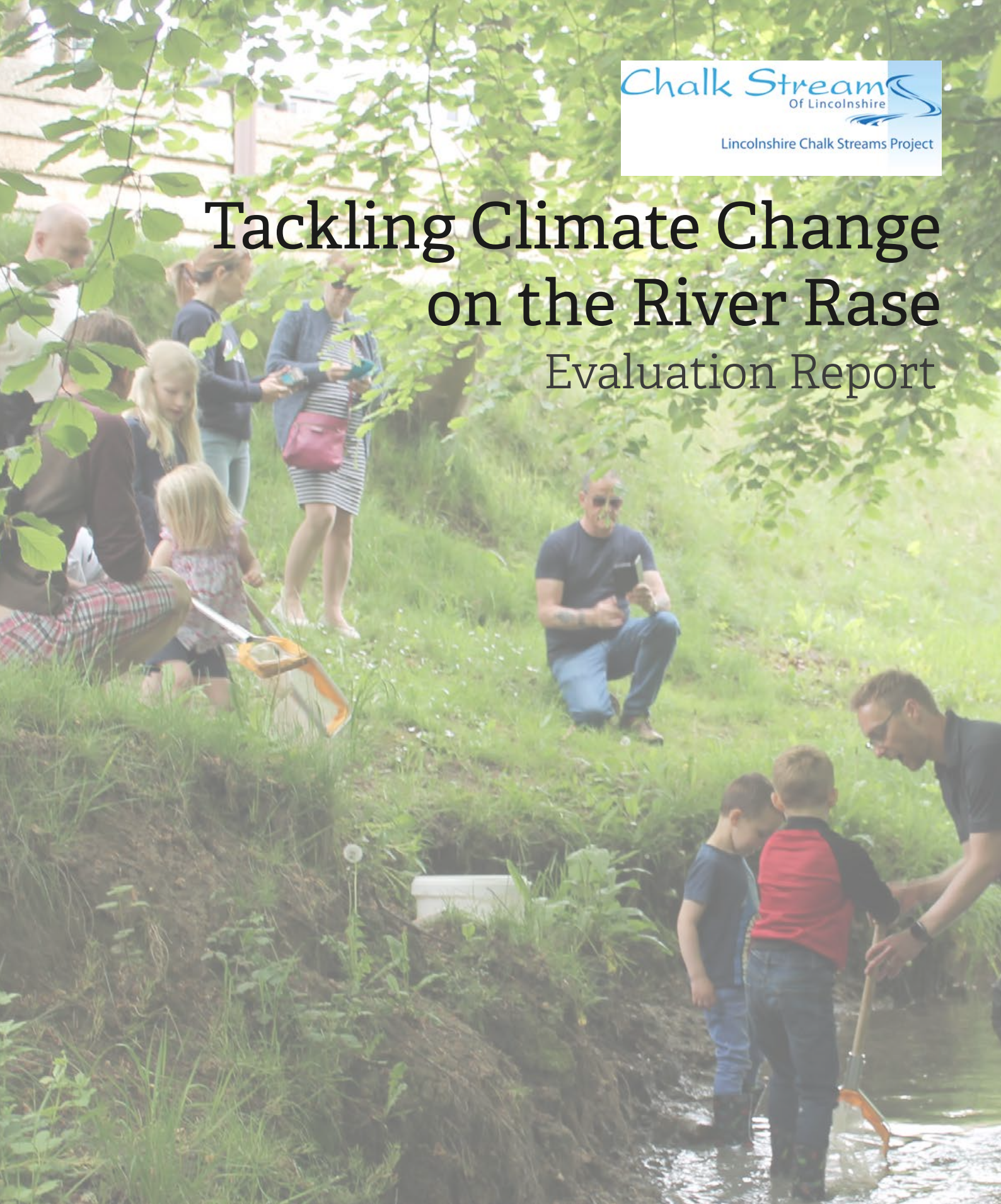


# Tackling Climate Change on the River Rase Evaluation Report



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# Executive Summary

Chalk streams are a special type of spring-fed river found only in England and north western Europe. They are rare and valuable. Characteristically alkaline with a cool stable temperature and gentle flows, a chalk stream is a rich and diverse ecology unlike any other river type. Lincolnshire's chalk streams are incredibly important, providing multiple benefits for local communities and the natural environment, offering many potential nature-based solutions to help tackle climate change now and for the future.

"This is simply too challenging", words expressed by a soon-to-be partner landowner of the Tackling Climate Change on the River Rase project, prior to signing an agreement for the permission of Natural Flood Management (NFM) enhancements on their land. From this early conjecture to where the project is at present, the transformation of landowner and stakeholder confidence and engagement during this project, has been nothing short of monumental.

Building on 16 years of project delivery across Lincolnshire, the Lincolnshire Chalk Streams Project (LSCP) has worked successfully to meet the Lincolnshire Chalk Streams Partnership 'Strategic Action Plan,' a robust and informed 5-year cyclical vision dedicated to the protection and restoration of its network of chalk streams.

It is therefore not surprising that the LCSP identified priority opportunities, and with an effective project team, fuelled with a passion to make a difference, a pioneering project along the river Rase was founded. Working closely with an established network of key experts, the Tackling Climate Change on the River Rase was one such priority project with ambition to not only impact on the longer-term health of the river, its riparian habitats and biodiversity, but importantly result in a far-reaching impact on the wellbeing and connectivity of catchment communities and landowners, particularly in the town of Market Rasen, with the design and intervention of NFM enhancements up stream, reducing flood risk for communities downstream.

As a first-time undertaking of this scale, and clearly an ambitious one, the 'modelling' and implementation of site-specific NFM enhancements, a suite of new leaky barriers, field bunds, ponds and swales, across a range of localities for LCSP, wouldn't be without risk. Risk of both contractual and enhancement failure as well as loss of confidence in the project for all stakeholders. Confidence however was strong from the offset, with a distinctive passion and determination evident across a small and skilled project team, two employed LCSP Officers. Their work additionally boosted with

expertly contracted consultants, a network of partnership advisors, and continued landowner input in the tailoring of design and adaptation during installation. This extended team of active contributors, experts and stakeholders, resulted in the successful delivery of a vibrant project with a strong sense of a shared ownership and connectivity to the LCSP vision.

Establishing a new community-led care for the river Rase and resident awareness of the Tackling Climate Change on the River Rase project was central to the project aim and great effort was given to establishing local relationships with key groups, community ambassadors, schools and residents. Engagement in Market Rasen was far from straightforward, due to only a limited connectivity in the town of Market Rasen for the project team at the beginning of the project. With an added challenge of there being little, if any, visibility or understanding of NFM enhancements for the majority of local residents, the team evidently embraced innovation from the offset with their communication and engagement, and rather than seeing a challenge, they identified new opportunities to co-deliver an enriched range of public events, talks and volunteer sessions in collaboration with grassroots groups, and in doing so, maximising established local networks. The project celebrated a far-reaching biodiversity and care of the river, providing a tributary and stepping stone to empower and equip a local network of ambassadors, a group of local active volunteers.

Tackling Climate Change on the River Rase commenced in September 2021, an 18-month project which was due for completion in March 2023. Due to an underspend and reallocation of funding, the project end date was rescheduled and extended to July 2023. Tackling Climate Change on the River Rase would not have come to fruition at this time, a time of increased climate change, without the financial support from the 'Green Recovery Challenge Fund' delivered by The National Lottery Heritage Fund (NLHF) in partnership with Natural England and the Environment Agency in the form of an award of £204,300. 100% of the total project costs. Match funding, including in-kind support from stakeholders, volunteers and partners was notable, though not calculated in the original application for funding.

An immediate objective of the project in September 2021 was to design NFM interventions and draw-up plans and contracts with landowners, a mosaic of comparative stakeholders sited along the river Rase catchment, in North Willingham (south arm of river Rase) and North Willingham Woods (Forestry England). Working closely with a contracted consultant, highly experienced in NFM design and implementation, the project team successfully signed-off Work Grant Agreements from all identified stakeholders. Not without its challenges and delays, a distinctive skill in negotiation, innovation (future proofing) and positive communication was adopted, with success.

Whilst, ongoing tweaking and adaption to NFM capital works was naturally expected, given the bespoke design of each enhancement, a notable level of learning and skill for all involved has been gained, and as a result pioneering advances have been made, impacting not just on the aspiration of the project team, but also for partners, researchers and landowners alike; regionally and nationally. A total of 73 NFM interventions have been successfully installed across agreed localities along the river Rase with 4 landowner agreements, setting out a maintenance schedule and ongoing access for 10 years, signed. Knowingly, the first NFM was authorised on Forestry England (FE) land, and since its implementation, a ripple effect of professional interest and learning has extended far beyond the river Rase, with England-wide interest across FE teams. In addition, Natural England (NE) 'Catchment Sensitive Farming Officers' have been taken on tours to inspect the NFM enhancements, informing their work and to share good practice with their farming community across Lincolnshire. With many lessons learnt, momentous milestones have certainly been achieved, with new aspirations cultivated for the future, on the cusp of a new 5-year Strategic Action Plan (SAP) being drawn up by LCSP.

'Higher than ever' levels of engagement and participation have been achieved throughout the project, boosted by strong local relationships with community leaders and groups. These new connections evidently laid valuable foundations for a community driven legacy beyond the project timeline, inspiring the team to adopt similar collaborative approaches for future projects across the county of Lincolnshire. These approaches to learning are particularly relevant for LCSP, which conducts, in the main, remote and/or time-specific engagement with communities.

The small LCSP project team, comprising of a Project Officer Ruth Craig and Monitoring Officer Will Bartle, have, with great energy, had an eye on the future legacy of the project. The legacy of not just the contractual maintenance, monitoring and data gathering of NFM enhancements, but importantly the embedding of local pride and positive action for the river with residents and those living within the catchment, growing stronger connectivity to the river Rase for all. Local residents and groups now

have a suite of resources and information, designed and distributed as part of the project, detailing the biodiversity and the importance of the river Rase for local communities and the impact of the project. These resources, printed and online, will continue to be far reaching, not just locally, but county wide, regional and across national audiences.

Volunteers within the catchment, in particularly a new Environment Group based in Market Rasen, have been resourced with a useful practical kit to enable future care of the river Rase, encouraging continued self-led activity. Whilst an output to establish a new 'River Care' group needed to be re-imagined during the project, in response to existing local activity, an encouraging connectivity with local volunteers has helped grow skills and expand awareness of the biodiversity, benefits and importance of chalk streams for this group, resulting in the river Rase being a principal feature to their ongoing programme of seasonal activity.

An important relationship which blossomed throughout the project, which was not originally expected or planned for, was the relationship between the LCSP and the University of Lincoln (UoL), particularly focussing on an assessment of the impact of the NFM enhancements and future research, with an introduction of new methodology to monitor and capture data. This unforeseen outcome, achieved through student placements and professional consultation between academics at UoL and the project team, is hoped to propel and advance future opportunities and learning locally and for the sector, leveraging future support and financial resources. During the delivery phase of the project, it became clear that there was a need to invest time to measure the impact of NFM enhancements, which to date had not been achieved in the area, data which will inform and inspire stakeholders and communities affected by climate change and flooding. Student placements and UoL projects have evidently contributed to the capacity of the team and project, enabling aspirational visioning and innovation, which is hoped to flourish successfully into the future.

Despite logistical challenges and hurdles, the partnerships and relationships have remained resilient, adaptive and sustainable. Each contributor and partner continuing to remain supportive and embrace the project, working collectively to innovate, problem solve and progress with a momentum of activity to achieve project outcomes; a springboard to unlock collective opportunities and ambitions to tackle the impact of climate change on the river Rase.



# INTRODUCTION

The National Lottery Heritage Fund (NLHF) awarded a 'Green Recovery Challenge Fund' grant to Lincolnshire Chalk Streams Project (LCSP) for the Tackling Climate Change on the River Rase. This funding supported the site-specific modelling and installation of 73 Natural Flood Management (NFM) enhancements with permissions and maintenance agreements gained from 4 landowners along the river Rase catchment. It is important to note that the principle intention for all of the project partners, including the Lincolnshire Chalk Streams Trust, was to take a step beyond core aims to their work to protect and restore the biodiversity and rare/sensitive habitats of chalk streams, and for this project to seize the opportunity to take direct action in response to the evident impact of climate change, including to contribute to the safeguarding of communities living within river catchments and in particular in this project 'downstream' of the River Rase, a community increasingly impacted by flooding.

The direct action to install NFM enhancements was an important step to be made for LCSP, by offering what is believed to be a sustainable alternative and affordable solution to help reduce water levels and water flow along the river Rase, at peak flow times during extreme weather events and thus reduce flooding in towns such as Market Rasen. Importantly, this project demonstrates there are real potential alternatives to be considered in flood management, natural alternatives to expensive and harsher hard surface interventions, such as walls and barriers. Tackling Climate Change on the River Rase is therefore a project far greater than just new NFM enhancements, biodiversity restoration, and community engagement, it's a progressive and risk averse project inspiring longer term future plans and directives, a platform if you like, of a studied range of good practice models, new thinking, collective expertise and direct action for nature and for people.

The establishment of a longer-term local connectivity and interest in the river Rase was always to be the legacy of the project, with a new cohort of passionate volunteers with trained and inspired staff and communities.

This report has been formulated from evidence provided by consultation with members of the LCSP partnership, feedback from volunteers and participants and surveys.

The images in this report illustrate the changes and impact of the project, for the landscape and all involved, local people and communities.

The vision of the project was summarised as follows:

The river Rase needs help to adapt to extreme high and low events and 'rapid' climate change, increasing events which are visibly impacting both people and biodiversity. This exciting 18-month project will engage landowners, farmers and communities and install nature-based solutions upstream in the river Rase catchment to help the river, and its tributaries, adapt to climate change, helping to restore biodiversity and work towards solutions to reduce flooding for local residents and stakeholders alike.

**“A really enjoyable morning for my 6 year old daughter, a good opportunity to learn while getting involved.”**

Local parent



# What we wanted to happen

## The aims of the project

- 1.1 The need for the project
  - 1.11 Climate change is happening now, weather patterns are changing and rivers need help to adapt to extreme high and low flow events to protect both people and biodiversity.
  - 1.12 The town of Market Rasen has experienced recent flooding following periods of intense, heavy rainfall. There are 365 properties at risk in Flood Zone 2, a medium probability of annual flooding. Upstream interventions across agricultural land, to accommodate peak flood water, have been identified as potential flood mitigation
  - 1.13 Chalk streams are an internationally rare and vulnerable habitat and on the statutory list of priority habitats under Section 41 of the Natural Environment and Rural Communities Act 2006. The river Rase is one such valuable and rare chalk stream, situated in Greater Lincolnshire, the main stem of which flows 9.5km over 1300 hectares from north east to south west, with one main tributary that flows 14.8km over 1400 hectares.
  - 1.14 The river Rase and its catchment consists of land in the Lincolnshire Wolds National Character Area and is part of the Environment Agency (EA) Water Framework Directive (WFD). The WFD classifies the river Rase as 'moderate' due to its ecological failings for aquatic plant life (macrophytes) and microscopic plants (phytobenthos) with phosphate – indicating of poor river quality.
  - 1.15 The river Rase is sited within the Lincolnshire Wolds Area of Outstanding Natural Beauty (AONB) a fragile landscape degraded due over the last 100 years due to agricultural intensification and industrial, agricultural and domestic abstraction
  - 1.16 The momentum of local landowner engagement needed to be maximised. To halt relations, at such an important juncture, would be detrimental to the process of tackling climate change on the river Rase and reducing flood events. Work to date via local surveys and design processes has resulted in first time permissions being granted across the catchment. A total of 38 landowners have been successfully contacted as a preliminary stage to this project, presenting a significant milestone.

1.17 The impact of preliminary NFM interventions at Market Rasen Golf Club (online ponds, leaky barriers and re-profiled banks) reinforced the value of nature-based solutions, gaining new influential support from Market Rasen Town Council, landowners and residents. This successful profile, new visibility and evident trust needed to continue and extend to new audiences and communities, growing local support and engagement to help tackle climate change, local flood events and care for the local natural environment.

1.18 The employment of two experienced and highly skilled project officers working for the LCSP needed to be safeguarded. Hosted by Lincolnshire County Council (LCC), the retention of these two posts via project funding has proven difficult during Covid-19 and the securing of specialist expertise locally, together with ensuring local level continuity, is crucial.

1.19 Existing communications with relevant planning and permitting authorities, to obtain necessary permissions and consents to deliver planned work, needed to be maintained and go ahead.

1.2 What we planned to do and hoped to achieve

The project consisted of 2 main elements (outputs):

- 1 Capital works to install NFM's, with contracts and permissions granted from landowners
- 2 Delivery of a programme of community engagement and a suite of resources, to grow a connectivity, awareness and local care of the river Rase across the catchment

Tackling Climate Change on the River Rase, project outputs:

Wider range of people will be involved in heritage

- 1 new community River Care group established on the river Rase
- 2 community events delivered to provide opportunities for volunteering for nature
- 20 people connecting with nature via volunteering events

Heritage in better condition

- Formation of 1 new partnership
- 5 partnership meetings to be held through the duration of the project
- 50 NFM interventions installed on the river Rase
- 2 chalk stream enhancement measures installed in the catchment
- 4 landowners working towards better field management to improve soil health
- River Rase upper catchment more resilient to the impacts of climate change

People will have developed skills

- 2 project staff jobs safeguarded
- 2 professional training courses completed by project staff
- Development of one community relationship to secure additional volunteer support for the benefit of the chalk streams of Lincolnshire
- Employment of local contractors to install NFM interventions
- Employment of local consultants to support the delivery of interventions on site

People will have learnt about heritage, leading to change in ideas and actions

- 2 media articles published along with use of social media posts to reach approx. 5000 people
- 2 family stream dipping events delivered to increase the numbers of diversity of people engaging with nature
- 2 guided walk events delivered to increase the numbers of diversity of people engaging with nature
- 1 new community information leaflet to act as a source of guidance of information to reach approximately 1000 people
- 1 new landowner information leaflet to act as a source of information on nature-based solutions and NFM measures to reach 1000 people

People will have greater well-being

- 2 family stream dipping events delivered to increase number and diversity of people engaging in nature. Approximately 20 people directly engaged
- 2 guided walk events delivered to increase numbers and diversity of people engaging in nature approx. 10 people directly engaged
- 2 community events delivered to provide opportunities for volunteering for nature with approximately 20 people directly engaged

Organisational resilience

- The LCSP will be more financially resilient following Covid-19 epidemic
- A stronger more experienced partnership



Monitoring and data capture

- The purchasing of new NFM monitoring equipment
- Contract for 1 surveyor to carry out cross sections, topographical surveys and conduct a 2D flow model for selected project sites
- Installation of NFM monitoring equipment: Gauging boards up and downstream of flow deflectors on 3 examples
- Gauge boards on 3 field bunds to indicate sediment build up
- Additional cameras to capture time-lapse data on gauge boards
- Installation of rain gauges at selected locations
- Installation of pressure sensors at ponds and up and downstream of ponds

1.3 Methodology of evaluation

1.3.1 The function of the evaluation was to test the successful delivery of the project in terms of the capital works and engagement offer. Importantly, given the longevity of the project outputs beyond the project timeline, this evaluation is to be used as a tool to assist in the sustainability of the project and partnership as part of the legacy.

1.3.2 An external evaluator was contracted and commenced activity during the first phase of the project delivery, whereby a framework of tools to capture data were produced in response to project outputs. Tools included online and printed surveys and monitoring forms for staff.

1.3.3 Forum meetings took place whereby representatives from the LCS project team, LCST and LCC attended. A total of 3 forum sessions took place, beginning, middle and during the final month of the project. These were conversational in format and conducted via zoom to discuss work to date, current status and future plans of the project deliver, sharing unexpected outcomes, challenges and opportunities.

1.3.4 Representatives from partners, local groups, residents and volunteers were invited to take part in case studies which feature in this evaluation. These were conducted via zoom or questionnaire, depending on the preferences of individuals.

1.3.5 Observations of project activity were captured via photographs taken by the project team.

## What actually happened?

### 2.1 Management structure of the project and project partners

#### 2.11 Project management

A project team, representative of three partners; Lincolnshire Chalk Streams Project, Lincolnshire Chalk Streams Trust and Lincolnshire County Council was established to inform and 'scope-out' a bid for the NLHF Green Recover Challenge Fund. This was led by the LCSP Project Officer, Ruth Craig.

At the commencement of this project, LCST had gained charitable status. Tackling Climate Change on the river Rase is one of their first partnership projects, alongside their Northern Becks Catchment Based Approach (CaBA) partnership. A new partnership agreement between LCST and LCSP has been established.

A long-standing partnership between LCSP and Environment Agency (EA) directly fed into the development of this project. Close working relations between Ruth Craig and EA Catchment Co-ordinator Sarah Swift resulted in preliminary funding to contract a specialist NFM consultant to survey and consult with farmers and landowners. A close working partnership continued throughout the project delivery.

It's important to note that LCSP project staff are hosted by Lincolnshire Wolds Countryside Service (LWCS), and LCC is the overarching host authority for LWCS. LWCS, at the time of the completion of this report, sits within the Place and Service Area for the Environment at LCC. Chris Miller, Head of Environment, is Ruth Craig's line manager. Ruth Craig, Project Officer for LCSP, supervises Will Bartle, the Monitoring Officer for LCSP.

Ruth Craig and Will Bartle were existing staff working for LCSP and no new staff appointments were required as part of this funding.

Both officers report to LCSP partners and LCST Trustees at regular intervals and this model has continued successfully throughout the project delivery timeline. This continuation allowed for a smooth continuity and enabled the project to 'hit the ground running' as procedures, processes and skills were in place.

All LCSP budgets are managed with the host organisation LCC. Budgets are maintained separately to the wider LCC departmental and organisational functions

### 2.12 Project partners, their roles and responsibilities

#### Lincolnshire Chalk Streams Project

LCSP formed as a partnership of several organisations in 2003; Lincolnshire County Council (host organisation) Lincolnshire Wolds Countryside Services, Environment Agency, Anglian Water, Lincolnshire Wildlife Trust, Wild Trout Trust and Natural England. Since its first restoration project in 2005, support has grown with the following additional organisations joining the partnership: Greater Lincolnshire Nature Partnership, North and North East Lincolnshire Councils, East and West Lindsey District Councils and the newly formed Lincolnshire Chalk Streams Trust.

LCSP has 2 staff, hosted by LCC. Project Officer p/t and Monitoring Officer f/t. Both employed since 2006.

The LCSP vision is: Lincolnshire chalk streams should be protected or restored to a quality which sustains the high conservation value of their wildlife, healthy water supplies, recreation opportunities and their place in the character and cultural history of the landscape.

The LCSP partnership aims to;

- Make sustainable improvements to chalk streams in Lincolnshire, focussed around the Lincolnshire Wolds.
- Restore and improve Lincolnshire chalk streams for the benefit of the wildlife and the community
- Raise awareness of chalk streams and their importance.
- Improve our knowledge of Lincolnshire chalk stream habitats.

#### Lincolnshire County Council

England's fourth largest County Council, employs approximately 5,500 people across approximately 350 sites (excluding schools). LCC's vision is to ensure: Value for more, Investment in the future, Strong communities and partnerships. The work of the council follows the following themes: Working for a better future, building on our strengths Protecting your lifestyle, Ambitions for the future. LCC's purpose is defined as: Make the best use of all our resources, investing in infrastructure and the provision of Services, Commissioning for outcomes based on our community's needs, promoting well-being and resilience, Influencing, co-ordinating and supporting other organisations that contribute to the life of Lincolnshire.

Lincolnshire County Council Hosts the Lincolnshire Wolds Countryside Service (LWCS). LWCS hosts LCSP. Whilst LCC are the overarching organisation for the LCSP, LCSP is an independent partnership organisation. Both LCC and LCSP collaborated to set up the Lincolnshire Chalk Streams Trust.

#### Lincolnshire Chalk Streams Trust

LCST is a registered charity, founded in August 2020, aiming to support the work of the LCSP and their own charitable actions:

To promote for the benefit of the public the recovery, conservation, protection and improvement of the physical and natural environment by promoting the biological diversity of the chalk streams, blow wells and related features in Lincolnshire Wolds, North and East Lincolnshire; and To advance the education of the public in the recovery, conservation, protection and improvement of the physical and natural environment of chalk streams, blow wells and related features.

LCST Trustees oversee and attend regular LCSP project meetings.

### 2.13 Appointment of contractors and consultants

Contractors and consultants affiliated to the delivery of project outputs were appointed via LCC tendering and all contracts managed accordingly. In the main, these contracts were for capital works and NFM consultancy, whilst some businesses and consultants were known to the project, new locally procured suppliers were identified and recommended.

Due to unexpected savings in allotted budgets a contract to appoint an external evaluator was permitted by NHLE, using reassigned funds. Additionally Dr Luca Mao from UoL was contracted to support plans to monitor NFM enhancements with reassigned funds nearing the end of the project, during the extension period.

### 2.2 Capital works / NFM enhancements and interventions

2.21 An external NFM specialist consultant Lesley Sharpe, of Lesley Sharpe Ltd, was successfully appointed. Previously having worked with LCSP, funded through EA, to survey the catchment, liaise with landowners and design NFM enhancements for the river Rase catchment, leading up to this project, this appointment resulted in a successful continuity, having built up trust and local knowledge, benefitting all stakeholders. Lesley had NFM specialism and

expertise, essential to the project, offering a secure and professional foundation for the project to progress. *Appendix 1*

2.23 Securing landowner confidence and commitment was achieved. Successful relations with 4 priority landowners: Sir Richard Sutton Ltd, H R Bourn, Peter Wright and Forestry England were maintained as planned. Tailoring to the individual needs and aspirations for all involved, plans and remodelling NFM designs were collectively drawn up and agreed following face to face site visits with LCSP Project Officer and NFM consultant.

2.23 A total of 3 Work Grant Agreements were signed between LCSP and farmer landowners and NFM permissions granted. Each contract is a long lasting 10-year commitment agreed by landowners to maintain NFM enhancements, allow land access for monitoring and any future adaption if required. *Appendix 2*

2.24 A contract was signed between LCSP and the Forestry England (FE) and NFM permissions granted. A 10-year commitment agreed by FC to retain NFM enhancements, allowing land access for monitoring and any future adaption required. This is known to be the first NFM enhancement of its kind agreed with FC. A notable achievement and collaboration.

2.25 Successful applications to Rural Payments Agency for 'Countryside Stewardship' grants were made by the NFM consultant for each landowner to mitigate any loss of productivity and to protect and improve land as part of the project. A total of 4 Work Grant Agreements were drawn up and signed by each landowner. The monetary value of these grants in total was £6331.15

2.26 As LCSP is hosted by LCC, a successful case for NFM enhancements to be classed as "permitted development" under the Flood Drainage Act, was made. Therefore, no planning applications were completed, and no archaeologists were contracted, as originally planned. The impact of these changes resulted in significant saving of staff capacity and time. A reallocation of allotted budget was proposed and agreed by NLHF, this included the appointment of an external evaluator.



2.27 Capital works contractors were successfully appointed through an open tendering process using the LCC LA tendering procurement procedures. Recommendations from the internal Drainage Board levered new connections with contractors, resulting in a new suite of previous and new contractors appointed to deliver capital works. Quotes were competitive, resulting in budget savings.

2.28 A total of 73 NFM enhancements were successfully installed across North Willingham (private land owners) and North Willingham Woods (Forestry England). An increase of 23 (46%) than originally planned for. These comprised of 54 leaky barriers, 7 field bunds, 1 attenuation pond, 5 swales and 7 storage areas. These were installed by contractors, overseen by the project officer and NFM consultant. Involvement of volunteers, landowners and project staff also took place when a collaborative 'team' effort was required due to new opportunities or unexpected outcomes.

2.29 NFM adaptations and 'tweaks' naturally occurred as part of the project, and all unforeseen issues successfully resolved or modelling adjusted, either during or after installation.

All NFM enhancements were site-visited and signed off by the LCSP Project Officer.

2.210 As part of an agreed project extension and reassigned budget, a new collaboration between the University of Lincoln (Riseholme Campus) and LCSP were fostered. Bringing together expertise in research and the monitoring of NFM and the impact of enhancements, new plans and designs were identified to capture important data.

2.211 A consultant surveyor was appointed to conduct site visits with LCSP, identifying key monitoring opportunities, upstream and downstream of all NFM enhancements. A plan for all designs and installation was drawn up.

2.212 1 Rain sensor, 5 Solar powered cameras, 2 Barometric sensors, 23 Pressure transducer sensors, 4 V-notch weirs were installed by the project team. Due to the extension of the grant, all installations took place during the final phase of the project. Original Gauge boards planned to be installed have been replaced with sensors.

2.213 All monitoring, at the time of the evaluation report, has successfully commenced, with all data capture planned for the long term, aligning with the 10-year contractual obligations for landowners.

2.214 The foundations for a long-term new partnership between UOL and LCSP has been established. Plans to maximise opportunities have

successfully progressed, securing NFM research, student placements and monitoring for the future.

### 2.3 Volunteers

2.31 Strong and new volunteering connections have been established with local residents living in the town of Market Rasen and surrounding area. In particular, collaboration with a newly formed, 'Environment Group'. A timely and advantageous opportunity, with a membership of approximately 18 passionate and committed individuals. 95% of those surveyed, who participated in activity, stated that this project made them proud of where they live with 100% reporting that it was important that their local environment is cared for by a project such as this.

2.32 A sustainable programme of public volunteer learning, skill share and awareness about 'caring for the river Rase' was delivered and well received with a total of 16 volunteer opportunities provided throughout the project timeline, which included 4 volunteer days.

2.33 A diverse and accessible programme of public volunteering opportunities resulted in new audiences being reached, with many more local people taking part in activity, than expected. A total of 46 volunteer participants engaged with the project, with 233 volunteer hours contributed. The monetary value of volunteer contribution to this project is approximately £3,192.

2.34 A new kit of resources have been provided to the Environment Group in Market Rasen, equipping them with a suite of new tools to fulfil their aspirations and ongoing care of the river Rase.

2.35 Care for the river Rase has now been adopted as an ongoing regular activity by Environment Group in Market Rasen. This new focus, expanding from their typical allotment work, has clearly embedded successfully with many members attending LCSP volunteer days to learn skills and to inspire their work. At the time of the project completion, self-led volunteer sessions were taking place on the river Rase, and aspirations shared about future plans to improve the future of the river.

2.36 1 new Volunteer placement has supported the project, as a result of partnerships with UOL and LCST, impacting on not only the gathering and analysis of data and but on staff capacity and support with public events, knowledge sharing and public engagement. An essential stepping stone to bringing science into the project as a whole, and furthermore, engaging local volunteers in a research and data collection, as part of a wider citizen science plan.





“We had a lovely local school visit to The Watermill at Middle Rasen, along with William Bartle. It was great to see these sorts of projects in our local area! We are happy to participate again”.  
Local school teacher

## 2.4 Engagement and events

2.41 A diverse and vibrant programme of public events were hosted throughout the project timeline. A total of 9 public events took place, events included guided walks, workshops, stream dipping and demonstrations/showcases as part in regional shows and local community events. A total of 64 adults and 135 children participated in direct engagement opportunities with 1,500+ contacts, conversations and audiences engaged at the Lincolnshire Show and Countryside Lincolnshire.

89% of those surveyed rated the activity as excellent, and 87% feeling greater connectivity to nature as a result of taking part. Appendix 4

2.42 Attendance at events exceeded expectations significantly with evident positive engagement in activities linked to the river Rase. On one single family stream dipping event 19 people took part, and similarly over 25 local residents attended a LCSP guided walk. This success of audience reach is the result of new community connections and has evidently boosted unity, creating a positive legacy, with 100% of those surveyed feedback forms stating that the activity has motivated them to take care of the environment.

2.43 New contacts with ambassadors and community groups in Market Rasen have been strong and resilient. Relationships and collaborations with local cllrs, in particular Cllr Bunny in Market Rasen, and the Environment Group have been invaluable to the project, enabling the LCSP Officers to create meaningful and long-lasting experiences for communities, particularly when their capacity is limited and they are not based locally to the town.

2.44 Links with a local school, Middle Rasen Primary School, have galvanised throughout the project timeline, further developing of a long-term relationship. Great effort has been made to connect local children to the river Rase to grow their relationship with river biodiversity and nature. A total of 18 pupils and their teachers participated in activities, specific to the chalk stream and river Rasen, and it is envisaged that an offer will continue beyond the life of the project.

## 2.5 learning and CPD

2.51 Both LCSP Officers attended MoRPh (Modular River Physical Habitat field survey) to measure field and stream habitats and functions. The result of this training is that LCSP Officers are now accredited surveyors, enabling the project to cultivate new opportunities in monitoring and research, with hope of leveraging future funding and investment for the future.

2.52 Informal and invaluable mentoring and skill sharing has taken place throughout the project. Working collaboratively with partners and consultants, both project officers have learnt a high level of new specialisms and advanced their knowledge significantly in areas of NFM modelling, design, NFM modification, NFM monitoring and data collection. Opportunities to shadow, collaborate, discover and experiment with ideas have all been maximised, unlocking innovation and aspirations. New opportunities have been embraced and an eagerness to learn and professionally develop as a team and project is clearly evident.

2.53 Informal training provided by UoL has resulted in the project team successfully conducting on-site installation of new NFM data monitoring technology. There is no doubt lessons have been, and will continue to be, learnt as this project has rapidly become a ‘test bed’ of research and learning, something not originally specified and expected in the project aims.

2.54 The cross pollination of skills and expertise between the team, contractors, consultants and partner organisations resulted in aspirations for future NFM installations to be self-led by the project team and potentially in the future with project volunteers. This ‘can-do’ attitude is proactive and productive, ensuring the project has greater resilience and resourcefulness beyond the project timeline. Learning more in-depth practical techniques, coupled with leaning about how to monitor the effectiveness of NFM interventions has been evidently empowering.

## 2.6 Tours and site visits

2.61 Site visits have taken place throughout the project, in the main, to assess and model NFM enhancements, to meet landowners and to conduct capital works. However, opportunities were not missed to invite wider stakeholders, professionals and partners to visit sites to share expertise, ideas and to advance the sector, this included local, regional and national representatives. A total of 16 visits with external representatives throughout the project took place, engaging 57 sector professionals.

2.62 NE Freshwater Team Leader, together with 3 Lincolnshire Catchment Sensitive Farming Officers visited a range of NFM enhancements with LCSP project officers and the project consultant to further their understanding and knowledge. Seeing NFM interventions in situation and on-site in comparative localities, is an invaluable way of conveying the reality of often unknown approaches to upstream river management. Conversations on-site opened up the opportunity to share concerns about practicalities, landowner liaison, as well as demonstrate more affordable, sustainable and accessible adaptations for farmers.

2.63 LCSP conducted on-site tours with consultants working on the Natural Environment Investment Readiness Fund project: ‘Lincolnshire Chalk Streams Investment Ready’. This was a strategic endeavour by the team to advocate the potential of NFM interventions leveraging future economic support. Great interest in the project was shared, with observations and on-site conversations directly informing future adaptations to NFM design for the project team. Reaching new audiences, to what is often unknown, is evidently advantageous for the project and this event will directly inform the LCSP Strategic Action Plan, in particular in terms of economics and sustainability.

2.64 Site visits for landowners have been an essential feature in the delivery of the project. In particular, for one landowner, Forestry England, site visits have been transformational. Important opportunities to convey ideas and to inspire collaboration were not missed and wider organisational representatives were invited to join LCSP staff and consultants on-site to lever greater understanding and to fuel innovation. Ideas and aspirations to extend NFM to new locations on FE land have been subsequently proposed and self-led installation of NFM enhancements have been explored. A sense of collaborative ownership and opportunity have been established, and a positive partnership between LCSP and FE fostered.



## 2.7 Communication

2.71 A combination of 'word of mouth' and 'face to face' networking, coupled with partnership development and more conventional online and printed materials contributed to a comparative range of communication methodologies been adopted and utilised throughout the project.

2.72 Reaching a community of residents, and in particular residents who are living in an area affected by potential flooding, has been approached sensitively and carefully by the project team. A communication plan adopted the support of a local trusted advocate and well-connected resident, Cllr Stephen Bunney, in Market Rasen, an approach which evidently impacted given the numbers attending events, compared to previous years. Exceeding any previous engagement figures for LCSP. This relationship, among others, appears sustainable and valuable for all going forward.

2.73 Word of Mouth was also extended to local groups, which subsequently resulted in a greater reach and engagement for the project. Participation in an Environment Day enabled the team to integrate their programme alongside a range of locally led projects and initiatives. This collaborative approach maximised the limited capacity of the project team and impacted greatly on the reach of the project to new audiences. Over 100 engagements took place in just one day, propelling the profile of the project. The visible presence and engagement offer provided by the project was well received by local residents.

2.74 Many local events and shows were attended by the project team, partners and volunteers. Opportunities to raise awareness of the Tackling Climate Change on the River Rase were utilised. Often these events not only profiled the project successfully, with brand identity, banners and leaflets shared, but they importantly brokered new conversations, new connections and enthused participants. Key events such as the Lincolnshire Show, enabled the LCSP to showcase NFM interventions across the farming community and sector. A total of 2 shows were attended, with approximately 1500 engagements were gained

## 2.8 Printed materials

2.81 A range of branded materials were created as memorable 'giveaways' at all public events. These free materials, including mugs for example, helped grow an identifiable profile for the project, taking the project beyond the river location and into homes.

2.82 Pop up banners, together with selfie boards provided an excellent, and much needed, backdrop to the project and partnership. These branded materials, provided an essential identity, particularly at large shows such as the Lincolnshire Show, whereby the project was sited amongst many more county organisations, a very highly populated and competitive platform for attention. This identity proved successful in meeting new partners, contractors and other stakeholders approaching the project team during the event, and new introductions and networks established. Comparatively, these banners acted as a valuable 'physical pin-point' for the project when out 'in the field' working alongside the river, and identifiable marker for passers-by, stimulating conversations and engagement.

2.83 Printed leaflets have been designed and printed. 2 designs have been created, 1 targeted at farmers and landowners, 1 targeted to the wider public and residents living in the catchment of the river Rase. Whilst the impact of these leaflets is not yet understood, as they are yet to be distributed, it is evident that printed materials are an essential and much needed 'go to' resource for the team in raising awareness, and negotiating support in the future. It is clear that information about NFM enhancements and care for the river Rase is much needed as many people, and in particular, communities in the catchment are interested in the project. Directing all stakeholders to this information, both in print and on-line will have clear benefits for all.

2.84 A suite of high-quality engagement materials and resources have been created as part of the project to assist with demonstrations and communications at public events and shows. These materials have assisted the team in engaging all ages and interests, and will continue to be used beyond the life of the project as a valuable resource.



## 2.9 Online website and social media

2.91 Online social media platforms are utilised to promote the Lincolnshire Chalk Streams Project, in the main FaceBook, Twitter and youtube. A total of 49 specific Tackling Climate Change on the River Rase posts were shared on FB, resulting in 1013 direct likes. The project has a growing following with 1,900 followers in FB and 1,438 followers on twitter. These platforms have provided an essential visibility to activity, in particular short films, such as site 'walk throughs' led by the Project Officer which have been viewed 100's of times and an engaging and fun time-lapse film showing the installation of a leaky barrier proving to be their most popular post, with over 1000 views. Whilst the team are reliant on their own skills and capacity to produce and share media, it is clear that great effort has been made where possible. Their films are engaging and offer a fantastic resource for the future.

As an independent project they have had the flexibility to showcase current activity without the need to go through organisational permissions and restrictions, enabling live and relevant content. This includes, for example call outs to visit an event on the day, to further promote their engagement and participation work.

2.92 The LCSP has its own independent website, which is managed by the project team. This contains all project information and hosts all new materials and resources produced by the project.



### 3 What difference has the project made?

3.1 What difference have we made to heritage?

3.11 The river Rase has greater protection. The important and rare chalk stream habitat of the river Rase, often referred to as 'England's Rainforest', occurs only where chalk bedrock meets the Earth's surface, making it globally significant. The natural heritage and geology surrounding the river Rase is now in a more resilient status, providing a more stable, cool, nutrient-rich water, supporting an exceptionally high number of important species.

3.12 A suite of NFM enhancements across priority areas along the river Rase have now been installed and are fully functioning. Due to rapid increases in climate change and in particular to the river Rase, extreme weather episodes increasing river water-levels and water flow, all of the NFM enhancements are now physically making a difference in tackling what is going to be a challenge for the long term.

3.13 Methods and materials used to create NFM enhancements have been low impact, sustainable, environmentally considered and 'natural' in comparison to more common and 'typical' hard engineered flood defences. By deliberately sourcing materials which are natural and local, such as sawn timber, the natural heritage of any given location is less at risk. In the main, the NFM enhancements created by LCSP 'leave no trace', naturally complimenting and co-existing within any given habitat, mitigating any damage to natural heritage and potentially enhancing biodiversity.

3.14 Whilst hard landscaping has taken place, the NFM enhancements have aesthetically complimented the natural environment, reducing visible erosion due to run off from fields, riverbanks and private land. The beauty of the natural heritage has been enhanced and in particular areas where there was little or a loss of biodiversity, wildlife has started to restore, become more resilient and re-root itself. This is expected to continue to improve and thrive.

3.15 A cohort of new landowners have committed to care for and maintain their land to help protect rare and vulnerable natural heritage. With agreements in place, this effort contributes to a collective approach to natural solutions to improve not only the water levels and the flow of the river Rase but to also help restore and recover biodiversity on private land. Improving the health and wellbeing for not just wildlife and species but also for communities and people.

3.16 Local communities are caring for the river Rase, with an active cluster of self-led volunteers and local residents regularly making a difference. As future custodians, this care is expected to continue regularly, establishing a long-lasting legacy assisting the sustainability and biodiversity (natural heritage) of the area.

3.17 New data is being captured, informing researchers and project partners about the success of NFM enhancements, inspiring future projects, innovation and opportunities. Already impacting on the protection of natural heritage, the outcomes of LCSP and the Tackling Climate Change on the river Rase, will extend far greater into the future. Working closely with the University of Lincoln, data collated will contribute directly to NFM models and design, unlocking new natural and sustainable solutions within the sector.

3.18 An exciting new 'natural discovery' enriches the natural heritage narrative of the river Rase, opening up new opportunities. Tufa, recently discovered by Dr Luca Mao whilst on-site with the LCSP team installing river sensors and monitors, is a rare and first-time discovery for Lincolnshire. Referred to as 'river coral' and historically used as a building material in Roman times, Tufa has naturally formed on a leaky barrier installed by the project and is now naturally functioning as a river dam, an additional natural occurrence slowing down water flow. Archaeologists from University of Kent have been in touch with LCSP with great interest and subsequently the opportunity to maximise this find to further convey the natural wonder of the river and chalk streams in Lincolnshire are being explored.

3.2 What difference have we made to tackling climate change on the river Rase?

3.21 All NFM interventions directly help reduce river levels and river flow at peak times on the river Rase, during extreme weather episodes. This will impact on the stability of the river, reducing erosion and excessive run off from fields and catchment land, which affects biodiversity and water quality. Importantly this supports a more resilient river and river catchment, securing habitats, river banks and river beds, so they have opportunity to recover and adapt to a rapidly changing climate.

3.22 Tackling Climate Change on the river Rase, was strategic in its plan, making changes upstream, to directly impact on outcomes downstream. The river Rase has changed considerably over many years, due to its thriving industrial past, with many mills and interventions still present along its course. A complex puzzle of natural and man-made features, it is fragmented, vulnerable and sensitive, all features which directly impact on the town of Market Rasen which is susceptible to flooding. Working closely with project partners and consultants, a progressive 'nature recover network' along the course of the river Rase was evidently achieved, with no singular areas focussed on in isolation, ensuring a joined-up vision for the long term.

3.23 EA and researchers, LCSP provided an important 'test bed' to inform and improve outcomes for the future and to tackle climate change.

3.24 Biodiversity has been protected and the health of the natural environment improved, securing opportunities along this rare and sensitive chalk stream have increased carbon capture and the regulation of the climate.

3.25 A cohort of local volunteers, enthusiasts and advocates have boosted a stronger sense of connectivity and unity to care for and protect the river Rase. This increased connectivity and relationship helps its future resilience, with direct action and a fuelled passion ensuring the river is 'on the agenda' and not forgotten as a habitat very much at the heart of a community. LCSP have embedded a new sense of understanding and awareness about the value of the river and also its biodiversity, engagement which has inspired many local people, young and old, to make a difference.

3.3 How have we made a difference for local people living in the river Rase catchment?

3.32 The NFM enhancements upstream directly impact on the lives and wellbeing of communities living within the catchment downstream, particularly those affected by flooding and climate change. Flooding is incredibly sensitive and devastating for those impacted by it, and this project has taken measures to help reduce these impacts, changing a community's sense of home, placement and security. With data now being collected, an unexpected outcome of the project, real changes can begin to be measured, reviewed and hopefully developed into the future. 86% of those who took part in activity said that they felt it improved their health and wellbeing.

Farmers have expressed a personal sense of pride and contribution in helping make a difference for people and for wildlife. The NFM enhancements are, in the main, hidden for the wider general public and so often not known or understood. With the distribution of leaflets and resources to be distributed in the future, the defragmentation between farmers and landowners upstream with communities in towns and catchments in other areas will be improved.

83% of those taking part in community activity confirmed that they are more aware of how nature-based solutions can help tackle climate change and that their knowledge of chalk streams had increased.

3.33 The improvement of wildlife in new areas, as well as securing and helping nature along the project catchment, has improved the wellbeing of walkers and visitors to the river, as well as improve the wellbeing for private landowners and their families and workers. Within the short project timeline, wildlife around ponds, for example, has notably increased and 'returned back' back after being 'lost'. Access to nature and wildlife is proven scientifically to improve the health and wellbeing of people, and LCSP hosted well attended walking tours along the river, walks which are now being hosted by a local group of volunteers, boosting local wellness and sense of local pride.

3.34 New skills and learning provided by the project have invested in local people, residents, school pupils and volunteers. Opportunities were maximised, instilling a sense of wonder about the river and its particular chalk stream features, with many tours, sessions, workshops taking place.

3.35 Local people are now equipped with tools to fulfil their aspirations for the environment, gaining a stronger sense of pride, contribution and connectivity to the natural world. This active engagement also impacts on mental health and physical wellbeing. With new friendships, conversations and community opportunities fostered, ongoing engagement and benefits will continue to grow.





**“I was blown away that Will and Ruth (NCSP) had informed communities so successfully in such a short time. It’s incredibly powerful”**

Sarah Swift  
Environment Agency



- 4 What unplanned outcome and outputs has the project had?
- 4.1 Monitoring the impact of NFM enhancements has been the main unplanned outcome of the project and is transformational for LCSP and partnership in terms of measuring success and learning. Whilst not initially planned during the development phase of the project, this continued monitoring over a long period of time will provide a valuable data set, informing not just a project but a professional sector and partners. It is envisaged that this data will inspire and shape future plans and opportunities. This outcome was made possible with a reassignment of budget (underspend) and an authorised 3-month extension to deliver the project.
- 4.2 A new relationship and project partnership with the University of Lincoln and in particular Dr Luca Mao, who specialises in river science and fluvial geomorphology and hydrology, has been an exciting and unexpected opportunity for LCSP. New learning and skills have been learnt by the team, in areas of monitoring data in rivers and new links to student placements and research established.
- 4.3 Greater connectivity with the Flood Risk Manager and team at LCC have been fostered and new opportunities to share expertise and priorities have arisen, with departmental learning and awareness raised in methodology and opportunities to incorporate NFM's into future schemes in Lincolnshire. Opportunities to incorporate NFM as a key contributor to Lincolnshire County Council's Green Strategy are also being discussed.
- 4.4 The profile of the project, as a demonstrative example of good practice of NFM enhancements, has been raised, with new partners, organisations and professionals keen to view and learn about the processes and methodology adopted by LCPS and the Tackling Climate Change on the river Rase project. New learning and shared expertise on-site have been informative and inspiring, with interest in the project extending beyond the activity areas, reaching far wider audiences across the county and regionally, via sector and professional networks.
- 4.5 LCSP and the Tackling Climate Change on the river Rase was a visible and public project for many partner organisations and initiatives, which are usually unknown or inaccessible. Many strategies, policies and activities which directly impact on people's lives are not easily or successfully conveyed. This project successfully explored new opportunities 'on the ground' and in the heart of communities to share good practice, engage communities and communicate in accessible ways.

# Natural Flood Management



73

Natural Flood Management enhancements installed

4

Landowner agreements signed with **permissions** granted for Natural Flood Management

34

New **monitoring** devices installed to measure the impact of enhancements

57

Independent sector professionals taken on site **walkabouts** to view Natural Flood Management enhancements



83% participants more aware of nature based solutions



100% excellent event rating



233

volunteer hours completed

46

Volunteer engagements

100%

Participants motivated to take care of nature



18

Primary school children participated in river activities

## Engagement

### TACKLING CLIMATE CHANGE ON THE RIVER RASE



135 + 65  
children adults  
ENGAGED in river activity



## 6 Review

### 6.1 What has worked well and why?

6.11 Project planning and the overall management of the project has been excellent. The expertise and skills presented by a small team is clearly evident, presenting competent levels of efficiency, confidence and flexibility. The project team are noticeably not phased when faced with challenges delivering bespoke multi-stakeholder projects, with a retention of determination and positivity being central. All deadlines were reached successfully and delivered as scheduled.

6.12 The contracting of an NFM consultant propelled the projects capabilities and profile, unlocking a new confidence to negotiate and lead in this new area of work for LCSP. They are now proficient in bringing the right teams together, proving essential when, for example, in the negotiations to progress permissions and the signing of agreements with landowners.

6.13 Tendering for contractors, to conduct capital works, resulted in a new cohort of local experienced NFM companies working on the project. This resulted in a greater flexibility to deliver outcomes on time, saved on project spend significantly as the process was competitive, and has expanded opportunities for reach for the project going forward.

6.14 The quality of engagement was excellent and evidently ignited a new level of connectivity and awareness across communities. With years of experience, the delivery of public and volunteer activity was clearly impactful, triggering future self-led action for the river and inspiring future opportunities and community-led ideas. The team are unable to be on the ground everywhere and see everyone all at once, due to their capacity and their work across many different locations in Lincolnshire, so this approach and injection of passion and enthusiasm has left a real legacy and utilised their available time effectively.

6.15 New opportunities have been embraced by LCSP, and the project has acted as a springboard for new ideas and innovation to take place. The team are clearly eager to learn and evolve their work and professionalism, ensuring progress is made and opportunities not missed. This energy, is clearly impacting on their partnerships and the increasing of project outputs, strategy and future work.

### 6.2 What did not work so well and why?

6.21 Gaining permissions and agreements from Forestry England did not go as simply as planned. In comparison to gaining permissions from private farmer landowners, working with a large organisation required far greater levels of negotiation and legal paperwork before decisions were made, the result of which was a delay in progress and installation.

6.22 The setup of a new volunteer led 'River Care' group in Market Rasen did not happen. This was due to the recent formation of a new 'Environment Group' in the town, and there was simply no room for two groups, with a potential conflict of interest. A close collaboration with the Environment Group was therefore established and successful. The River Care model, set up by Keep Britain Tidy and Anglian Water has previously worked very well for LCSP, and whilst on this occasion it was deemed not appropriate, the model is still a consideration future projects in other areas.

6.23 Online communications were not always utilised due to limitations specified by landowner consent, with permissions needed before any posts are uploaded, and also the overall capacity of the small part time team. Online engagement has flowed well throughout the project delivery, however the team expressed that they simply don't have time to fulfil all of their aspirations to communicate.



“Each event teaches me so much about the way nature works, how it is all linked and how I am a part of it.”  
participant



## 7 Lessons learnt and recommendations

7.1 Monitoring is essential from the offset when planning NFM enhancements. It became apparent at the mid-point of the project that questions were being asked about how LCSP knows the impact of their work, and whilst it is widely known that NFM's work the data is simply not available, and importantly, not specific either to the river Rase. Trust and confidence has been achieved, and this needs to be boosted by data.

### Recommendation 1

Continue to work in partnership with UoL to capture and analyse data.

### Recommendation 2

Raise the profile of the Tackling Climate Change on the River Rase project in the long term, sharing learning and expertise based on all data collected and sharing data across partnerships. This is pioneering work needs to be acknowledged and maximised.

### Recommendation 3

Continue to explore opportunities to build on the data set where possible, on the river Rase and/or in new areas where NFM enhancements maybe installed. This should include mid and downstream data capture.

### Recommendation 4

Opportunities to influence greater support for future NFM enhancements should be considered to influence future strategy, including, for example, Lincolnshire County Council's Green Masterplan. Resources from partner organisations including Anglian Water Services, EA, FE and the Flood Defence team at LCC should be further exploited to continue this work.

### Recommendation 5

Opportunities should be explored to engage volunteers in 'citizen science' specifically to capture data to monitor the impact of NFM enhancements in the future. This will help grow a local connectivity.



7.2 Gaining permissions from some larger organisations was challenging, however by meeting face to face and building interpersonal relations, progress was successful as conversations 'broke the ice' for all parties.

### Recommendation 6

Ensure face to face and site visits are regular in the early stages of future activity which is new to a potential host, so as to broker relations and demystify any preconceived ideas or concerns.

7.3 The design of NFM leaky barriers require adaption. Via site-visit consultation it was clear that not all leaky barriers are high enough to be as efficient as they could be. This is a learning outcome, resulting in changes to design at a mid-point of the project.

### Recommendation 7

Review the data set collated from the new monitoring in place to inform the future design of NFM enhancements, sharing learning with relevant stakeholder

7.4 Being too rigid with engagement models can restrict progress. The River Care group model is excellent however it momentarily restricted progress for the team, due to a pre-determined set of specifications and boundaries focussing on litter picking. These did not dovetail well with broader environmental priorities expressed by local people.

### Recommendation 8

Allow for greater flexibility and LCSP 'ownership' of an engagement model so as not to always be locked into an approach set by wider partner organisational priorities, which may sometimes not meet the needs of a project.

7.5 More capacity for communication is needed. It is evident that the project team worked with great effort to capture and communicate online using social media and their website and also in print, but this draws on their time considerably.

### Recommendation 9

Budget for additional support for communication for future projects. This may include designer time to, for example, design a set of leaflets or case studies, or for a communications and marketing freelancer to update online PR and to capture/edit media.

## Budget

ORIGINAL BUDGET	Original budget allocation	Revised budget allocation	Final budget spend June 2023	Variables
<b>Staff time</b>				
Project Officer	£34,468	£37,596.78	£37,596.78	+9%
Monitoring Officer	£34,990	£40,038.55	£40,038.55	+14%
<b>Professional Fees</b>				
Specialist NFM consultant	£9,000	£10,000	£11,700	+30%
Specialist NFM data consultant	-	£10,000	£10,000	-
Ecological consultant	£4,000	£0	£0	-
Archaeology watching brief	£10,000	£0	£0	-
<b>Repair and conservation work</b>				
Field bunds	£3,200	£11,534.20	£11,149	+ 248%
Cross drains	£6,000	£0	£0	-
Leaky barriers	£21,600	£7,220	£8,725	- 59%
Bank reprofiling	£4,000	£0	£0	-
Online storage, ponds, swales	£27,000	£14,350	£14,350	-46%
Cattle drinking areas	£10,000	£0	£0	-
Planning permission	£8,312	£0	£0	-
IDB consent	£200	£750	£750	- 275%
<b>Equipment and materials</b>				
Community Equipment and Materials	£3,193	£3,193	£3,193	0%
Leaflet design and print	£2,434	£1,217	£2,434	0%
Monitoring equipment	£0	£24,500	£16,122.30	-
<b>Staff costs</b>				
Training	£1,000	£1,000	£995	- 0.5%
Travel	£812	£812	£53	- 93%
Expenses	£600	£567	£599	0%
<b>Publicity and promotion</b>				
Tote bags, pens and pencils	£714	£1,017	£1,017	+ 42%
<b>Evaluation</b>				
Staff time	£2,651	£0	£0	-
Consultant Evaluation	-	£5,900	£5,900	-
<b>Contingency and inflation</b>				
10 % of total budget	£18,480	£17,195	£0	-
CPI currently 0.5% of total budget	£1,016	£945.75	£0	-
<b>Totals</b>	<b>£204,302</b>	<b>£190,095.73</b>	<b>£164,622.63</b>	<b>- 19%</b>

## Going forward

The Tackling Climate Change on the River Rase project has fostered exciting outcomes which have significantly propelled learning for all involved. This has evidently inspired the project greatly in terms of advancing their work in NFM and tackling climate change, as part of their next 5-year strategy, which is due to commence in 2024.

Since the completion of this project LCSP has been successful in leveraging additional funding from EA to support the implementation of new NFM enhancements at Linwood Warren, a SSSI (Site of Special Scientific Interest) nature reserve managed by Lincolnshire Wildlife Trust. This important extension of enhancements is indicative of the potential growth this project has fostered to secure and protect rare and sensitive habitats which are increasingly affected by climate change within the catchment of the river Rase.

Positive new partnerships and relationships have been established, not just with organisations but importantly with communities, community ambassadors and local volunteer groups. Existing partnerships have also galvanised and in doing so, LCSP is more resilient with resources to make continued advances to secure and recover sensitive river habitats. This project commenced at a time when the nation was coming out of a pandemic, it has survived many challenges and continues to grow. Now they will be embarking on future projects with even more robust foundations and science to make a difference. Opportunities and projects for the river Rase and in tackling climate change are on the agenda for LCSP and their partners and the next 10 years will offer a spectrum of new learning, science and innovation which is sure to continue.



**Tackling Climate Change  
on the River Rase**  
an evaluation



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