

River Lark Catchment Partnership

Water Resources Communication and Engagement Project

Preparatory Investigations and Collaborative Design of River Lark Abstraction Reform Pilot



February 2020

The River Lark Catchment Partnership

The River Lark Catchment Partnership (RLCP) was initiated in 2015 when the Bury Water Meadows Group, a community organisation in Bury St Edmunds offered to promote the partnership and received strong backing from EA, the Cam and Ely Ouse Catchment Partnership within which the Lark is a sub-catchment and the Suffolk local Authorities. The partnership rapidly moved on to attract volunteers and to build a track record of river restoration projects.

The short-term consuming focus on river restoration has however meant that RLCP has not been able to invest sufficiently in growing its track record in other activities vital to the sustainability of the catchment, notably in catchment water resources. This Water Resources Communication and Engagement Fund application represents for us an important opportunity to kick start the development of our partnership with the agricultural abstractors in our catchment.

RLCP is a registered CIO charity.

Project Overview

Following the Abstraction Priority Catchment event held in November 2018¹ EA together with the Lark Abstractors Group and River Lark Catchment Partnership (RLCP) have been discussing how we can co-develop innovative approaches to improve access to water whilst still protecting the environment of the Lark valley, consistent with Defra's abstraction plan.

The abstractors have expressed enthusiasm for the pilot and have suggested the design should be underpinned by data collected and analysed on present water management practices (particularly EA licensing and use data) and hydrological modelling.

This Water Resources Communication and Engagement project will provide the platform for a collaborative design for piloting abstractions based on the collaborative management of water resources through the aggregation and 'sharing' of licensed volumes. Communication and engagement will ensure a high level of buy-in for the pilot by the licenced abstractors led by the Lark Abstractors Group and the EA as well as by the wider catchment stakeholders involved, particularly relating to environmental water use, through the RLCP.

¹ **EA's Abstraction Priority Catchment event on Tuesday 20 November, 2018 at Newmarket Racecourse** - The day will bring together abstractors, partners and stakeholders in East Anglia to discuss water resources issues within the catchment and propose ideas & approaches to tackle these challenges. The aim is to co-develop innovative solutions that may address abstraction issues in East Anglia and improve access to water.





The project budget will be used to fund two collaborative events with key informants and abstractors in the catchment, supported by a technical study for data collection, investigations into current reservoir management and water use practices of the mid-Lark farmers and extensive hydrological modelling of agricultural abstractions, water availability and drought impacts on licensed allocations.

The key output from the project will be reaching a consensus about meaningfully changing the approach to managing abstractions, farm reservoir management and water sharing, to improve water use which will enable the pilot in abstraction management reform to go ahead next year.

Project Deliverables and Timeline

Collaborative Events

The aim of the events is to ensure buy-in to the approach for the up-coming pilot by EA, abstractors and wider stakeholders.

Participants :-

Lark agricultural abstractors

EA (priority catchment, water resources and licenced abstracting staff)

RLCP and CameO stakeholders

WRE specialists

Facilitators :-

Jim Stephens – RLCP

Paul Hammett – NFU

Technical Consultant (Cranfield Water Science Institute, Cranfield University)

Project Presentation – Mid February 2020

- Welcome and introductions – Jim Stephens, RLCP
- The abstraction plan and the CameO priority catchment - Ukwuori Fadairo, EA
- Innovation and flexible licensing – Paul Hammett, NFU
- Water sharing opportunities in the River Lark – Lindsay Hargreaves, Lark Abstractors
- Technical review of abstraction in the River Lark – Jerry Knox, Cranfield University
- Group discussion.

Workshop – End April 2020

- Review findings of technical investigations
- Agree basis for improved EA – abstractors protocols for aggregated surface water abstraction licences management
- Agree arrangements for water sharing/trading
- Agree Pilot design

Technical Investigations and Hydrological Modelling – March to May 2020

Technical investigations, catchment data collection and modelling will be undertaken as part of a 10-week Cranfield University MSc Group Project, supervised by Profs Knox and Holman and Dr Rey Vicario, with an agreed Terms of Reference co-developed with the RLCP and finalised at the initial workshop. The team will be composed of up to 6 post-graduate students with complementary and relevant experience from across CU's Water, Environment and Agrifood Programmes (Environmental Water Management and Environmental Engineering).

The work will involve extensive desk-based modelling and analyses of the catchment and its hydrological characteristics in the context of understanding irrigation abstractions and water trading options, site visits and farmer interviews with key informants, GIS mapping, and focus group meetings to evaluate water trading/reservoir options

Key activities are likely to include:

- In collaboration with the EA, RLCP and local abstractors, to develop a project data base to include (1) time-series of daily river flows at all gauging stations, (2) abstraction licence details and Hands-Off Flow conditions; (3) abstractors' infrastructure (intake points, reservoirs, outlets, distribution networks) and (4) annual irrigated cropping, associated soil types and actual licence usage data for recent time period (2010-2019)
- Using GIS analyses, to create an abstraction network map to identify the potential for water trading through river network transfers and/or infrastructure (distribution network) connection
- Use the D-Risk and D-Risk2 webtool and methodologies to calculate aggregate time series metrics for the Lark abstractors of combined monthly irrigation need and both unrestricted and restricted (HoF and S57 restrictions) licensed usage (and headroom) and explore the potential for licence and reservoir sharing / trading at times of shortfall to increase systemic resilience.
- Review international and national experiences with irrigation water trading (EA, Spain, California, Australia) and existing licence sharing arrangements (e.g. Lincolnshire Water Transfer Partnership; irrigation districts in Spain) and interact with agricultural water users in the Lark catchment to identify water trading/sharing willingness, needs and constraints.
- Discuss with stakeholders the pros and cons of different trading and sharing schemes, their management rules and implications for their businesses.

The findings of the technical work will be presented in a convivial way at the Final Workshop and a Final technical report containing details from the investigations will be prepared for RLCP as a CU Group project.

Anticipated Results

The project will provide a detailed roadmap based on quality technical research and consensus building for the pilot that the Lark abstractors in collaboration with EA can carry out from next summer. This will meet the objective to accelerate the uptake of sustainable management practices within catchments, including building resilience for the future. We would also expect the experience from this work to be scaled up and replicated in other river catchments.

The RLCP will realise a step change in its efforts to promote stakeholder participation in catchment water resources management and its engagement with the catchment's community of agricultural land managers meeting the objective to



effectively engage and inform citizens and stakeholders on the current and future water resource challenges within catchments and the appropriate actions that can be taken.

The project will provide a secure basis for making practical progress with abstraction reform under the Abstraction Priority Catchment programme which integrates well with the objective for it to align and contribute to the delivery of water resources objectives set out in catchment plans, Abstraction Plan priority catchment projects, and River Basin Management Plans.

Partner Organisations

Lark Abstractors Group – brings together the licenced surface water abstractors under the chairmanship of Lindsay Hargreaves. Their contribution to the project and commitment to the pilot will be essential.

NFU – have offered to host the workshops at their East Anglian offices in Newmarket and support the project facilitation as its matching contribution to the project.

WRE – We hope that Water Resources East will come alongside the project to add value as a significant matching contribution to the project.

RLCP – will ensure the widest possible engagement with actual and potential catchment stakeholders. We will also work through CamEO to ensure that the project contributes fully to the wider regional objectives.

RLCP will take responsibility for the project management as its matching contribution to the project.

