



Catchment Restoration Fund (CRF) Project Briefing Note

River Nar Restoration Project

Chalk streams are a globally rare and threatened habitat. The Nar is 42 km long, the second longest chalk stream in Norfolk and designated a SSSI. This river catchment is in a rural area with intensive arable farming being the main land use. The upper half of the river flows over chalk, whilst the lower half descends into drained fenland, making the river catchment particularly diverse in form. The river fails to meet the standards of the Water Framework Directive for fish abundance, quantity and dynamics of flow. Poor morphology and poor water quality underpin this failure and require addressing. This project aims to deliver three large-scale reach restorations, improving morphology, water quality, biodiversity and hence ecosystem function. In addition, a Farming and Water Project Officer is funded for 18 months by Coca-Cola to liaise with farmers, influence farm practice, involve stakeholders and execute a programme of silt-trapping wetlands and other measures to improve water quality as close to source as possible. A unique feature of this project is funding support from Coca-Cola, seeking to mitigate the environmental impacts of the sugar beet supply chain, especially with regard to water. The work follows from systematic Catchment planning carried out by Norfolk Rivers Trust in collaboration with our partners and stakeholders and also funded by Coca-Cola.

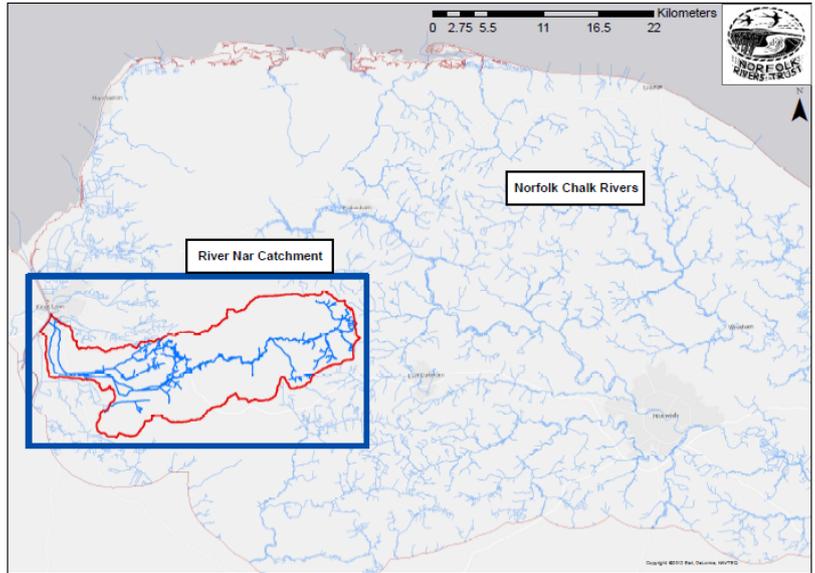
Description of Works

Reach restoration – Where possible, the river course will be recut from a straight channel to a natural meandering pattern with a shallow profile. This will allow the river to manage silt itself, including dropping silt out on the floodplain in high flows. In some areas this reconnects wet grassland and wet woodland, linking rare and valuable habitats and making the ecosystem function once more. Where floodplain land use prohibits full restoration, in-channel habitat diversity can be created using fallen trees and by resculpting the bed with a digger.

Key facts	
River Basin District	Anglian
Catchments	Nar
Outcomes	<p>Hydromorphological improvement – improved river channel structure, connectivity with floodplain, water storage</p> <p>Climate Change mitigation – improved resilience of ecosystem to drought and flood</p> <p>Biodiversity improvement – wetland habitat creation, increases in diversity and abundance of aquatic and terrestrial plants and animals</p> <p>Improved water quality – reduction in diffuse and point source pollution from farming</p> <p>Social – reduced costs of cleaning water at point of abstraction, conservation of landscape and wildlife for recreation and enjoyment of all</p> <p>Economic- more sustainable food production, improved trout fisheries.</p>
Start Date	September 2012
End Date	March 2015
Budget	£609k (plus £163k from WWF/Coca-Cola)
Project Partners	WWF-UK, Coca-Cola, Natural England, Environment Agency, Norfolk Rivers Drainage Board, Castle Acre Fishing Syndicate, West Acre Fishing Syndicate, private landowners, Norfolk Wildlife Trust, Mileham Common Charity Trustees

Farm advice – Our Project Officer is working with farmers to help them put in place measures to retain soils and prevent run-off of nutrients and pesticides.

Silt traps – up to 16 silt traps of a variety of designs will be sited strategically in the catchment to intercept run-off. Our aim is to improve water quality downstream, but the scheme also creates wet woodland, reed beds and areas of shallow open water that add to diversity of habitat on the floodplain. An agreement is made with the landowner for each trap to be cleared periodically, giving nutrient-rich soil that can be spread back on arable fields to boost their crop yield. A monitoring programme is in place to test the effectiveness of this approach.



Community involvement – Some maintenance of completed restored sections is carried out by local fisherman. This allows them to contribute to the health of the catchment. A sense of wider public ownership is fostered by river walks, talks and consultations. A River Nar Conservation Group has also been organised to encourage community involvement in the River Nar restoration project, where we have discussed ideas such as getting school children involved with monitoring fresh water invertebrates. Some already completed work has been targeted at reaches where there is full public access from the Nar Valley Way, enabling anyone to enjoy the rich variety of wildlife.

What will success look like?

Success for improvements in water quality can be measured. Biodiversity increases follow from the integration of water quality and habitat improvements. Our monitoring schemes will be able to quantify this. By working with farmers and landowners our team will help increase the sustainability of food production in the catchment. Increases in water storage on the floodplain will buttress river flows as abstraction for irrigation goes up, thereby building resilience into the function of the catchment. Limiting run-off prevents soil loss – in many areas of the catchment the depth of soil over the chalk is not high to start with. Overall, a healthy river will provide cleaner and cheaper water in greater quantity for longer, as well as sustaining a unique flora and fauna that many people come to experience.



About the team
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