ARRT Project Summary

Project Title/Name: CRF Western Rother Fishery Habitat Enhancement Project: 2 Small Fish Refuges at Fittleworth	**Date** (Start Date (Month/Year) – Finish (month/year)) Start Date: July 2014; End Date: Completed April 2015

Location: Grid Ref & Place Name: NGR**:** 501701 117960, nearest postcode: Southgrounds Farm, Stopham: RH20 1EN

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: Construction of two relatively small on-line fish refuge along the main Rother channel testing one with fencing to prohibit cattle and the other without fencing to see if cattle help to maintain the shallow water margin of a small refuge. The first online fish refuge on the Rother, successfully delivered upstream of Shopham Bridge, is relatively large with a considerable footprint/land-take. The EA wanted to investigate whether smaller backwaters could be successfully constructed without silting up over-quickly due to their smaller size. It was also tested whether the access of cattle to the backwater might either help or hinder the maintenance of the backwater. The difficulty was comparing two backwaters on the impact of cattle access when the very nature of the two sites would be different, accessing the river at different points means there are different risks of them becoming silted up irrespective of the impact of cattle. Despite this risk it was deemed worthwhile to trial the introduction of smaller scale backwaters as they were potentially more likely to be agreed by farmers/landowners than larger designs. The environmental advantages of delivering a backwater are set out in the Shopham Bridge Fish Refuge Project Summary; please refer to this for more information if needed.

Project Outcomes: The two backwaters were successfully delivered in September 2014 with fencing of the smaller refuge completed in April 2015. It was agreed to leave the slightly larger of the two refuges completely unfenced to allow cattle access to assess how this impacted both on fish populations and the integrity of the backwater over time. A recognised learning outcome was the farmer's need to maintain a raised vehicle embankment along the outer edges of both backwaters which represented the only safe access to the floodplain when water levels are high and the surrounding land is very boggy. This reduced the river-land connectivity potential of the backwaters and reflects the poor connectivity of the Rother floodplain due in part to historic canal and dredging works. Monitoring the sites has revealed that the smaller refuge overtime has become much more silted up than the relatively larger refuge which is thought to be due to both its smaller scale and the lack of cattle that help to maintain a shallow water edge. The impact of the embankment could also add to the backwaters' being more silted than the refuge at Shopham Bridge with less surface water drainage into the refuge which (if sufficient) can help prevent siltation.

Project partners: Local landowners/farmers/local EA fishery & biodiversity staff, WTT, Whiting Groundworks Ltd.

The Completed Works: Larger Backwater – no fencing

The larger of the 2 refuges delivered near Fittleworth on the main Rother; no fencing with cattle access permitted for drinking and trampling of shallow water edges.

The Works: Smaller Backwater plus fencing

The relatively small sediment trap with fencing to prevent all cattle access: this backwater has silted up more which is due to size and lack of cattle access.

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