



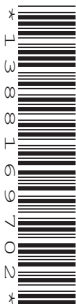
Oxford Cambridge and RSA

Thursday 12 June 2025 – Morning

**GCSE (9–1) Geography B
(Geography for Enquiring Minds)**

**J384/03 Geographical Exploration
Resource Booklet**

Time allowed: 1 hour 30 minutes



INSTRUCTIONS

- Do **not** send this Resource Booklet for marking. Keep it in the centre or recycle it.

INFORMATION

- This document has **12** pages.

Fig. 1

Pipes in Southern Water hosepipe ban areas leak nearly 100 million litres of water daily.

Millions of litres of water are lost by each water company in the UK every day due to leaking pipes. In 2020/21, an average of 98.5 million litres of water was lost each day from pipes in Southern Water's network. Within this, 25.4 million litres came from Portsmouth Water's network.

In addition, due to low rainfall in the first 6 months of the year, a hosepipe ban was introduced by Southern Water in August 2022 and soon after a drought was declared. Residents complained that if the network did not have leaking water pipes, there would be no need for the ongoing hosepipe ban.

Water leaks are a problem, water companies like Southern Water need to do all they can to reduce the amount of water which is wasted through leakage. After the ban was imposed, the usage for the average customer dropped by 40 litres a day. Southern Water also encouraged people to 'gently remind' their neighbours of the restrictions if they saw them breaching the hosepipe ban.

Southern Water Operations Map

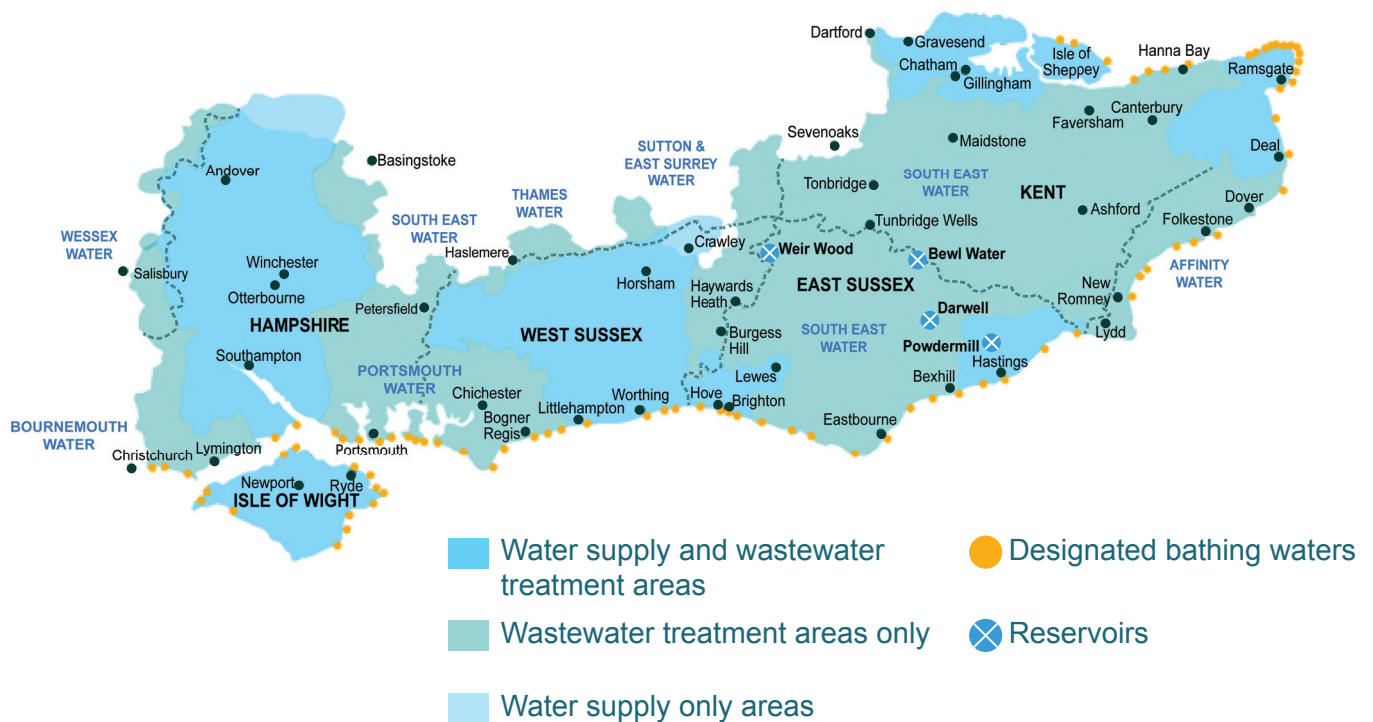


Fig. 2a

Location of the Havant Thicket reservoir

In June 2021 approval was given for a new reservoir to be built. The Havant Thicket reservoir will cover an area of 160 hectares in East Hampshire. The reservoir will hold approximately 8.7 billion litres of water and be able to supply 21 million litres each day. The reservoir will be fully operational by 2029.

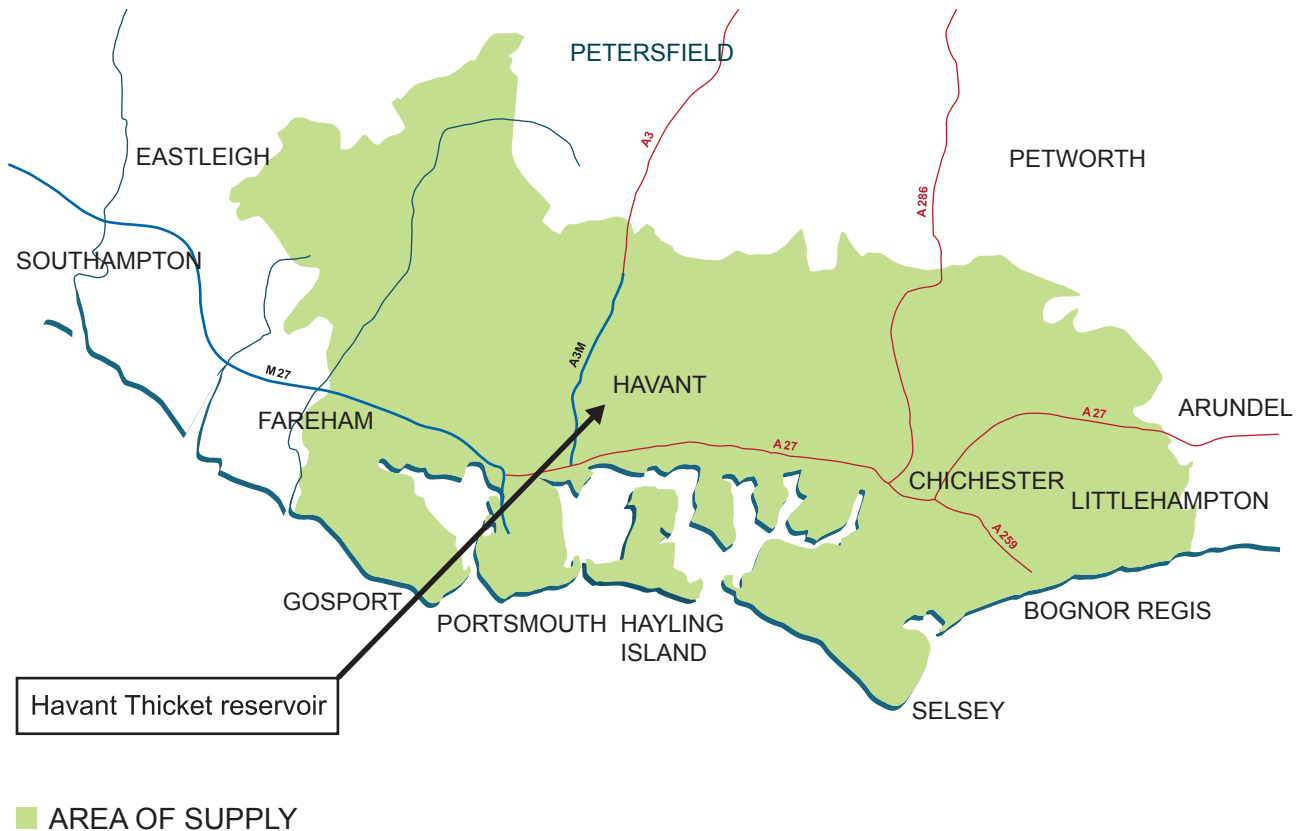
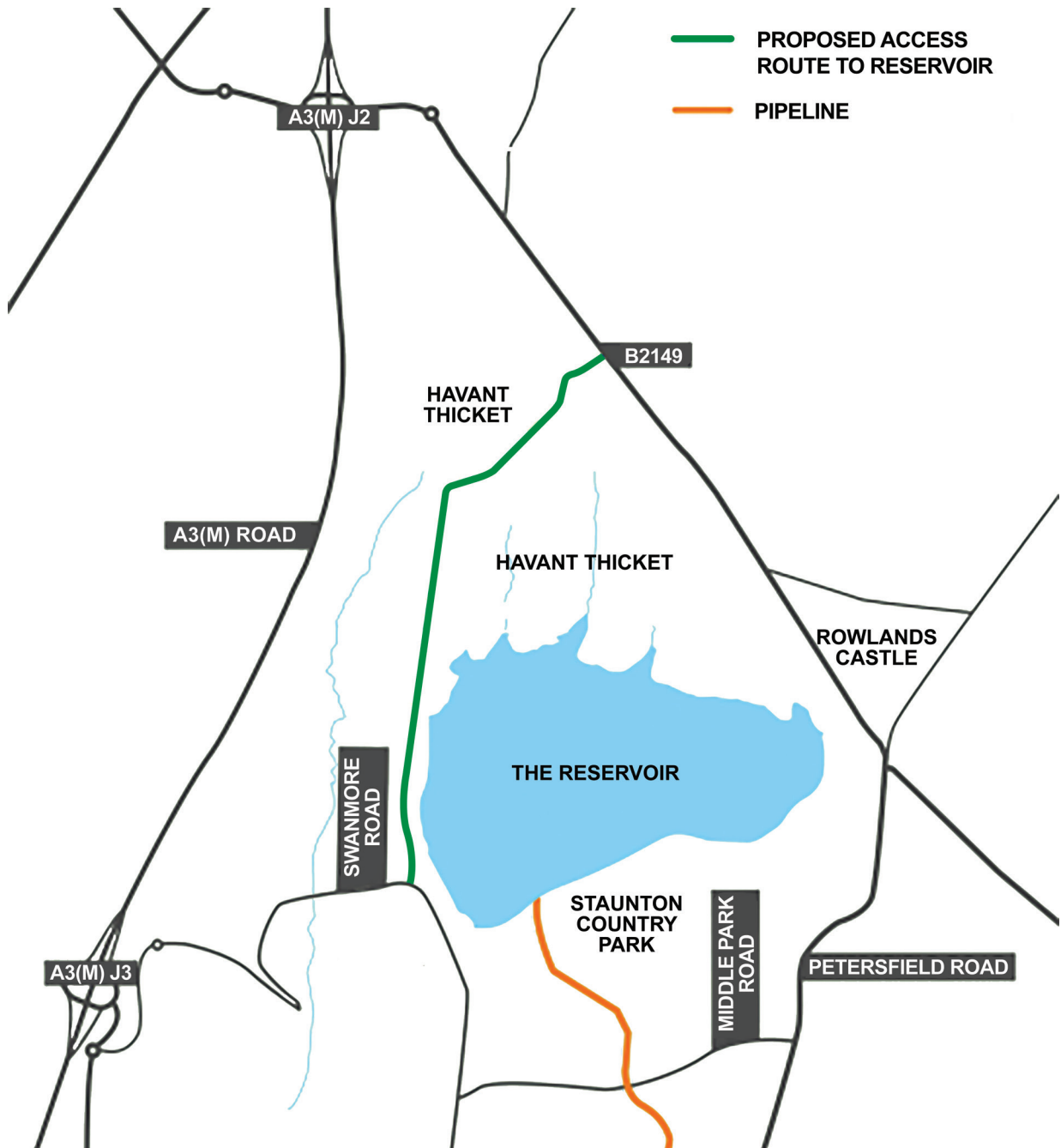


Fig. 2b

Location of Havant Thicket reservoir



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Fig. 3

A map of the Havant Thicket reservoir

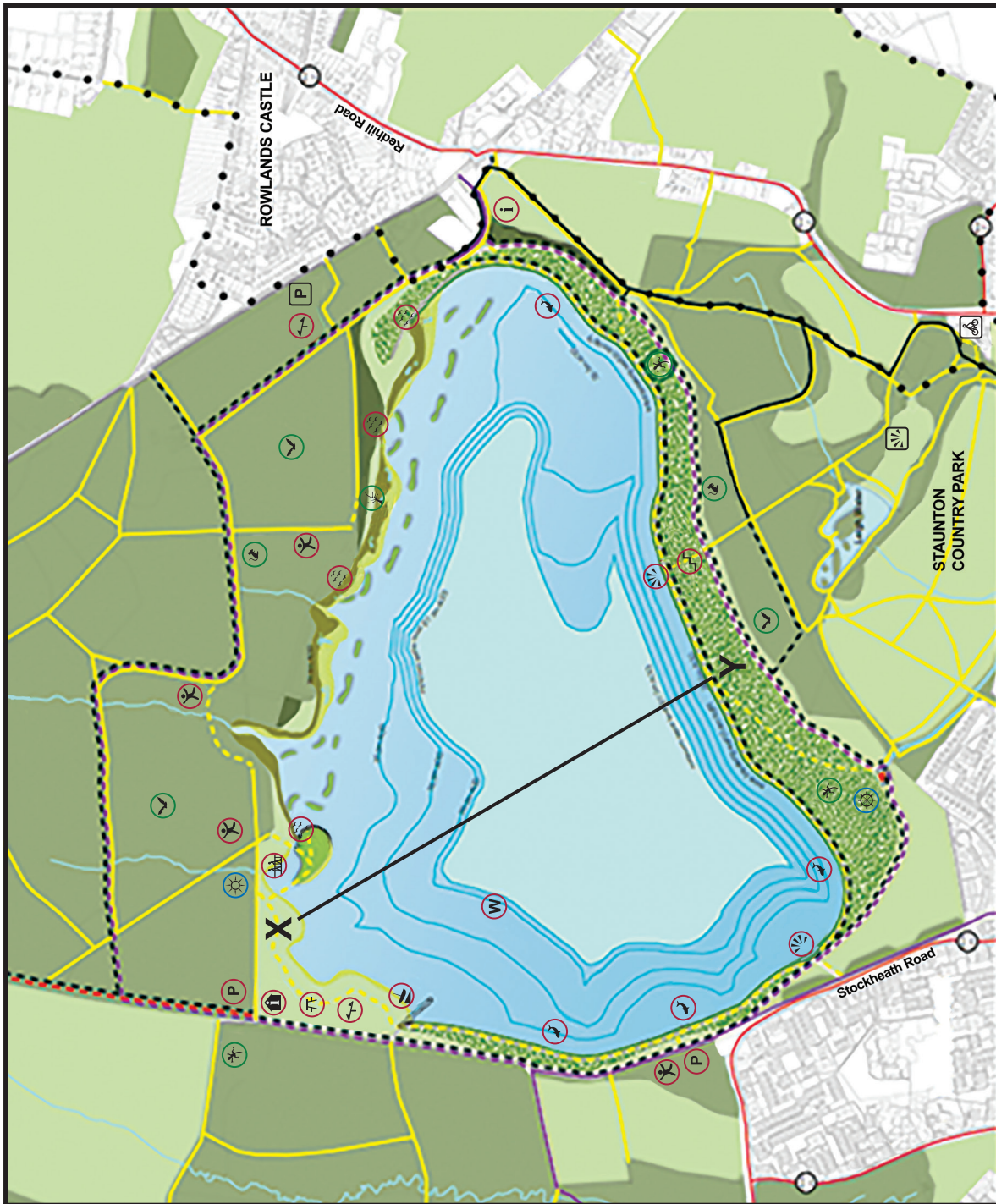


Fig. 3 Key for map of Havant Thicket reservoir

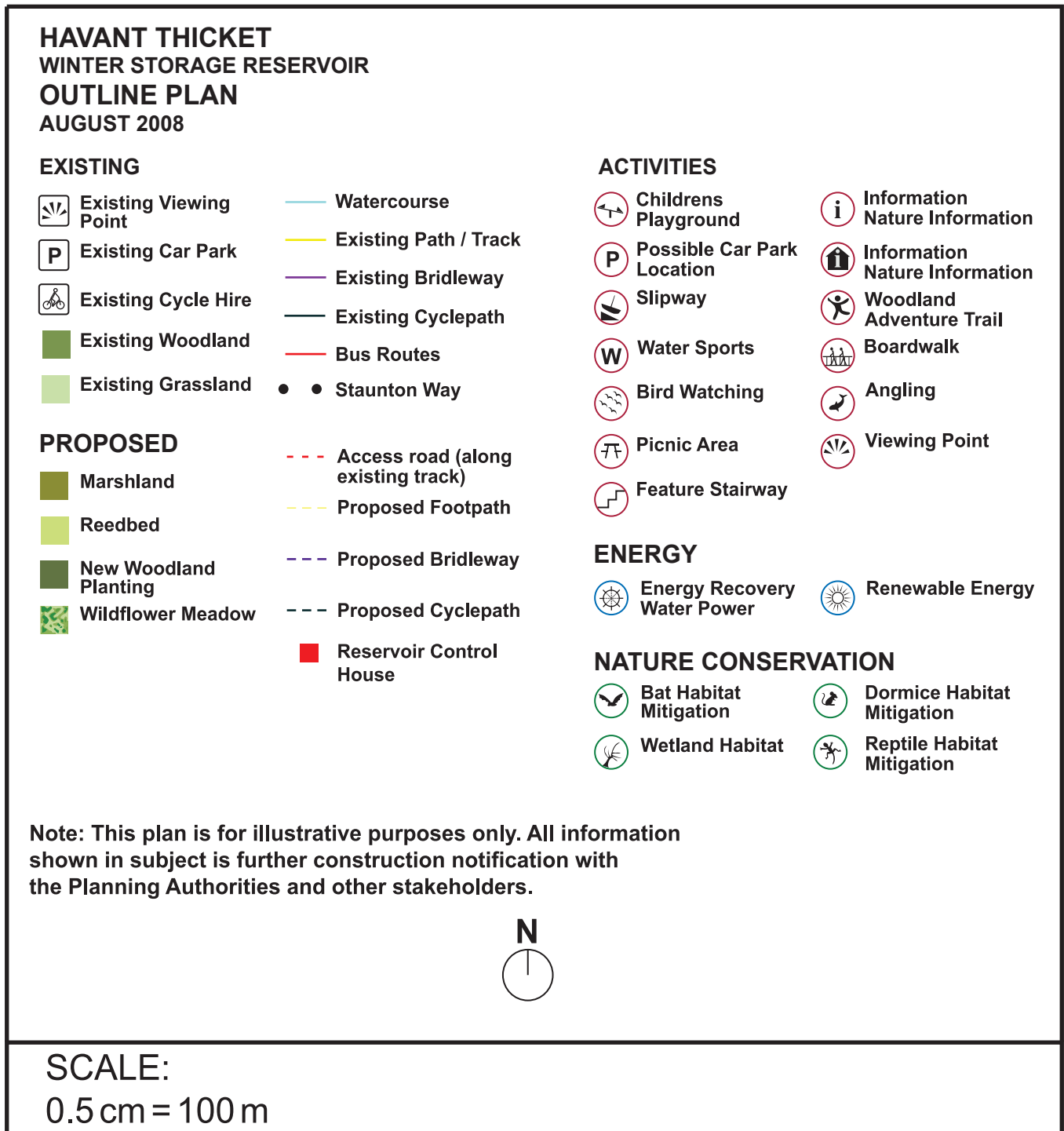


Fig. 4**Reservoir visitor centre and bird hide**

- The visitors centre will be located on the waterfront in the north-western corner of the reservoir site with direct views across the reservoir and wetland. It will be designed using local natural materials from the site.
- It will contain:
 - A reception area with information about water, wildlife, and the historic environment.
 - Large windows to give views over the reservoir and wetland, with seating for up to 50 people and a separate outdoor area.
 - A waterside terrace, with a wildlife viewing platform.
 - A shop selling locally grown food, and handmade crafts.
- The site will include an educational bird watching centre large enough to accommodate school groups.
- A nature themed playground with trails and pathways around the reservoir accessible to all.



Fig. 5**Viewpoints on the Havant Thicket reservoir development****Engineer**

I will be supervising the design and construction to ensure the reservoir is safe.

Forestry Commission

We manage the ecosystem by ensuring we provide an alternative habitat for species such as doormice and bats.

Local resident of Rowlands Castle

I live in the village of Rowlands Castle. To access the reservoir people will need to drive through the village.

Councillor

I am responsible for the maintenance of local roads.

Local environmentalist

I have an interest in the conservation of the local environment and its flora and fauna.

Bird watcher

I am keen to study the patterns of migration of wetland birds in the UK.

Water sports club manager

My business offers kayaks, canoes and sailing on the new reservoir.

Local disabled resident

There are limited facilities in the local area which have wheelchair access.

Fig. 6

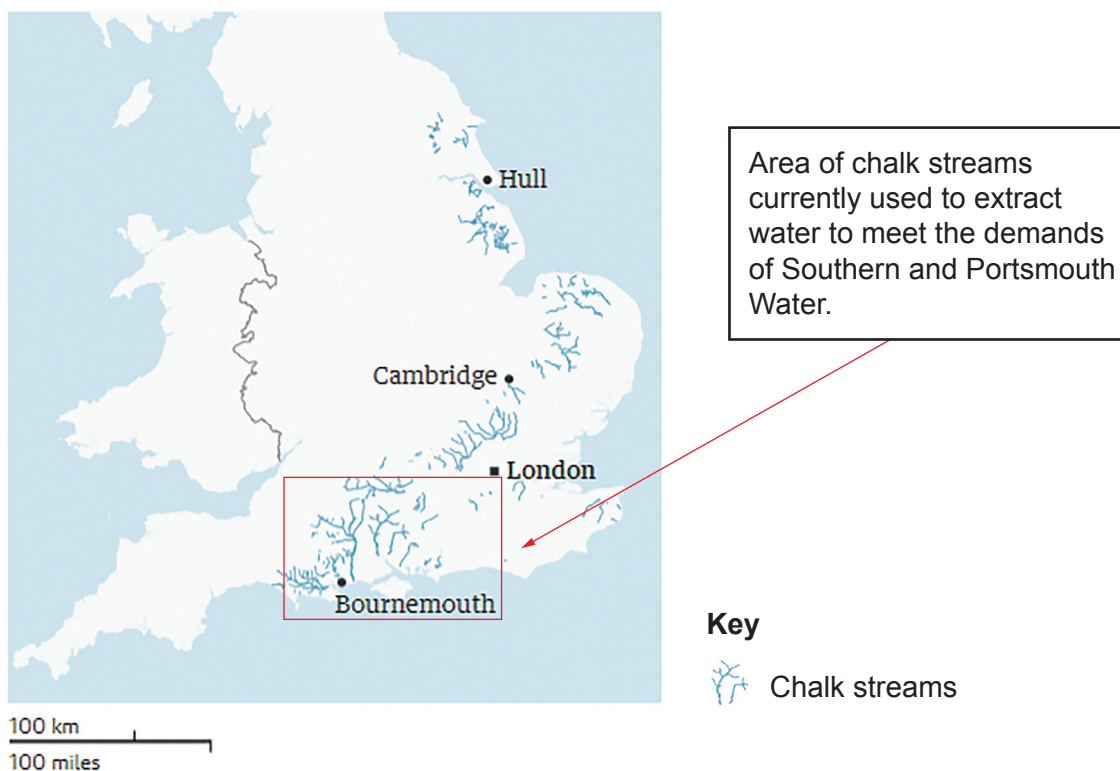
The importance of Chalk Streams

Chalk streams are rivers that rise from springs in landscapes with chalk bedrock. There are only 210 true chalk streams in the world; 160 of them are in England. They make a unique contribution to global ecology and over extraction of groundwater is putting them at risk. Bubbling up out of springs, chalk streams ripple over gravel beds through chalk hills towards the sea. They are typically wide, shallow, and crystal clear thanks to the constant purifying and filtering through the chalk.

Ecologists love chalk streams. Rare species live in these waters, including otters, kingfishers, and plants like the river-water crowfoot.

The biggest threat to chalk streams, is water extraction for human use. The streams are fed by springs that release water stored and purified in the chalk hills. Those hills are immense water stores – bigger than any artificial reservoir. That should mean the rivers flow constantly, even in the driest summer, but with densely populated southeast England pumping two-thirds of its water from underground, usually from chalk, the water tables in the hills are falling. When the water table falls below the point where a spring emerges, the chalk streams will dry up, killing their unique ecosystem.

Southern Water and Portsmouth Water provide more than 1 million homes with water, some of which is extracted from the chalk hills. The Environment Agency has concluded that these water networks sometimes extract too much water and has put 37 of these chalk streams on its endangered list. In some of these streams mayflies and shrimps have disappeared, with knock-on effects through the river's food chain. Lower water levels have meant fish stocks have not recovered, and the otters have not returned. The only way to protect the chalk streams is to find a long-term sustainable water supply.



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