animals, reducing their risk of predation and road accidents.

Supporting Biodiversity

These plant communities are interconnected and support complex food chains:

- Food Chains: Plants are the primary producers, providing food for herbivores like water voles and beavers. These animals, in turn, support predators such as birds of prey, foxes, and otters.
- Shelter and Breeding: Dense vegetation offers shelter and breeding sites for many species, helping maintain stable populations.

By protecting and restoring these plant communities, we can support a wide range of wildlife, ensuring that the UK's biodiversity remains rich and resilient.

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Swifts

Swifts are incredible birds known for their extraordinary flying abilities and distinctive, curved wings. These migratory birds spend almost all of their lives in the air, eating, sleeping, and even mating while on the wing. Every year, swifts undertake an impressive journey, traveling thousands of miles from their wintering grounds in Africa to breed in the UK during the summer.

Swifts in the UK are facing a significant decline in numbers, with population reductions estimated at over 50% in the past two decades. The primary causes of this decline include the loss of nesting sites due to modern building practices, changes in agricultural land use, and a reduction in their insect prey caused by pesticides and habitat loss. As a result, swifts are now a conservation priority, with efforts being made to secure their future in the UK.

A Swift in flight

A Swift nesting box

How to Help

- **Install Swift Boxes:** Since swifts nest in cavities in buildings, you can help by installing swift boxes on your home or local buildings. These boxes mimic the natural nesting sites swifts prefer and can be vital in urban areas where traditional nesting sites are scarce.
- **Protect Existing Nest Sites:** If you know of buildings that host swift nests, ensure that renovation work is done outside of the breeding season (May to August) and that nest sites are preserved.
- **Promote Biodiversity:** Encourage insect populations by planting wildflowers, avoiding pesticides, and maintaining green spaces that support a healthy ecosystem. Swifts feed exclusively on airborne insects, so a rich, biodiverse environment is crucial for their survival.

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Water Voles

Living around streams and rivers, Water Voles are excellent swimmers and enjoy a vegetarian diet, grazing on grasses, sedges and other types of plants. They are aren't considered fussy eaters, one study has shown Water Voles happily feed on over 200 different plants.

A Water Vole reaching for blackberries

A Water Vole in a bankside tunnel

Conservation Status

Having a wide and varied diet should mean that there is a high number of Water Voles in the UK, and indeed there used to be. But it is not lack of food that has caused this species to decline faster than most others in the UK, studies have shown that they have disappeared from a whopping 94% of the areas that they used to live in. One of the main reasons for this steep decline is down to the release of the American Mink into UK habitats. This predator, native to America (not the UK), is able to chase, catch and eat Water Voles, which the Water Vole has been unable to adapt to.

An American Mink

How to Help

- Water Voles like to feed on longer vegetation, so leaving the edges of waterways uncut or keeping livestock out (at least 2m strips) will provide both cover and food for them. Fencing can be a good way of creating these areas for Water Voles.
- Removal of artificial banks (i.e. bricks) can provide more areas of bare soil for Water Voles to burrow into. Carrying out surveying each year between April and June can help you find out if you have Water Voles and add to the UK records.

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