Otters

Introduction

Otters

One of the UK's 66 resident wild mammals, the otter is the largest of the UK weasel family. Males can be over a metre long including the tail and weigh about the same as a toddler. They have a varied diet and their combination of sharp canine teeth and flatter back teeth mean they can easily eat both slippery fish and hard shelled crustaceans. In order to maintain their feeding needs otters establish long territories along river catchments. Otters travel large distances everyday and visit different habitats whilst foraging.

They are largely nocturnal animals meaning that they can occupy areas in good numbers whilst remaining unknown. Most of the day is spent sleeping in their holts (dens built into river banks or tree holes) or in hiding places surrounded by long vegetation. The most obvious signs that otters are living on a waterway are their well worn pathways to and from the river, remains of prey species, footprints in the muddy banks and their oddly sweet smelling droppings which are known as spraint.

Otters were once widespread all across the UK but a combination of pollution in rivers, loss of vegetation along rivers and new drainage schemes meant that by the 1970s otters had disappeared from most British rivers. The news is good though, a combination of reintroduction, clean up of rivers, building artificial holts and increasing the habitat around river banks has meant that populations are successfully re-establishing themselves across the UK.

Rivers still need good management to sustain fish stocks at good levels so that otters can thrive but they are facing a new threat. Many young otters are being killed on roads every year and people are working hard to find solutions like underground tunnels.

The Welsh Otter Survey monitors otter populations in Wales with information gathered about where they live and how the population is changing. The survey results improved since the earliest surveys, with 90% of sites in 2009-2010 but between 2015-2018 figures were down to 71%.

How are otters adapted to life in the water

- They have valves in their ears and eyes that allow them to seal them underwater.
- They have the densest fur of all UK mammals. It consists of two layers and is waterproof.
- They have a powerful rudder-shaped tail to help with swimming.
- They have webbed feet for more powerful swimming and they have fur on their feet to keep them warm and add grip on slippery rocks.
- Long whiskers help them to navigate underwater.

Further research keywords

Lutra lutra, The UK Wild Otter Trust, otter hunts, mustelids, International Otter Survival Fund, vibrissae, apex predator, protected species, otter field signs, otter hovers and couches.

45 - 60 mins

Ollie Otter's Diary

Equipment required

- Rulers
- Graph paper
- Copies of 'Ollie Otter's Diary'

To complete the activity

1. Provide learners with copies of the otter's diary.

2. Support learners to use the information within the diary to create a bar graph showing how much of each prey the otter eats. This can either be done daily or for the whole week.

3. The activity can be extended by creating another graph based on estimates of how far the otter has travelled to get the food everyday. On the map there is a scale and diary details of where the otter has been, so the routes can be measured and then graphed.

4. As a class, the results can be discussed and the distances can be compared to local places that are an equivalent distance so that the learners can get an idea of how far the otters are travelling for food.

Ollie Otter's Diary

Monday:
It was a sunny day today so we decided to go down to the coast to eat some crabs. It seemed to take ages to swim all the way to the estuary and then round to Rocky Bay. There was lots of food though; I ate eight crabs! On the way back I ate a salmon for dinner and two frogs. Time for bed now.

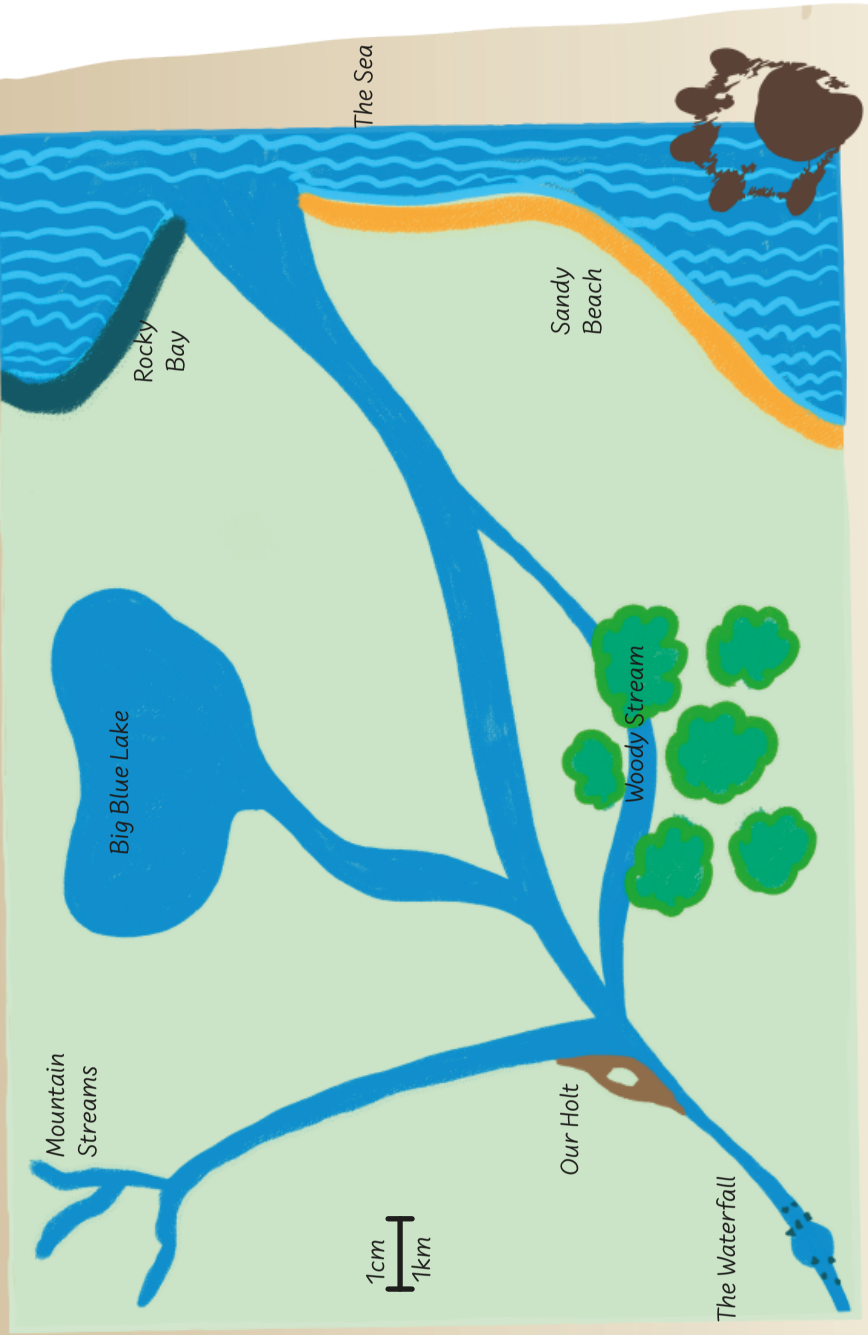
Tuesday:
It was raining a lot today and I didn't feel like going far, so I had three frogs for breakfast and then went for a short swim to Big Blue lake. There were a few trout there so I had two for lunch and then headed home for my two frog dinner.

Wednesday:
I had a very busy day today, lots of swimming. Mum wanted me to help get food for everyone so we swam up to the waterfall to catch salmon. I ate a big one for breakfast. We then went down to Woody Stream to look for frogs. I was so hungry that I had three as a snack. After that we carried on down to Sandy Beach to look for crabs, we found loads so I had four for my dinner. It seemed to take ages to swim back to the holt tonight.

Thursday:
I was really tired today so I didn't want to do much. We went for an early swim around Big Blue lake, ate two trout for breakfast. Then we went to play in the mountain streams. I had my favourite food for lunch, four crayfish! It was really tasty. I had a nap and then went with mum to the waterfall where we had a salmon for dinner. I fell asleep as soon as I got back to the holt.

Friday:
It was a stormy day today so mum decided that we should go to the sea to look for crabs. We headed off down the main river and came across lots of eels. I had three small ones for breakfast. We went right to the edge of Sandy Beach today as far as you can get from the estuary - it was exciting. I had six crabs for lunch and two more in Rocky Bay. Once we got home mum gave us three frogs for dinner and we went to bed.

I drew this map of my home area so that I could remember it forever...



30 - 45 mins

Make Me

Equipment required
- Printed copy of 'Make Me' worksheet, one per learner
- Pens and pencils

Before starting the worksheet

1. An introduction to otters and also to adaptations is needed before learners can complete the worksheet independently but it could be used as a whole class activity to introduce the concept of adaptation.

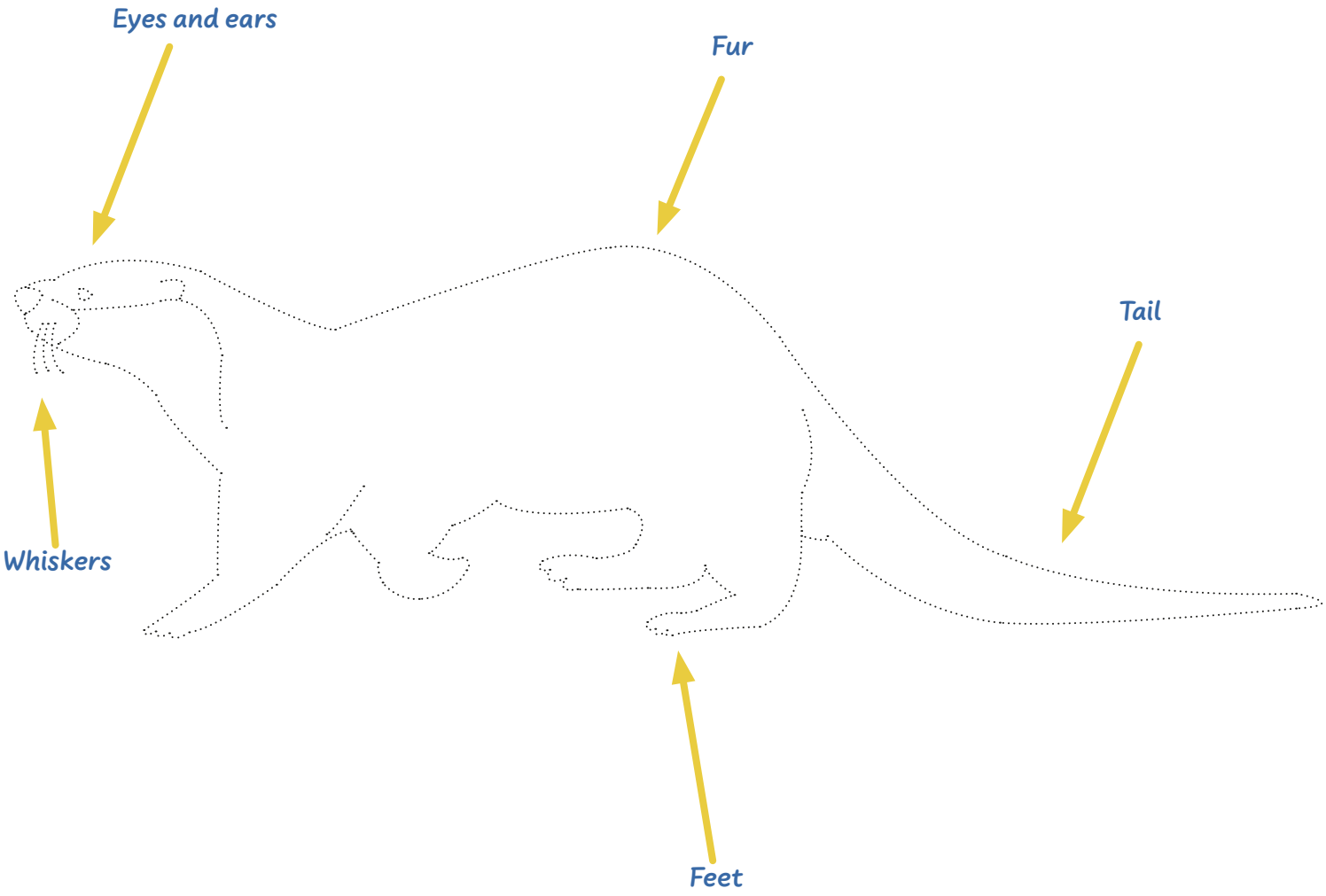
To complete the activity

1. Provide learners with copies of the 'Make Me' worksheet.

2. Support learners to colour in the otter and add information about how all its body parts are specially adapted to its life in and around rivers.

Make Me

Colour in and complete the otter.
Then add labels to the arrows to describe how each part is adapted to the otter's life in the water.



In one 2.5cm square of an otter's body, there are around one million hairs!

60 mins

Observing Otters

Equipment required

- Copy of the 'Spotting Otters' worksheets (2 pages), one per pair
- Copy of the 'Welsh Otter Fact Sheet', one per pair
- Internet enabled devices and internet access
- Access to Hwb and suitable graphing tool (e.g., Excel, Google Sheets, J2E – JiT5)

To complete the activity

1. Provide each pair of learners with copies of the "Otter Spotting' worksheet and 'Welsh Otter Fact Sheet'.

2. Support learners to use the information from the 'Welsh Otter Fact Sheet' to complete the table on their worksheet. Dates should be rounded to the nearest 10 years.

Answers

	1st - First	2nd - Second	3rd -Third	4th - Fourth	5th - Fifth	6th - Sixth
Approximate Year	1970's	1980's	1990s	2000s	2010s	2020s
Sites with signs of otter (%)	20%	38%	53%	72%	90%	71%

3. Once learners have completed their tables, encourage them to create their own line graph or bar chart, using the information from their table. Discuss suitable graphing tools e.g., Excel, Google Sheets, J2E – JiT5.

4. Using the scatter map, support learners to identify areas with high concentrations of positive sites. Discuss patterns. What types of habitats do otters prefer (e.g., rivers, lakes, wetlands)?

5. Ask learners to discuss potential threats that might be impacting otter populations in certain areas? Learners may refer to habitat loss, water pollution, climate change, human disturbance and diseases.

Observing Otters

Using the information provided in the 'Welsh Otter Fact Sheet', complete the following table:

	1st - First	2nd -				
Approximate Year	1970's	1980's				
Sites with signs of otter (%)	20%					

Round all dates to the nearest ten years.

Task

Create a bar graph using your preferred graphing tool.
Use your graph to answer the following questions:

1. Which decade had the lowest percentage of otter signs in Wales?

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2. In which decade did otter signs reach their peak in Wales?

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3. What is the overall trend in otter populations in Wales over the past few decades? Is it increasing, decreasing, or fluctuating?

.....

Observing Otters

Use the scatter map (Figure 1) to identify areas with high concentrations of positive sites.

- Discuss any patterns.
- What potential threats might be impacting otter populations in certain areas?
- Why do you think this?

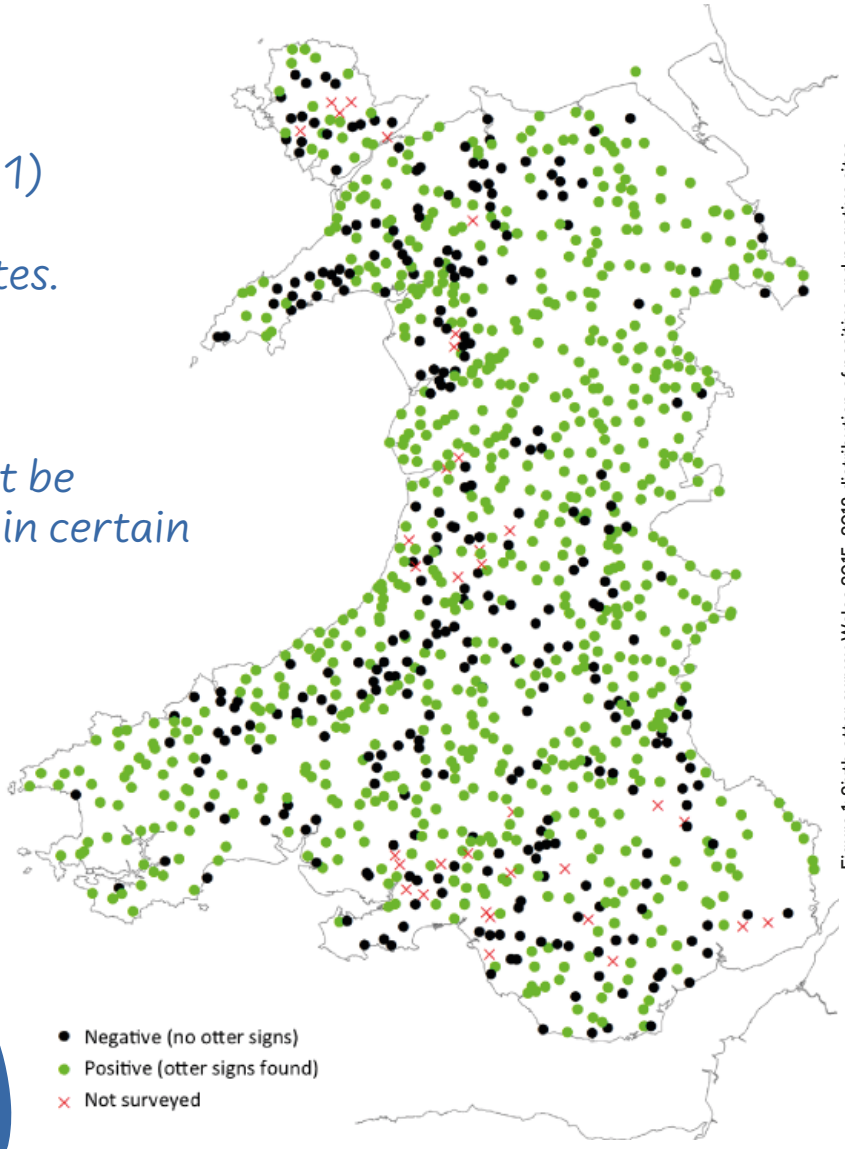

Figure 1: Sixth otter survey Wales 2015–2018 distribution of positive and negative sites

What might have caused the decline in otter populations in the 1970s?

What factors could have contributed to the recovery of otter populations in the 1990s and 2000s? **Why?**

What challenges do otters face in Wales today? **Why do you think this?**

How can we continue to protect and conserve otter populations?

Otters can typically hold their breath for up to 8 minutes.

Welsh Otter

FACT SHEET

The Welsh Otter Survey is a project that monitors the population of Otters in Wales.

Scientists and volunteers work together to gather information about where otters live and how their numbers are changing.

- *In the 1970's, otters had disappeared from most British rivers.*
- *In Wales, over 1,000 sites were visited, with signs of otters found at* **20%** *of sites.*
- *The second survey in 1984 found signs of otters at* **38%** *of sites.*
- *The third survey in 1991 found signs of otters at* **38%** *of sites.*
- *In 2002, otters were found at* **72%** *of sites, with 90% of sites with signs of otters in 2009-10.*
- *Between 2015-2018,* **71%** *of sites showed signs of otters.*

Otter Homes

Otters build cosy homes called 'holts'.

They often choose riverbanks or tree holes, lining them with moss or leaves.

Holts provide otters with a safe and warm place to rest, sleep, and raise their young.

Otter Signs

Otter pathways along the water's edge.

Leftover remains of their prey, like fish bones.

Otter droppings, called spraint, which have a distinctive sweet smell!

Otter footprints in the mud.

Male otters can be over a meter long and weigh about the same as a toddler.