Case study

Thames Water: South East Strategic Reservoir Option (SESRO)

March 2024

In the Thames Water region, water resources are under pressure from a growing population, changing climate and the need to protect and improve the environment.

The UK is experiencing more frequent heatwaves and droughts, particularly in London and the South-East. According to Met Office data, 2023 was **the second warmest year on record** just behind 2022 where temperatures soared to 40 degrees for the first time (Met Office, n.d).

As set out in their revised draft Water Resources Management Plan 2024[1], Thames Water forecast a shortfall of over one billion litres of water every day for their customers in the next 50 years – enough to fill around 400 Olympic sized swimming pools. The main factors that affect how much additional water we will need in the future are:

- a growing population
- a changing climate
- the need to provide increased resilience to droughts
- reductions in the amount of water we take from rivers and groundwater to improve the environment.

Why do we need the South East Strategic Reservoir Option (SESRO)?

Thames Water is **committed to providing a safe, sustainable, and resilient water supply for future generations.**

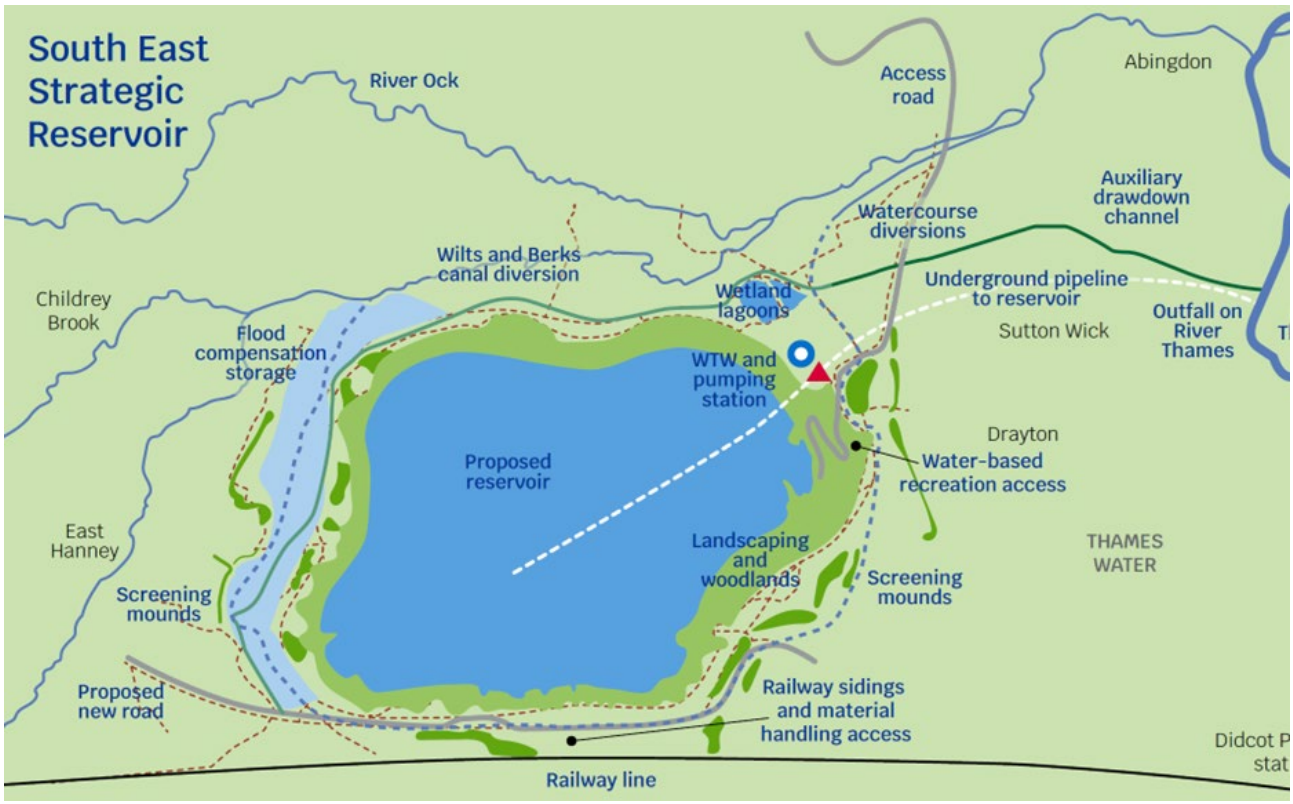
A new large 150 million cubic metres reservoir near Abingdon is one of a number of proposed schemes in Thames Water's revised draft plan. Once operational, it will help

[1] Thames Water Resources Management Plan 2024

ensure drought resilience for customers of three water companies: Thames Water, Southern Water and Affinity Water, supplying up to 271 megalitres of water per day. Given the scale of the water resources shortfall, SESRO will be needed alongside activities in Thames Water's revised draft plan to reduce water use to 110 litres per household per day (in line with Government guidelines), and investment supporting our ambition to reduce leakage levels by more than half by 2050.

The reservoir is estimated to have a total cost to deliver of £2.2 billion (2021-22 price base, including contingency and client costs). Thames Water is leading the development of SESRO on behalf of the three companies.

Preferred option for SESRO (indicative)

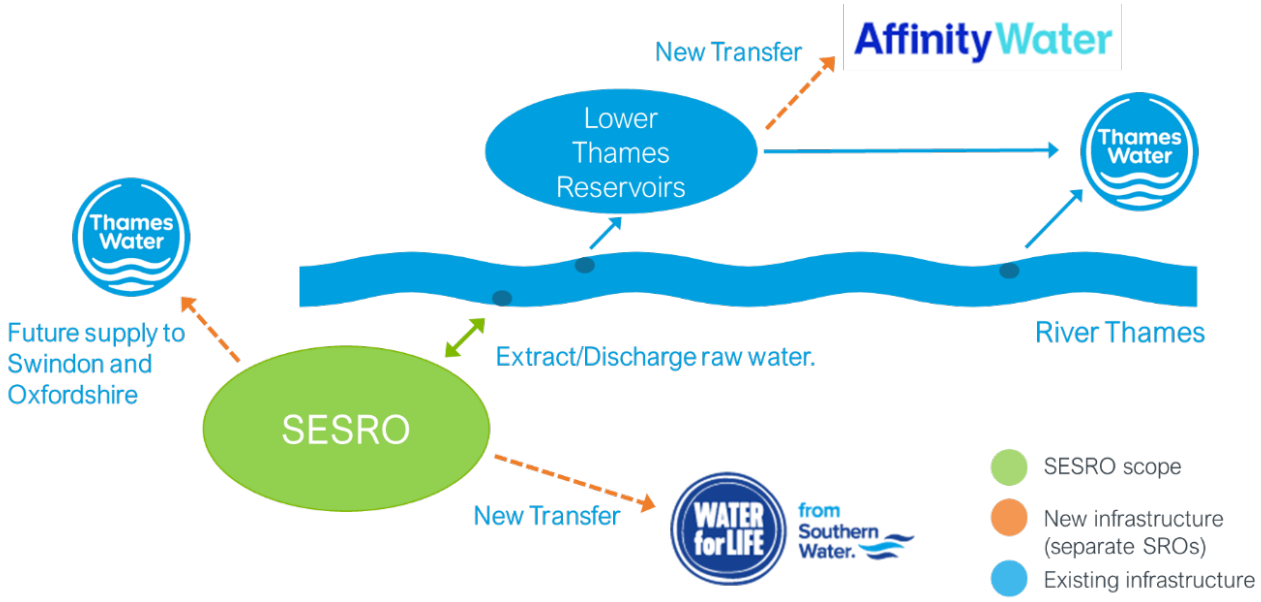


Who will the reservoir supply and how will it work?

Water would be abstracted from the River Thames during periods of high flow and stored in the new reservoir to be released back into the river when there is a need to increase the flows in the River Thames. This will allow Thames Water to abstract water further downstream (via existing infrastructure) to supply its customers in the Thames Valley and London, and customers of Affinity Water, via the proposed **'Thames to Affinity Transfer' (T2AT)**, which is being developed as a separate strategic resource option scheme.

In addition, there is also proposed to be a facility to abstract water directly from the new reservoir, treat it to drinking water standard at a new water treatment works, and then transfer it to the South to serve Southern Water customers as part of the **'Thames to Southern Transfer' (T2ST)**, which is being developed as a separate strategic resource option scheme.

Interaction of SESRO between benefitting companies



It is proposed that SESRO will be delivered via an Infrastructure Provider (IP) who would be appointed following competitive tender under the **Specified Infrastructure Project Regulations (SIPR) 2013**[2]. This is the same model that is being used for the Thames Tideway Tunnel.

The exact scope of the IP is under development, but it is currently expected that the IP will be responsible for the **design, build, finance (and potentially some maintenance activities) of the reservoir, and that Thames Water will operate the reservoir as part of its network.**

Alongside Ofwat, some aspects of the scheme will be regulated by the Environment Agency due to the Agency's role under the Reservoirs Act 1975[3] and also the interaction with the River Thames. Thames Water will also work with the Drinking Water Inspectorate, to the extent that the quality of water in the reservoir impacts upon onsite and downstream treatment works.

[2] The Water Industry (Specified Infrastructure Projects) (English Undertakers) Regulations 2013
[3] Reservoirs Act 1975

How will the reservoir benefit customers, the community and environment?

There are many opportunities that the reservoir would bring to Thames Water customers and the local area, **including huge social, economic and environmental benefits**. Once built, it would offer a place where people could walk, cycle and enjoy nature, offering recreation opportunities such as fishing and sailing, and could include a visitor centre and café.

Nevil Muncaster, Engineering and Asset Management Director at Thames Water, said:

> **"We need to act now if we are to secure water supply for future generations and remain resilient against the impact of the climate crisis. A new reservoir will provide water to 15 million people across the South-East and will bring huge social and economic benefits to the area. It will be so much more than a place to store water and will have a lasting legacy, creating space where people can walk, cycle and sail."**

Thames Water is also proposing wetlands along with the reservoir, which would capture carbon once established.

We are aware that flooding has been an issue in the local area. Flood risk is being studied, and Thames are developing and refining their plans to ensure there will be no increased risk of flooding from the reservoir during construction and operation. A key part of the early construction work would be creating replacement floodplain storage around the site. Opportunities for wider local flood resilience are also being considered, working with the EA and Oxfordshire County Council.

The reservoir will help us to protect vulnerable rivers and chalk streams by reducing the amount of water abstracted from groundwater.

The economic benefits include the creation of around 700 jobs during construction, involving apprenticeships for young people, boosting spending in the local area and employment on site once it is completed. All these things Thames Water want to develop with the local community.

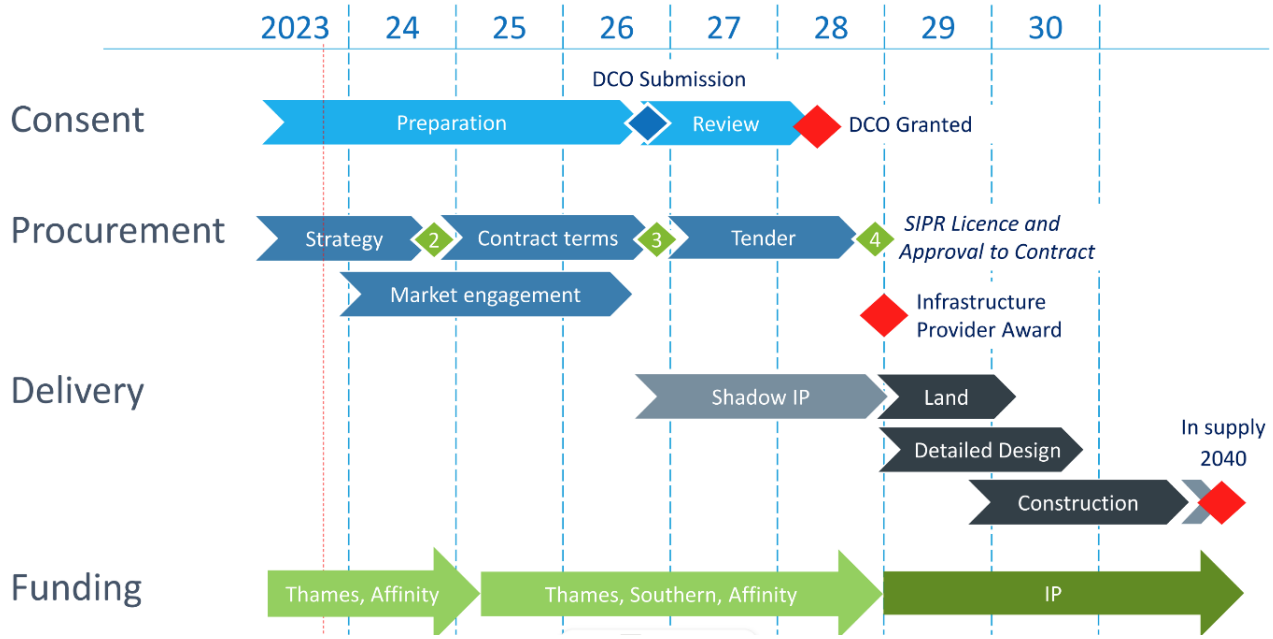
Proposed timeline

The scheme is classified as a **Nationally Significant Infrastructure Project and will be consented via the Development Consent Order (DCO)** route. Thames Water will engage with many other local and regional stakeholders as part of the DCO process.

Thames Water participated in an initial Market Engagement exercise in October (held jointly with Anglian Water and RAPID) and has engaged directly with potential contractors and investors. This will inform 'Stage 2' of Ofwat's competitive delivery process, expected in Autumn 2024. **Further market engagement will be undertaken as the solution prepares for procurement, following the submission of the DCO in autumn 2026.**

A public consultation is proposed to take place in Summer 2024 and will inform a RAPID Gate 3 submission which is expected in January 2025. Construction is planned to start in 2029, with the reservoir anticipated to be operational by 2040. A full set of dates can be found below.

Current proposed timeline for SESRO (indicative)



For further information about SESRO please visit: https://thames-wrmp.co.uk/sesro/