

Thatcham Reed Beds – Ecosystem Management and Enhancement

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BIG Biodiversity Challenge Award category: Large Scale Permanent

Project overview

Thatcham Reedbeds Site of Special Scientific Importance (SSSI) is a 67ha site and is also one of eight component sites of the Kennet and Lambourn Floodplain Special Area of Conservation (SAC). Both the SSSI and the SAC are designated for *Desmoulin's Whorl snail*, *Vertigo Moulinsiana*.

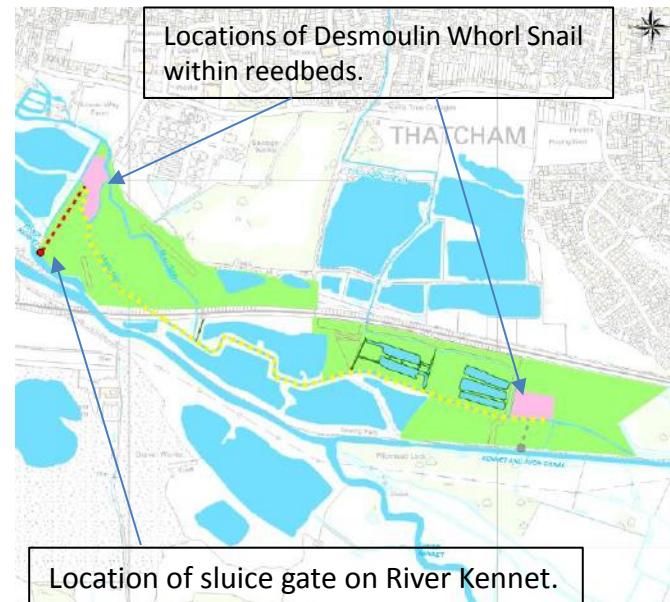
A Habitats Directive requirement on Thames Water required the water company to ensure the reedbeds are not affected by its abstraction strategy. The solution chosen by the project team involved constructing a sluice-controlled drainage ditch which could be used to augment the reedbeds during periods of drought. A headwall and sluice gate was installed on the River Kennet with a pipe and ditch feeding through to the head of the reedbeds.

This option, which overcomes historic channel modification and embankment works that deliberately disconnected part of the river from its floodplain, was chosen after earlier consideration of options by Atkins (2006) and collaboration with the Environment Agency, Natural England, Thames Water and West Berkshire Council.

The whorl snail particularly favours a high water table, the primary objective of the scheme was therefore to ensure that the water table during a drought is maintained in key whorl snail habitats.

What were the biodiversity conditions on site, prior to the enhancement?

Thatcham Reedbeds is designated as a Special Area of Conservation (SAC) and Site of Special Scientific Interest (SSSI) due to its extensive reedbeds, species rich alder woodland and fen habitats.



This latter habitat is ideal for the Desmoulin Whorl Snail and is also known to support large arrays of breeding birds.

Were there any specific conditions that led to you carrying out this work?

The project was implemented as a result of the Habitats Directive and a review of Consents in relation to Thames Water's West Berkshire Groundwater Scheme (WBGWS) which is operated during drought scenarios; the Environment Agency and Thames Water agreed that the Enbourne Wellfield of the WBGWS had the potential to indirectly affect the wetland water levels in the reedbeds; this could have had a direct impact on the whorl snail which are vulnerable when the water table falls >0.4m below the ground at any time of year. In a worse case scenario the whorl snail could become extinct in this area during a severe drought.

What were the biodiversity measures taken?

The primary purpose of the design and installation of the sluice gate and pipeline is to enable and support the survival of this nationally important species of snail. In 2011, Natural England commissioned a series of surveys of this snail. This survey identified an overall decline in both the extent and status of snail habitat through the reedbeds although it was also found that populations tend to vary. It was also found that the snail prefers that water levels do not fall below 0.4m from ground level. During drought conditions, the sluice gate can be manually operated to filtrate water throughout the reedbeds to reach the key locations in which the snails inhabit. The introduction of this measure is recognised as being of direct benefit to the snail.

The solution to install a sluice gate with connecting pipe into an existing drainage network may seem simple however; this solution was arrived upon after 10 years of investigation into water levels



A view over the reedbeds.

along the River Kennet, it's impact on the reedbeads, modelling of the solution including the hydrology of the reedbeds and monitoring of whorl snail activity. This option was selected in consultation with the Environment Agency, Natural England, Thames Water and West Berkshire Council.

This project safeguards the ecosystem functioning and services of the SSSI and SAC from the threat of drought conditions. It also allows West Berkshire Council and the Wildlife Trust, who will take responsibility for operation of the sluice gate, to agree with the Environment Agency additional use of the sluice gate (i.e. not only in drought scenarios), to the benefit of the reedbeds as well as education provided by the nearby Thatcham Nature Discovery Centre which promotes the biodiversity, heritage and cultural value of the reedbeds.

In addition to the ecological benefits the project also contributes to the important educational, cultural, physical and mental wellbeing that the reedbeds provide the local community.

[How would you best describe the project?](#)

Mitigation

[Further information](#)

The long term benefits of the scheme are the continued maintenance and enhancement of a nationally designated site with the intention of providing continued suitable habitat for the rare Desmoulin Whorl Snail.

The works required top soil excavation and careful construction management of works within the river Kennet SSSI. Multiple consents were in place and agreed with Natural England and the Environment Agency prior to works commencement. Once works finished, the area was allowed to natural regenerate and is now flourishing.

A very important tip and perhaps especially unique to the marshy environment in which we were working is to avoid construction work in the winter.



Desmoulin Whorl Snail – Vertigo moubensiana

What was your personal motivation for carrying out the enhancement?

My personal motivation was to ensure that the works were carried out in an environmentally responsible manner with the project team having a full appreciation of the environmental sensitivity of the location.

This project was also an important collaboration between key parties and I wished to ensure that strong, positive relationships were built between the consultants, Thames Water, statutory consultees, landowners and other invested parties.



The headwall intake and sluice gate off the River Kennet after construction. A buried pipeline connects into a ditch at the head of the reedbeds.