

The River Ver



Chalk Stream Challenge

WELCOME



Discover the wonders of these rare and precious places, which are full of amazing wildlife and heritage with our Chalk Stream Challenge!

The challenge is suitable for Schools, Scouts, Guides, and similar groups or even keen individuals.

It involves activities that can easily be customised to suit different age ranges.

There is a suggested route along The River Ver giving lots of info on the way.

Once you have completed the challenge fill in the form on our website and order your badge!

The Chalk Stream Challenge was originally created by two volunteers as part of the Watercress and Winterbournes Landscape Partnership Scheme.

The Chalk Stream challenge was adapted for The River Ver by the The Ver Valley Society, with assistance from the Chilterns Chalk Stream Project.

Let's get involved!



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BACKGROUND

Did you know that there are nine Chalk Streams in the Chilterns National Landscape? This includes the Ver, whose headwaters rise in the CNL.

Considering there are only around 300 Chalk Streams in the whole wide world this is pretty impressive! Chalk Streams are often described as 'England's Rainforest' because across the country we have 85% of this global total.

They provide rare spaces for a whole host of wonderful creatures and plants to live in harmony with each other. Like water voles, brown trout, damsel and dragonflies, water crowfoot and mayflies.

The Chalk Streams in the Chilterns eventually all run into the River Thames and finally into the ocean. Sometimes parts only flow in the winter, these rivers are called 'Winterbournes'.

However, what they all have in common is that the water that feeds these streams

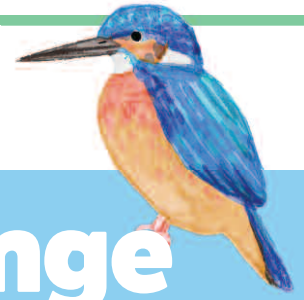


comes from the ground where the bedrock is chalk. The chalk rock acts as a giant sponge under the ground storing water which we eventually see running through the streams. This sponge is called an 'Aquifer'.

Our rivers have been shaped by us and past human activity. Satellite imagery and the latest technology can show us the patchwork of industries that used the 'gin-clear' water as a means of transport, farming and production such as milling of grain or paper. The watercress industry continued in the Chilterns until very recently.



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WHAT'S SO SPECIAL ABOUT THE RIVER VER?

Chalk, created over 100 million years ago made out of shells and tiny sea creatures called coccoliths, is porous meaning it can hold rainwater like a sponge.

Water levels in Chalk Streams can change at a much slower rate than those that are formed on a non-porous base such as clay.

Rich in minerals due to the filtration through the chalk, the water emerges from the ground in the form of springs at a constant temperature year-round.

This trait encourages a wide range of aquatic (water loving) plants to grow, this in combination with good water quality leads to healthy populations of invertebrates and fish species.

It is a natural occurrence for certain stretches of the river to become dry, this can happen by late summer, due to a drop in the water table, where rainfall has not recharged the aquifer.

One of the challenges faced by Chalk Streams is global warming, which is affecting rain patterns and recharge rates. This could mean that some of the rivers we see now are dryer for longer periods or even dry out where they never had before.

Chalk streams have been modified for generations to supply us with water for agricultural purposes like farming, industry including watercress and milling, transportation and fishing.

Abstraction, removing water for our use, is another big threat for the River Ver. Over abstraction leaves the river without enough water to support a healthy ecosystem.



We use water in our homes to drink, flush our toilets, brush our teeth, shower, clean our clothes and even to wash our cars and or water the garden. On the River Ver, Affinity Water provides us with this water. If you can reduce the amount of water you use to do these things, like turning the tap off when you brush your teeth or having a short shower, we can reduce our consumption and help to save the River Ver from over abstraction.

Pollution, is another big threat to the River Ver. Pollution can come from many sources and take many shapes and forms, from tiny particles of sediment from the fields oil and chemicals from traffic to unnecessary litter.

The Ver Valley Society and Chiltern Chalk Streams are working with farmers to reduce sediment inputs to the crystal-clear waters of the Ver. Thames Water has one sewage treatment works on the River Ver. This has recently had an upgrade to increase the amount of sewage that can be treated there, sometime when it rains a lot, however, this can overload the sewage treatment works causing untreated sewage to be pumped into the river.

This is not good for the river invertebrate and fish populations.

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HOW TO EARN YOUR BADGE



- Everyone needs to complete Section 1
- Under 7s need to complete at least one other activity from sections 2,3 or 4.
- 7-11 years old need to complete at least two other activities from sections 2, 3, or 4.
- Over 11s should complete at least 3 other parts from activity 2, 3, or 4.

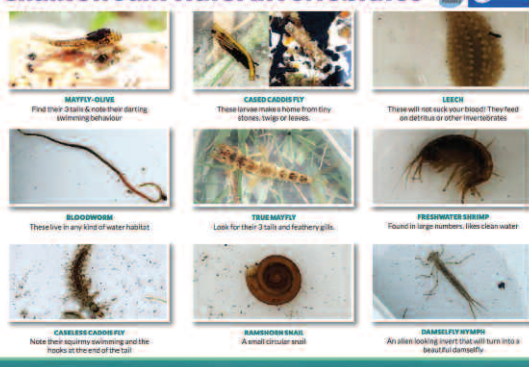
YOU WILL NEED – WHEN YOU GO OUT EXPLORING

- The route map and description.
- An OS Explorer map can be useful for looking for local industry and heritage features and expanding the trail if required.
- Field guides on flowers, plants, birds and water life are not necessary but may be of use.
- Good footwear and appropriate clothing.
- Spotter sheets can be downloaded for:
 - Chalk stream animals
 - Chalk stream plants
 - General spotter sheet
 - Pencil and paper

Chalk Stream Bird Spotter Sheet



Chalk Stream Water Invertebrates



Activities

SECTION 1

GET TO KNOW THE RIVER VER
(TO BE COMPLETED BY EVERYONE)

1.1 Walk the suggested route

Or

1.2 Walk a stretch of chalk stream local to you- you will need to note the location (from where to where) and approximate length.



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SECTION 2: RIVER GEOGRAPHY

2.1 Time the flow of the river

You will need:

- A stopwatch (or phone with timer on)
- Something to float (a stick, dog biscuit or mushroom! – make sure its biodegradable in case it floats away)
- A measuring tape (optional)
- At least 3 people

Measure out 5 metres or less (use could measure with steps if you don't have a tape).

1 person stands on the bank with the timer. 1 person stands at the beginning with the floating item on the measured length and one stands at the end. Once the timer starts the floating item is dropped in when it reaches the end stop the timer.

Try it in a few places.

Where does it flow fastest? Slowest?

Time taken to travel ----- m

Repeats	Time (seconds)
1.	
2.	
3.	
4.	
5.	

2.2 Water clarity

Chalk streams are fed by underwater spring and therefore should be crystal clear. However, this is not always the case.

Check the clarity of the water using this simple experiment

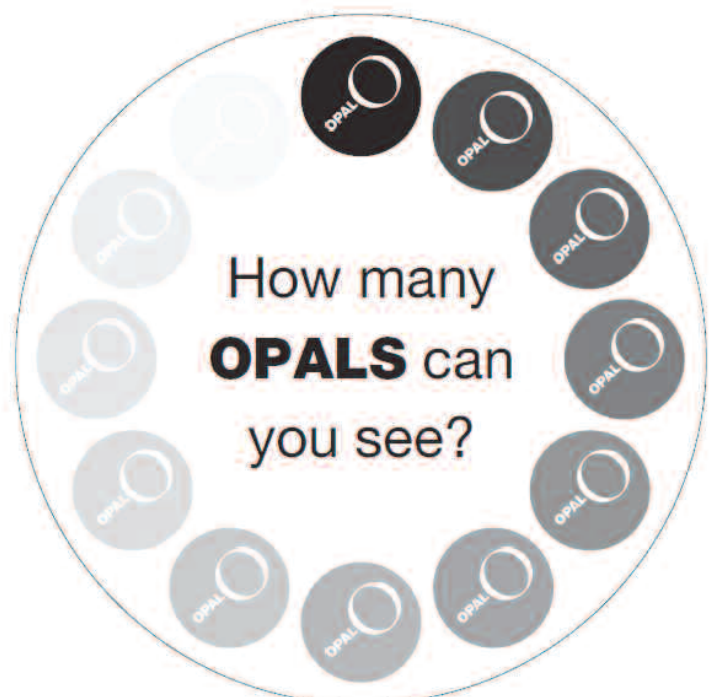
You will need:

- The below right cut out
- A 2L plastic bottle

Fill a bottle of water with the water from the stream. Hold the circle on the bottom of the bottle. Look through the top of the bottle. How many opals can you see?

Try in a few different places. If the water was less clear in some of your locations have a think about why.

What is making the water cloudy?



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SECTION 3: RIVER LIFE

3.1 Plant spotter (spring or summer is recommended for this activity)

This could be undertaken at the same time as your walk. Using the Chalk Stream Challenge spotter sheet walk along the river and see what river plants you can see.

3.2 Bird spotter

This could be undertaken at the same time as your walk. Using the Chalk Stream Challenge spotter sheet walk along the river and see what river birds you can see. Use your ears too! Make sure you stop regularly to look and listen.

3.3 River spotter sheet

This could be undertaken at the same time as your walk. The spotter sheet includes things

that can be seen along the suggest route. It includes natural and manmade points on interest.

3.4 River dipping

This can be delivered with Ver Valley Society event staff, or you can do it independently. If you are carrying out the activity independently, please download the river dipping guide.

We also have a loan kit with equipment you need. Please contact us to book this and arrange collection. If you can't get to the river or are carrying this out in the winter months an education officer may be able to visit your group with a sample of river invertebrates to study. Please contact us for availability. **Email: events4vvs@gmail.com**

SECTION 4: RIVER FUN

THESE ACTIVITIES CAN BE DONE AWAY FROM THE RIVER SO IDEAL FOR THE COLDER MONTHS

4.1 Caddis fly craft – Can you give a caddis fly a case using natural materials? You can download the printable sheet. You will also need glue and collage materials.

4.2 Make a boat – Download the instructions Can you hold a race on the river once you have made it? (make sure you only use natural materials in case it floats away) Or have a go at floating in the sink!

4.3 Cooking – make water cress soup! All ingredients should be shop bought and not foraged from the river.

Ingredients

- 20g butter or margarine
- 100g white onion, finely chopped
- 1 garlic clove, finely chopped
- 300g watercress, tough stalks removed
- sea salt and freshly ground black pepper
- 100g spinach leaves
- 500ml boiling water
- 500g ice cubes
- 100ml crème fraîche (or dairy free equivalent)

Method

1. In a large saucepan on a medium heat, melt the butter and gently cook the chopped onion and garlic for 2-3 minutes, or until soft and translucent but not coloured.
2. Increase the heat to high, add the watercress and a pinch of salt, cover with a lid and cook for 30 seconds. Add the spinach and cook for 1-2 minutes, or until wilted.
3. Pour in the boiling water and simmer for 2-3 minutes, then remove from the heat and add the ice.
4. Pour half the soup into a food processor, and blend until smooth. Transfer the soup into a clean pan, then repeat with the remaining soup.
5. When ready to serve, reheat the soup and season, to taste, with salt and freshly ground black pepper if required. Serve the soup with the crème fraîche swirled through.

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SECTION 4: RIVER FUN

4.5 Write a poem

Can you write a poem about the river? You could include some of these techniques:

- **Acrostic poem**- this is where is spells out word down the side of the poem- you could choose “chalk stream” as your word.

- **Rhyming words**- this means the words sound the same like:

Smooth it glides upon its travel,

Here a wimple, there a gleam –

O the clean gravel!

O the smooth stream!

Robert Louis Stevenson, 'Looking-Glass River'.

- **Alliteration** this is when you string together words which have the same first letter or sound, like “The rippling river rushed relentlessly, roaring over rocks and rippling through the reeds.”

If you write a poem we would love to read it- please include with your completed form.

4.6 Make a poster

Chalk streams are under threat from pollution and high water use.

Can you choose an issue and make a poster about it?

