

## ARRT Project Summary

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| <b>Project Title/Name:</b> CRF Western Rother Fishery<br>Habitat Enhancement Project: <b>Sutton End Stream<br/>                 Fishery Habitat Enhancement Project</b> | <b>Date:</b> (Start Date (Month/Year) – Finish (month/year))<br>Bid Deadline: February 2012; Start Date: July 2012<br>End Date: Contract to April 2014; Completed: Aug' 2013 |
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**Location:** Grid Ref & Place Name: SZ 9855 1840; nearest postcode: Shopham Bridge Farmhouse, GU28 0JP

**Country and County:** United Kingdom, England

**Project Status:** complete/in-progress/planned: Completed

**River Name:** tributary/main river/catchment: Western Rother/Arun, Rother & Western Streams Catchment

**Contact Name of Project Officer/Manager and Organisation:** Ses Wright, ARRT

**Funding Body & Budget:** UK Govt': Catchment Restoration Fund (CRF): total Western Rother Fishery Project £109,800.00

**Project Themes/Drivers:** Pick all that apply:  In-channel habitat & biodiversity  Flood risk management  Urban rivers  Environmental flows/water resources  Land use management–agriculture  Economic aspects  Fisheries  Hydropower  Water quality  Land use management–forestry  Social benefits  Hydromorphology  Climate resilience  Monitoring  Education & Engagement  Catchment planning and survey work

**Project Aims and Objectives:** The CRF's Western Rother fishery habitat enhancement project aimed to address the predominant reasons for failing fish status on the main Rother (EA Waterbody: GB107041012810) summarised as due to habitat degradation, including canalisation (especially widening), dredging and accumulated sand due in part to agricultural diffuse pollution. The Sutton End Stream Habitat Enhancement Project aimed to address the poor connectivity of the main Western Rother with its tributaries, alongside selective habitat improvement works. Fish populations in the main Rother channel were assessed to be at risk during large flooding episodes due to a lack of refugia habitat along the main river; this is where improving connectivity with its tributaries came into play. The proposed works sought to enhance connectivity of two tributaries located downstream and upstream of the newly constructed gravel/rock riffle at Shopham Bridge, close to their confluence with the main Rother. Habitat improvement works using imported land-dug natural river gravels and locally won Large Woody Debris (LWD) was also delivered alongside monitoring of invertebrates/molluscs before and after the works.

**Project Outcomes:** Approximately 7-8t of land-dug angular river gravels were secured into place at discreet points along the lower reaches of the Sutton End Stream using LWD (e.g. locally won tree boughs ~1.5-2m in length) as flow deflectors pegged securely into the riverbed. The stream was assessed for improvement prior to the works and priority reaches identified for improvement. Invertebrate and mollusc pre-works surveying revealed a rare mollusc known as the Fine-lined Pea Mussel (*Pisidium tenuilineatum*), the only recorded living population of this UK Biodiversity Action Plan priority species formally identified in West Sussex (not known in East Sussex), underlying the importance of tributary streams to the catchment and careful monitoring. Connectivity to the main river channel was also enhanced through the removal of a large growth of vegetation (sedge/rush) at the downstream confluence of the Sutton End Stream which impeded flow dynamics and fish passage.

**Partners:** PBAC, WTT, EA

Before the works:



Heavily incised channel with relatively poor flow diversity and few pool and riffle sections. Considerable quantities of sand covered the bed along the lower reaches of the Sutton End Stream, covering short stretches of flint gravels. There was little natural woody debris within the Stream that is good habitat for fish and invertebrates.

After the works:



Locally won LWD was pegged and secured to the channel, along the Stream bed, and in-filled with 20-50mm diameter flint river gravels. The angular nature of the gravels ensure that they lock together firmly. This significantly reduces the risk of gravel being lost to later flood events when stream velocity is high.