RIVER TORNE
Catchment Partnership

PROGRESSING OUR PROJECTS

2021-2022 RIVER TORNE CATCHMENT

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Introduction

Starting near Sandbeck Hall in Maltby, South Yorkshire and reaching its confluence with the river Trent in Keadby, North Lincolnshire. Today, the River Torne sub-Catchment covers a total of 520km2 and is vital collection of water bodies that provide drainage and flood protection for industry, agriculture, homes, and businesses across parts of South Yorkshire and North Lincolnshire. This functionality is central to our vision for the catchment; serving as a mechanism to engage with this diverse range of stakeholders to provide education and raise awareness about the importance of effective water and water body management.

Initial stakeholder workshops quickly identified a series of target projects that the partnership could pursue, and an action plan created. This document has been developed with the intention that it be used to progress aspirational projects and coordinate the next steps within the partnership.

It should be viewed as a means for the partnership and partners within the partnership to share what they want to deliver, what they are delivering, and what has been delivered.

By doing this we can truly embrace the catchment-based approach and work holistically together to maximise our resources and maximise our returns.

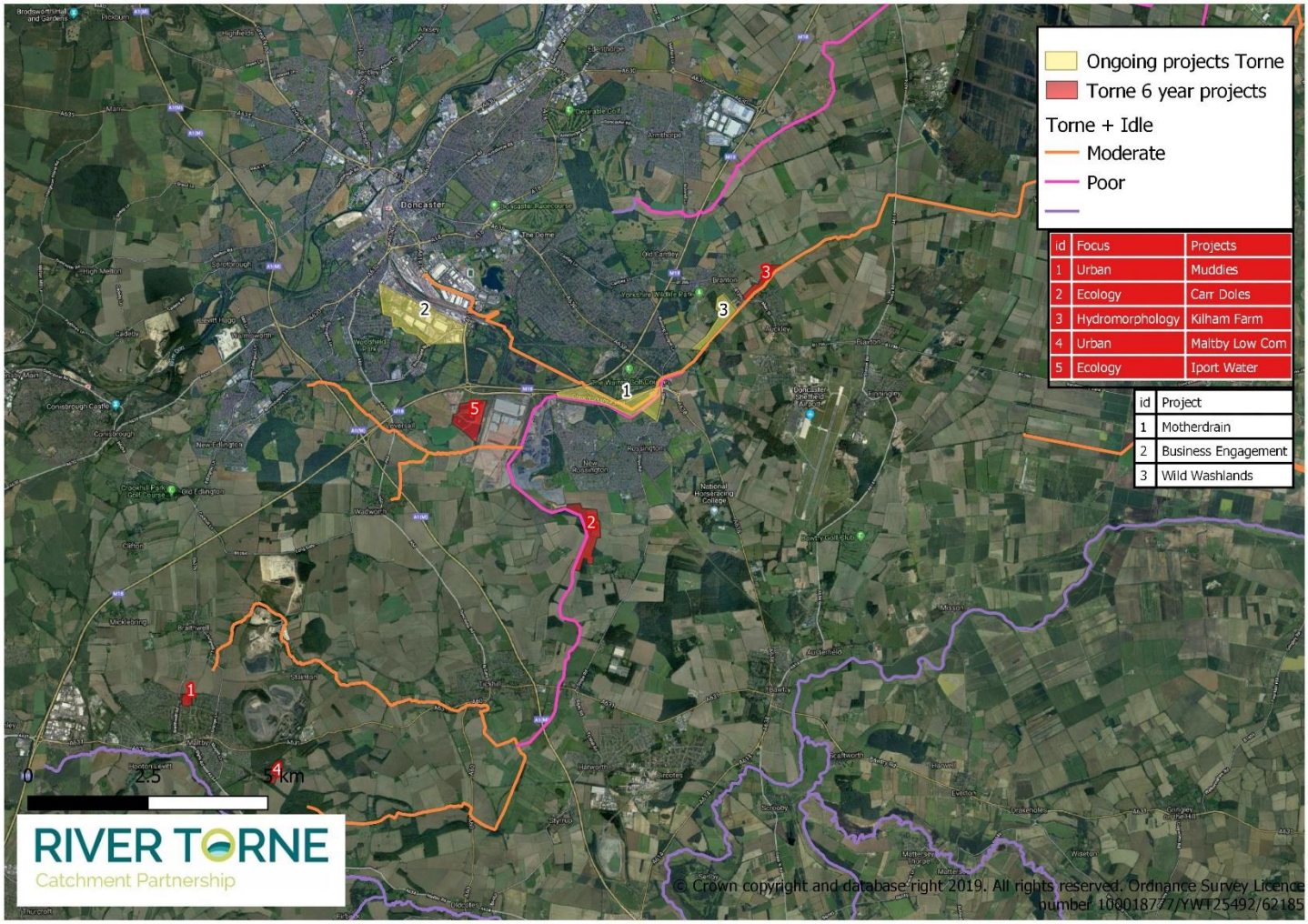
This is a living document, with lead partners expected to update their 'project pages' quarterly for the benefit of catchment partnership and catchment steering group meetings. In doing so the document can be kept up to date as a current record of the work of the catchment.

Below is a map representing the aspirational projects for the Catchment. It highlights the water bodies overall WFD status in Red (bad), Blue (poor) and green (moderate). The location of proposed aspiration projects and their main rational are plotted as points to show the spread of projects across the catchment.

What is the Catchment Based Approach?

A shift in thinking led the UK government to realise that looking at smaller water catchment areas rather than large river basins was a positive step in achieving improvements to water bodies and their associated environment, and towards achieving the targets of the Water Framework Directive (WFD). This led to the introduction of the 'catchment based approach' by DEFRA (Department for Environment Farming and Rural Affairs) to enable local stakeholder groups to promote the protection and improvement of the water environment.

Aspirational project map



How to use the project pages

This document together with the Torne Catchment vision document forms an 'Integrated Catchment Plan' for delivering success in the Torne Catchment.

The general principles that guide the delivery of this document are given in Appendix 1.

This will allow the progress of a project to be tracked from initiation through to completion. It also allows a projects relative benefits and contribution to the partnership aims be compared against cost and ease of delivery. This allows an efficient comparison of aspirational projects and a way to prioritise potential project against available funding streams.

The initial list of projects in the 2015/16 edition of this document are derived from the current 'action plan' document agreed by stakeholders of the Torne Catchment Partnership.

Some of these project ideas have been improved upon by the delivery of two reports commissioned in 2014 by the catchment partnership. These reports co-delivered variously by the Yorkshire wildlife trust and by Ecus environmental solutions on behalf of the Torne Catchment Partnership are available at
http://www.catchmentbasedapproach.org/humber/torne

Any project impacting the water environment may be included but the Torne Catchment Partnership will prioritise their collective efforts towards projects that deliver Water Framework Directive benefits and help the partnership deliver its vision
http://www.catchmentbasedapproach.org/humber/torne

All projects should be assigned an owner. The owner should progress the project where possible and report back to the wider area using the second page of the 'project pages'. If there is no owner, a project will not be advanced until there is an owner.

Progress will be reviewed on all owned projects at a timely interval in a group setting (i.e. a Catchment Partnership meeting). The point of this is to find synergies and avoid duplication of effort.

Where possible all partners should try to provide help and advice to aid the progress of projects.

Projects can be delivered by the Torne Catchment Partnership (or by officers and organisations on behalf of the partnership), or by partners in isolation.

All projects should acknowledge the support of the Torne Catchment Partnership when reporting success.

How to use the summary table

The summary table below show the multiple benefits for each project against recognised funding themes and the aims of the Torne Catchment partnership. It allows projects to be identified and compared by the funding criteria they meet and their contribution to the partnership aims.

The list is presented in order of priority. This is because different funding streams will have different funding priorities and look for different rationales behind projects. Where funding becomes available the summary table gives a starting point for the user to draw up a short list of projects that meet the funding criteria and further enable the user to prioritise projects in that short list by their contribution to the partnership aims and there multiple benefits. More ticks indicate the main rational behind a project not a greater benefit. Further information on the detail of the individual projects is available on the project pages.

Where a strategic approach is being employed (for example, to target delivery over a prolonged period to realise the best value for money WFD improvements) the document should be used in conjunction with the Torne Catchment Vision document.

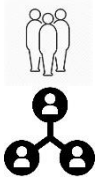
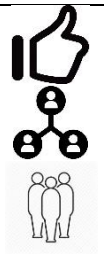
The first part of the table lists the project number, the project name, and a location. The next five columns indicate five likely funding themes; urban; rural; ecology; hydromorphology; and engagement. **The table 1** expands on what this means.

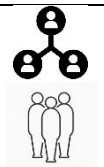
Table 1 **Funding Themes** (as shown on project pages)	**Expanded Definition**	**Examples of what delivery may look like**
Urban	***Tackles urban diffuse pollution***	Working with the business' on mother drain to deliver better management of ditches Intercepting road run-off and remediating it before it enters a watercourse
Rural	***Tackles Rural diffuse pollution***	Improved (size and quality) buffer strips alongside watercourses, more efficient use of fertilisers (so that excess doesn't end up in the watercourse), rural suds schemes to intercept field drains; fencing or cattle drinking points to reduce poaching and access to watercourses
Ecology	***Improves available habitats***	wet woodland creation, wetland creation
Hydromorphology	***Improves river function***	Weir removal, installation of large woody debris, installation of flow deflectors, other river restoration
Engagement	***Engages communities with their watercourse***	Developing interpretation with a local school, community science project, volunteer delivery of on the ground physical works, litter picks

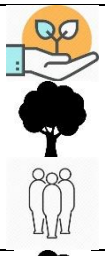
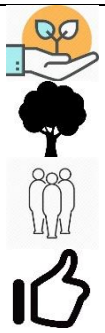
The next column indicates how a project delivers against the aims of the Torne Catchment Partnership. These four aims are centered on, stakeholder engagement, connecting small groups, positive management of sites. The full explanation of their meaning is given in the vision document but **table 2** below gives a brief summary.

Table 2 Partnership Aims		
Stakeholder engagement		A vital part of gaining support for catchment based initiatives. It enables us to Identify, engage and educate key audiences through the stakeholders as well as integrate catchment initiatives into strategic programmes.
Connecting small Groups		Allows small specific interest groups to bring their ideas and issues to the people who can help to make it happen. It also builds capacity in the catchment where small groups are able to help deliver catchment aims and messages.
Positive management of Sites		To improve their condition allows us to make the best use of existing assets in the catchment like local wildlife sites and SSSI's to improve how they deliver WFD and other multiple benefits on the Catchment.
Positively influence development		An important means of protecting existing assets in the catchment as well as incorporating catchment messages in future developments.
Creating habitat		It is important to identify opportunities for **creating habitat** on the catchment which can help deliver the vision for the catchment whilst delivering WFD and multiple benefits
Data and monitoring		Allows us to justify the multiple benefits that could be delivered by aspirational projects on the catchment. It can also provide evidence of the success of existing projects and the impact of the catchment partnership.

Summary Table

Project #	*Project Name*	*Urban*	*Rural*	*Ecology*	*Hydro-morphology*	*Engagement*	*Catchment Partnership Aims*	*Cost*	*Phase of delivery*
1	***Reducing Rural Diffuse Pollution on Papermill Dyke: Stainton Wood, Limekiln Lane, Water Lane.***		✓✓ ✓	✓✓	✓			12.5k	Completed
2	***Re-wetting Sandall Beat and Cantley Park phase 1***	✓✓ ✓		✓✓	✓	✓✓		15.5k	Completed
3	***Iwait project***	✓✓	✓	✓✓✓		✓✓		96k	Completed
4	**SUDs in schools phase 2**	✓✓				✓✓✓		75k	Completed
5	***Tickhill and papermill dyke habitat improvements***		✓✓ ✓					7.5k	Completed
6	***Reducing Rural Diffuse Pollution on Papermill Dyke: Limestone farm and Tickhill friary***	✓	✓✓ ✓	✓✓		✓		7.5k	Completed
7	***Tickhill Mill damn***	✓✓		✓✓✓		✓✓		?	Completed

8	**Water environment grant funded Wild washlands**	✓	✓✓	✓✓✓	✓✓	✓		110K	Funded Ongoing
9	***Mother Drain: business' engagement and habitat creation.***	✓✓		✓		✓✓✓		15K	Funded Ongoing
10	***Papermill Dyke NFM project***	✓✓ ✓	✓✓	✓✓✓		✓✓		50K	Funded Ongoing
11	***Maltby Water advice for schools and Homes project***	✓✓ ✓				✓✓✓			Complete
12	***Keadby Pumping station opportunities***			✓✓	✓✓✓	✓✓			Ongoing
13	**Stakeholder analysis Community engagement review**					✓✓✓			Ongoing
14	***Maltby Colliery Restoration***	✓✓		✓✓✓	✓	✓✓			Ongoing
15	***Muddies SUDS***	✓✓		✓✓	✓✓✓				Aspirational
16	***Carr Doles***		✓✓	✓✓✓					Aspirational
17	***Idle and Torne NFM***	✓	✓✓	✓	✓✓				Aspirational

18	***Kilham Farm Restoration***		✓✓	✓✓	✓✓✓				Aspirational
19	***Maltby low common wetland creation***	✓✓ ✓	✓✓	✓✓	✓			?	Aspirational
20	***TAFTA Torne Catchment***		✓✓ ✓	✓	✓	✓			Aspirational
21	***Iport Wetlands water level control feasibility***		✓	✓✓✓	✓				Aspirational
22	***Golf Course land fen creation and river restoration project***		✓	✓✓	✓✓	✓✓			Aspirational

Completed projects

Papermill dyke case study 2015/2016

Project CPAF2901HP – Reducing diffuse pollution in Papermill dyke

Who: Yorkshire Wildlife Trust When: 2015/2016 Cost: £12500

Quote: "I was impressed by the level of support from farmers locally giving up some of their own time and effort to contribute to the works improving the condition of the stream." – Jamie McEwan Yorkshire Wildlife Trust

Where: Stainton, Doncaster NGR: SK 59154 92329, SK 55866 93631

What: This project aimed to address rural diffuse pollution within the papermill dyke. Priority sites were identified by the Sandbeck Estate Scoping report and a dedicated project officer worked with the sand beck estate and tenant farmers to deliver a suite of works aimed at improving water quality at target sites. The project worked with farmers to help improve their farming practices as well as delivering small scale habitat creation interventions on their land. Other works included the installation of fencing to protect the bank from degradation by livestock and allow more sensitive management of habitats. The Project Officer will work with the farmers to deliver a suite of these actions across the sites.

Wider context: The Sandbeck Estate farms and others sit in the waterbody catchment of Ruddle Dyke from source to River Torne, and the overall WFD status is bad in 2014 cycle 2. The reasons for not achieving good Include failings in chemical and ecological status elements including ammonia and invertebrates

Objectives:

- To carry out priority work as identified in the sandbeck estate scoping report
- To engage with 1 farmer to agree habitat enhancements and improve agricultural practices on their land
- Deliver 400m of river habitat restoration
- Install a total of 100m length of fencing to reduce bank degradation by livestock

Outputs:

- Worked with Sandbeck estate and 2 tenant farmers
- Carried out 400m of river habitat restoration
- 0.16ha of wet woodland created – 60 trees planted
- 580m of fencing installed
- 1 limestone spring flush restored

- 0.75ha of floodplain fen restored
- 150m of hedge installed

Benefits:

- Improved farming practices
- Improved community interest
- Reduced livestock poaching, sediment and chemical inputs
- Habitat improvements for wildlife

Tips and lessons learned: We made good use of expertise within the organisation in other regions and river projects to implement innovative ideas from other projects.

Sandall beat wood case study 2015/2016

Project CPAF2901HP – Rewetting Sandall Beat Wood

Who: Yorkshire Wildlife Trust When: 2015/2016 Cost: £15500 + £4000 from Wren BAF partner project

Quote: "*So nice to see Sandall beat wood looking like it used to all those years ago, brings back great memories for so many locals and a big thank you to all the volunteers. Now it's the public's turn to keep the woods clean and report people who litter and damage this lovely nature reserve." – Adrian Barker (Woodland user)*

Where: Intake, Doncaster NGR: SE 61489 03261

What: A report commissioned by Doncaster Metropolitan Borough Council in 2013 analysed water levels in the drains of Sandall Beat and Cantley Park. With the exception of the two main drainage channels, Mains Drain and Fore's Drain, the report stated that none of the drains were found to have any water present at any time. This has an impact on the sites SSSI status. Water quality issues were also noted, with road and roof drainage discharged at the pumping station at the head of Fore's Drain likely to be the cause. The report indicated that cross connection of domestic waste water into roof gulleys could account for some of the water quality issues. The Yorkshire Wildlife Trust subsequently co-funded a report in 2014/15 to identify potential measures that could be taken to address these issues at the site.

This project as a result of these reports aimed to address urban diffuse pollution at Sandall Beat and Cantley Park by improving water flow and creating new wetland habitat to the benefit of water quality in Fores drain. The project also aimed to engage local communities, highlighting urban diffuse pollution issues and solutions, through a volunteer survey programme and an interpretation project delivered by local schools.


Wider context: Sandall Beat and Cantley Park are located to the east of Doncaster, within the water body catchment of Hatfield Waste Drain (GB104028064330). Despite its urban setting Sandall Beat is designated as a SSSI. The overall WFD status of Hatfield Waste Drain at Cycle 2 is moderate. Whilst the Chemical Status is good overall, the Ecological Status is moderate, due to the impacts of physico-chemical quality issues and biological quality elements. Phosphate levels and dissolved oxygen levels are classified as poor, whilst ammonia levels and fish assessments are moderate. Urban diffuse pollution and poor water flow conditions are largely responsible for the WFD classification.

Objectives:

- Deliver 1ha of wetland habitat with macrophyte planting at Sandall Beat and Cantley Park
- Deliver 150m river habitat restoration, including de-silting of ditches and installation of coir rolls with marginal planting, at Sandall Beat and Cantley Park
- Deliver in channel improvements on Fores drain
- Engage and train at least 10 volunteers
- Engage at least one class from 1 school to produce an interpretation project

Outputs:

- Restoration of 2 hectares of SSSI wet woodland
- 150m of stream habitat improvements on Fores drain
- 110m of pre-planted coir rolls
- 22 volunteers were engaged
- Totalling 201 hours of volunteering time
- The project engaged with 71 schools children from 3 classes

Benefits:

- This has enthused local members of the public in an urban SSSI, encouraged volunteering and a sense of ownership in the woodland at Sandall beat
- Improved water quality
- Creation of ~718m^3 of flood storage
- 2 ha of SSSI habitat improved
-

Tips and lessons learned: The project has been a fantastic example of delivering a project in partnership. Aligning our objectives with Doncaster Metropolitan Borough Council and other Yorkshire Wildlife Trust ‘Living Landscapes’ projects means the project has been able to draw significant additional resource and benefits. Additionally delivering a project in a busy community area has been a fantastic way of engaging the community in the project and

the catchment. We have delivered a project that has restored a valued place back to the way many people remember it and it has encouraged a fantastic amount of support whilst delivering the catchment message and engaging people in the Torne catchment.

Iwait case study 2016/2017

Who: Torne Catchment Partnership / East Midlands Environment Program Team

When: 2016/17

What: Partnership project with multiple outcomes including restoration of 46.5ha of wet woodland, natural flood risk benefits, education and community engagement.

Quote: 'That's the first time in over forty years that piece of woodland has had any water in it.' (Local resident referring to Sandall Beat SSSI)

Where (site, catchment, river basin): Sites include Sandall Beat SSSI; Holme Carr Wood; Bog Wood; Tickhill Low Common; Bessacarr Bank; Piper Marsh SSSI; and Rossington Brick Pond. All sites are within the Torne Catchment in the Trent River Basin.

NGR: Various

Wider context: The iWAIT project builds on work delivered in 2015/16 when the Torne Catchment Partnership worked to reconnect up to 2000m3 of floodplain storage at Sandall Beat SSSI in Doncaster. The project also delivered multiple benefits including restoration of 2ha of wet woodland, water quality improvements, engagement with local communities and volunteer groups, education around water issues with schoolchildren. By working with Yorkshire Wildlife Trust (YWT), Doncaster Metropolitan Borough Council (DMBC), Natural England (NE) and the local community the project was able to deliver excellent outcomes and value for money. For 2016/17 the partnership identified further potential works at Sandall Beat and six other woodland sites within the catchment that could be delivered to realise multiple benefits.Funding has been secured through; Local Levy from Trent RFCC; WFD GiA from the Environment Agency; and from YWT sources. In addition all partners have supported the project with further time-in-kind contributions.The River Torne is heavily modified and large areas of the catchment are near to, or below, sea level. Water levels in the catchment are managed intensively for flood risk and land management. The terminus of this system is Keadby Pumping Station, which pumps water from the Torne system into the River Trent.By targeting natural flood risk management techniques and providing additional flood storage in the upstream part of the catchment we will be able to help attenuate both peak and flood flows from rainfall events.This provides dual benefits, firstly that flood risk to property and agricultural land within the catchment is reduced by making more space for water. Secondly, it will reduce both the financial and carbon cost of pumping water from the Torne catchment into the River Trent.Using desk top analysis (including reviewing LIDAR data), the project objective is to deliver a minimum of 46.5ha of wet woodland recreation or restoration that delivers over 4,000m3 of additional flood storage capacity.

Other benefits: Alongside this work funding is being used to engage with seven schools. Each of the schools will be linked to a woodland site. Each school will have a series of lessons and other activities delivered by a dedicated educational project officer. Sessions will cover a variety of water related themes including flood risk, water quality, water availability and biodiversity. At three schools a Suds feature is being retro-fitted within the school grounds. This will provide an additional means of engaging with the schoolchildren, and will also further help support efforts to slow the flow in the catchment. Each of the

woodland sites is also being linked to a local community group. As well as providing health and wellbeing benefits to what, in some cases, are deprived and disconnected communities this also helps to ensure legacy and sustainability benefits. Local groups of volunteers have helped to deliver some of the lower risk capital works. This investment of their time has helped to secure a greater sense of local ownership of the sites. Support has also been given to the local groups in developing site management plans, thereby ensuring that the projects gains are secured in to the long term. By using these methods, the project will create, restore or improve a minimum 46.5ha of wet woodland which is a priority habitat; deliver in class improvements in WFD status classification; contribute to SSSI remediation; and provide support for priority species such as the Willow Tit (Poecile montanus subsp kleinschmidti).

Outputs:

- Priority habitat created = 46.5ha
- Flood storage volume realised = 4,078m3
- Schools engaged with = 7
- Number of pupils engaged with project = 600
- Suds schemes retrofitted = 3
- Community groups supported = 5
- Volunteer hours realised = 1200
- NFM Regional Conference delivered
- SSSI's improved = 2

REDUCING RURAL DIFFUSE POLLUTION ON PAPERMILL DYKE: LIMSTONE FARM AND TICKHILL FRIARY

SuDS in schools – PG/1718/WEIF/EMD/0005

When: 2017/18/19

What: A large scale engagement project within the Torne Catchment educating and engaging the primary and secondary schools around the Torne's heritage and the water environment. The project aimed to retro-fit 6 SUDS schemes to further engage school children whilst providing a green learning environment and flood and water quality benefits.

Outcomes:

- Build on previous engagement within the Torne catchment around the local water environment.
- Deliver SuDS on a larger scale to schools within the catchment
- Improve water quality and flood resilience within the catchment
- Increase awareness of the heritage of the Torne, past and present

Quote: *"Last we went pond dipping and back to the education centre, it was a lot of fun." Blake – Wroot travis primary school.*

Where (site, catchment, river basin): Sites included Potteric Carr nature reserve, Grange lane, Tornedale infants, Wroot travis, Hungerhill, St Marys primary Tickhill, Maltby Redwood Academy. All within the River Torne Catchment.

NGR: Various

Wider context: This project addresses a need for a better overall understanding of the river and how it has changed. The River Torne has been modified over time in order to serve the communities that live in the catchment and that has had a significant impact on local wildlife and water quality. The River Torne catchment partnership has worked towards revitalising this river for the last three years and delivered a number of projects with the communities in the catchment. Despite the Torne Catchment protecting over 20000 properties from flooding overwhelmingly whilst working within the community we recognised that this important water course passes through the landscape relatively unnoticed. In the design of this project we have attended seven local events with a survey to better understand the community's relationship with the river. Despite all of these events being held no more than 2km from the river 63% of survey respondents had not heard of the River Torne before we had spoken to them. With the water quality and wildlife on the river suffering from these alterations it's increasingly important that the communities living on the Torne better understand the

changes that have happened for their benefit, the negative impacts these changes have had on the natural heritage of the Torne and how we can restore some of these natural process to create habitat and improve our rivers.

SuDS: 6 SUDS schemes were implemented in the catchment with 12 individual interventions. These were a mix of interventions designed to create and sustain better places for people and wildlife whilst controlling the flow of run off and the quality of the water leaving the site. Interventions included formal raised planters. Sunken rain gardens, water butts, woodland planting and ponds as well as the creation of 0.2 ha of woodland created in Tornedale infant school.

Education: A total of 44 sessions on the River Torne and water environment were delivered with 1537 school children engaged in the water cycle, their local river and the wildlife reliant on it.

Community events and volunteering: 225 adults were also engaged through community talks and presentations to groups such as Tickhill horticultural society, Doncaster Naturalists and Doncaster Rotary club.

The project also received contributions of 856 volunteer hours from family and friends of the schools involved as well as young people from National citizen service and the Wildlife trusts tomorrow natural leaders project. A project trainee also made a significant contribution to the project in terms of volunteer hours and engagement with local communities.

Summary: Overall an excellent engagement project with some great examples of retrofitting SuDS interventions in schools and the potential to connect people with their local water course. Building on the success of this project and the learning from this year a pilot Yorkshire Wide SuDS in schools project with Yorkshire water 'Soak it up' has been rolled out this year. https://www.yorkshirewater.com/soakitup

Papermill Dyke (WEIF) - PG/1718/WEIF/EMD/0006

When: 2017/18

What: The project aimed to restore 2 hectares of wet woodland to flow from the surrounding drainage and create an offline wetland scrape capable of storing river water during high flow and creating a significant area of wetland habitat in the process.

Quote: *"*You have done a great job with Snipe Bog - it should develop into an excellent habitat. I do hope you can manage something like it near the A1 (M)." *Tony Sheridan – Tickhill countryside group.*

Where (site, catchment, river basin): Papermill Dyke GB104028058370

Wider context: The Sandbeck Estate owns a large amount of land within the Papermill Dyke catchment boundary of the River Torne, which is predominantly tenanted farming. There is evidence from multiple sources that rural diffuse pollution from these farms and others in the area is entering the River Torne and its tributaries. As a result the Torne Catchment Partnership commissioned a scoping report and has focused on the most negatively affected waterbody in this location, Ruddle (Papermill) Dyke from source to River Torne. This catchment includes the Sandbeck Estate farms as well as neighbouring tenanted farms.

The objective of this scoping report was to identify suitable locations for future work that will minimise the impact on riverine ecology by diffuse pollution. A report made recommendations for improved farming practices along with small scale habitat creation interventions which have been delivered in this catchment with the Sandbeck estate and local land owners over the last 2 years through the Catchment partnership.

This project was identified by a Tickhill community group and delivered under the Torne catchment partnership plan to connect small groups and the aim to deliver a project put forward by a small group through the catchment partnership to improve the River Torne's water environment. Connecting small groups allows small specific interest groups to bring their ideas and issues to the people who can help to make it happen. It also builds capacity in the catchment where small groups are able to help deliver catchment aims and messages. This project was designed in partnership with the Tickhill countryside group who have an extensive knowledge of Papermill dyke (one of the Torne's priority water bodies). The project also contributes to a larger natural flood risk measures project in this catchment which aims to lessen the risk of flooding in Tick

2 ha of wet woodland: 2 hectares of wet woodland was reconnected with flow from the stream. Work also included some coppicing of old willow stands to add to the age structure of the woodland and the creation of standing deadwood to benefit the rapidly declining willow tit recorded at adjacent sites. Monitoring of the long term benefits of willow tit habitat creation will be completed through the NFM project carried out on Papermill Dyke and by the volunteers trained through local landscape monitoring volunteers in the humberhead levels.

Volunteering: Only 83 volunteer hours were realised through the project through two volunteer tasks days. This was lower than the 200 originally planned due to lack of attendance locally. Work was suggested and carried out in consultation with the Tickhill countryside group who were closely involved in the project however they have less -capacity for practical tasks.

Offline wetland scrape: In addition a 0.6ha offline scrape was created, designed to take flow from the river during heavy rainfall events and create a significant wetland habitat in the area.




Funded projects

Water Environment grant funded Wild Washlands									
#	**Project Status**	**Priority status**	**Funding status**	**Project Owner**	**Project Manager**	**Waterbody Number**	**Waterbody Name:**	**Location**	**Last Reviewed**
8	**Ongoing**		**Funded**	**YWT**	**Jamie McEwan**			**Auckley Bridge**	

Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
	✓✓		✓		✓✓✓	**109K**	**4**

Project description:

The River Torne and Mother Drain have both suffered from physical modification for land drainage resulting in a loss of wildlife, changes to ecosystem functions, reduced water quality and as a result decreased habitat availability at small scales and decreased connectivity in the landscape at larger scales. In addition both water bodies have a number of pressures from agriculture, urbanisation, inputs from the water industry and transport drainage leading to an overall Moderate water body status for both water bodies. This project proposes to work on 12.5 hectares of wetland habitat across three adjacent sites to improve the water environment on both water bodies.

On mother drain this project aims to address phosphate and fine sediment inputs resulting from heavy livestock poaching along a 220m stretch of mother drain which is currently identified through WFD as impacting biological quality elements of Fish, Invertebrates and Combined macrophytes and phytobenthos with an overall biological quality elements status of poor.

The project will install 220m of exclusion fencing to prevent livestock from entering Mother Drain or poaching the banks. Fencing will be installed with a 6m buffer to the water course. This buffer will allow the stabilisation of bankside vegetation limiting direct fine-sediment inputs and intercepting surface water flow into the water course thus limiting phosphate inputs from diffuse agricultural sources. The project will also significantly improve riparian and marginal habitat improving the level of macrophytes and as a result habitat for invertebrates and fish. The size of the vegetation buffer also maintains access to the water course for maintenance.

On the River Torne itself between Mother Drain to the Trent, the project aims to address significant pressures resulting from the river Torne's physical modification and diffuse inputs from agriculture and transport drainage impacting the Torne's physiochemical quality elements. The project will commission an feasibility study to work with Yorkshire wildlife Park as land owners to design the best option to reconnect the adjacent floodplain of the River Torne maximising how this area delivers for wildlife in the landscape and water quality. Following a completed design the project will carry out a 10 hectare flood plain restoration to reconnect the river with marginal vegetation affording more opportunities for nutrient retention, plant uptake and sedimentation and improving water quality downstream. This will also have significant habitat benefits creating reed bed and fen habitat in the floodplain. Creation of a management plan and installation of specialist deer fencing will allow these areas to be managed through the wildlife park long term and facilitate a research project looking at the possibility of using grazing animals specialised to marshland and wetlands to

manage the fen and marsh areas at certain times of year sustaining the wildlife benefits of the project long term and contributing to knowledge of potential wetland management and habitat creation in zoological collections.

Additionally a new 2.5 hectare lake created adjacent the site attenuates agricultural runoff from 24km of arable drainage ditches draining 460 hectares of arable land. With diffuse arable sources identified as contributing to poor phosphate and moderate ammonia physio chemical elements in the Torne this represents an opportunity to maximise how these lakes deliver for water quality in the Torne through the attenuation of run off and the bio-remediation of diffuse agricultural pollution. The project would profile 1.5km of lake banks and plant phragmites to establish reed bed and marginal vegetation. This will create significant amounts of marginal reed bed habitat around an otherwise deep lake with limited wildlife value and contribute to the lakes ability to attenuate agricultural runoff improving physiochemical status in the River Torne.

At present as part of the wildlife park these sites are visited by more than 750,000 people a year with limited engagement in the sites or the River Torne. This project will deliver training and knowledge sharing events for Yorkshire wildlife park staff allowing the sites to be better interpreted and provides some significant engagement opportunities. In addition the project looks to create 1.7km of improved linear marginal habitat and 10 hectares of improved reed bed and fen in the middle of an important link between nationally significant sites for wildlife.

Mother Drain Fen Creation									
#	Project Status	Priority status	Funding status	Project Owner	Project Manager	Waterbody Number	Waterbody Name:	Location	Last Reviewed
9	Ongoing	3	Funded	YWT	Bryony Carling		Motherdrain	Rossington	

Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
	✓✓		✓	✓✓	✓✓		4

Project description:

A raised bank constructed of colliery spoil currently isolates mother drain from the rest of the site outside of flood events limiting the influence of the drain on the rest of the site. The site itself is an unmanaged or abandoned grassland dominated by tall ruderal herbs and course grasses. Being a low-lying area of floodplain on valley peat soils associated with the historic river Torne Corridor, the site would benefit from an increased influence from the drain allowing floodplain habitat wet grassland and fen to be restored where possible. The raised bank no longer seems to serve a purpose protecting any areas from flood flows. Improving the connection of the drain at this point with the site could have benefits in terms of in stream habitat, making more space for water and improving water quality in the drain. An improved influence of the drain on the site will diversify the species present allowing wet grassland, fen habitats to develop with appropriate management.

Maps / Photos

Papermill dyke NFM project									
#	Project Status	Priority status	Funding status	Project Owner	Project Manager	Waterbody Number	Waterbody Name:	Location	Last Reviewed
10	Ongoing		funded	YWT	Jamie McEwan		Papermill Dyke	Maltby to Tickhill	

Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
	✓✓	✓✓	✓✓✓		✓✓	50K	

Project description:

The project has looked to work in Papermill dyke to reduce flood risk to the village of Tickhill and compliment hard engineered interventions downstream in the village itself.

The project will do this by installing a conveyance swale at Maltby low common SSSI to transfer CSO outflow through the site whilst preventing the current enrichment of the SSSI grassland and avoiding the need for re-digging the drainage ditch which would result in the loss of the important wet grassland features on the site increasing conveyance towards Tickhill. The project will also restore a sediment capture and water treatment pond at the bottom of the SSSI area by extending the existing low lying area where the existing pond was and installing a water level control structure allowing a reserve manager better control over the water level on site and allowing increased water storage on site upstream of Tickhill. This work will be maintained by a reserves officer supported long term through the Yorkshire wildlife trust.

Additionally a minimum of 4 interventions between Maltby low common and Tickhill will be installed to include a series of sediment capture ponds and leaky woody dams, rough woody debris installed within the woodland and flood plain to increase sediment retention and floodplain roughness. The project aims to evidence the flood benefits of the project whist capturing these multiple benefits. Being a three year project means we have time to carry out baseline survey works in the first year with the intention of carrying out the majority of capital works in the second year leaving time for further monitoring to evidence the benefit of the works in the third year. We will do this by replicating annually a flora survey of the common carried out in the 80s to understand the change in species composition in the grassland of Maltby common over this time and how it might be improving in response to the project although this is expected to be a long term benefit and will continue to be monitored by the Yorkshire wildlife trust as part of their reserve management. Additionally 7 dip wells will be installed on site and ground water levels monitored to evidence the change in surface water storage during high rainfall in response to the works. Water samples from the Dipwells are being used to evidence the enrichment of the grassland from connectivity with the stream and the improvements following the work. Flow rate is being be measured further downstream to contribute to a better understanding of the impact of the interventions on slowing flow during peak rainfall events

Maps / Photos

Aspirational projects

Keadby Pumping Station Opportunities									
#	**Project Status**	**Priority status**	**Funding status**	**Project Owner**	**Project Manager**	**Waterbody Number**	**Waterbody Name:**	**Location**	**Last Reviewed**
12	**Aspirational project**	**3**	**Not funded**	**EA**	**Andrew Disney**				

Aims	**Urban**	**Rural**	**Ecology**	**Hydro - morphology**	**Engagement**	**Cost (£k)**	**Ease of Delivery**
	✓	✓	✓✓	✓✓✓			**5**

Project description:

Achieve as far as possible a softer approach to the replacement of Keadby Pumping station which delivers food protection as well as supporting WFD and BAP creation targets. Many of the habitat creation options are outlined in this plan

Maps / Photos

Next steps

Task 1: Define the project and anticipated benefits, risks and costs:

Task 2: Refine project, manage risks and develop funding bid:

Task 3: Deliver preparatory works for project:

Task 4: Deliver physical works:

Maltby Colliery restoration									
#	Project Status	Priority status	Funding status	Project Owner	Project Manager	Waterbody Number	Waterbody Name:	Location	Last Reviewed
14	Aspirational project	5	Not funded						

Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
		✓✓	✓✓✓				3

Project description:

Identify possibilities for habitat creation/ catchment friendly development

Maps / Photos

Next steps

Task 1: Define the project and anticipated benefits, risks and costs:

Task 2: Refine project, manage risks and develop funding bid:

Task 3: Deliver preparatory works for project:

Task 4: Deliver physical works:

Muddies SuDS									
#	Project Status	Priority status	Funding status	Project Owner	Project Manager	Waterbody Number	Waterbody Name:	Location	Last Reviewed
15	Aspirational projects	3	Not funded	RMBC					

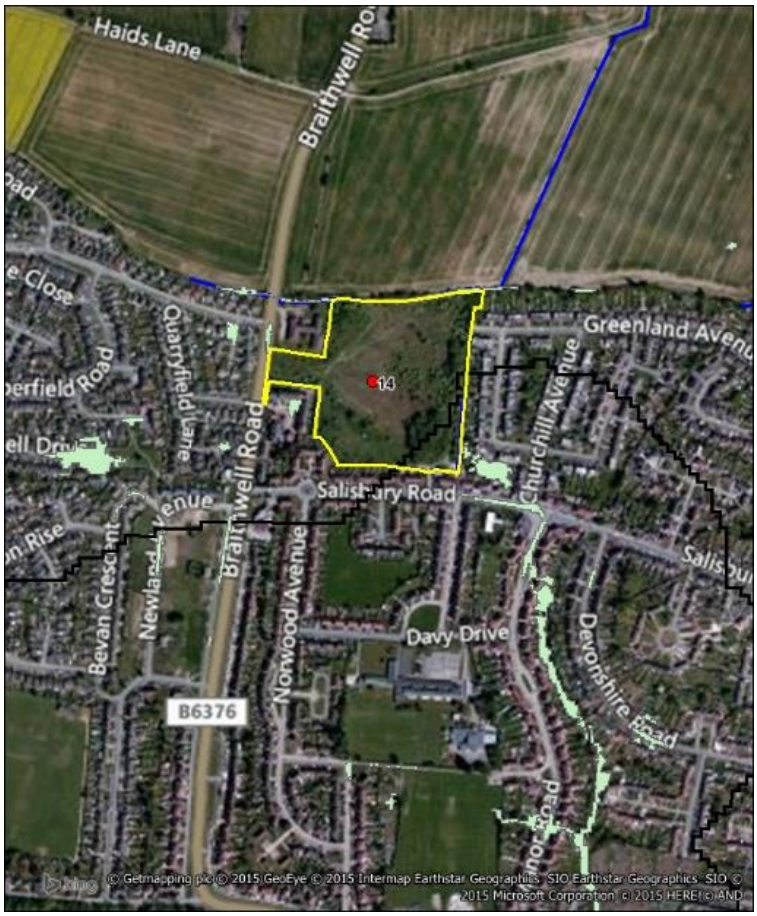
Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
	✓✓✓		✓		✓✓	110K	4

Project description:

A study is being commissioned because Yorkshire Wildlife Trust have approached RMBC about working in partnership to create a wetland area part way along the surface water flow path in Maltby, which could also store surface water. This is in a 4.5ha area located to the east of Braithwell Road and the North of Salisbury Road.

This project would help deliver the results of that feasibility study alongside a potential FDGIA grant possibly submitted by RMBC - WHICH YEAR??

Maps / Photos



Next steps

Task 1: Define the project and anticipated benefits, risks and costs:

Task 2: Refine project, manage risks and develop funding bid:

Task 3: Deliver preparatory works for project:

Task 4: Deliver physical works:

Carr Doles									
#	Project Status	Priority status	Funding status	Project Owner	Project Manager	Waterbody Number	Waterbody Name:	Location	Last Reviewed
16	Aspirational projects		Not funded	Yorkshire Wildlife Trust	Jamie McEwan				

Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
		✓✓	✓✓✓			150k	5

Project description:

Having worked with a farmer previously there is an opportunity to buy 12.5 ha of arable land in the old course of the River Torne and restore is as a wetland scrape potentially restoring some species previously existing in the seed bank of the old flood plain. This will link two Local Wildlife Sites either side of the parcel of land and together with other development contribute to a substantial area of continuous habitat in the landscape.

After restoration the total existing continuous habitat would provide an ecological corridor of 37 ha. By restoring arable land to wetland habitat, the project will reconnect fragmented local wildlife sites to provide a continuous corridor in the old flood plain of the river Torne. Not only will this provide habitat for struggling species, it will also provide natural flood management and substantial water quality benefits in a priority catchment for the Environment Agency as it would intercept diffuse pollution in an arable drainage network serving roughly 100 ha of arable land.Maps / Photos

Next steps

Task 1: Define the project and anticipated benefits, risks and costs:

Task 2: Refine project, manage risks and develop funding bid:

Task 3: Deliver preparatory works for project:

Task 4: Deliver physical works:

Idle and Torne NFM									
#	Project Status	Priority status	Funding status	Project Owner	Project Manager	Waterbody Number	Waterbody Name:	Location	Last Reviewed
17	Aspirational projects		Not funded	YWT, NWT	Jamie McEwan				

Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
	✓	✓✓	✓	✓✓✓		120K	5

Project description:

To produce an evidence-based opportunity map which will help target Natural Flood Management projects cost effectively within the catchment. Implementation of Natural Flood Management in targeted areas throughout the Idle & Torne catchment.

Maps / Photos / Next steps

Task 1: Define the project and anticipated benefits, risks and costs:

Task 2: Refine project, manage risks and develop funding bid:

Task 3: Deliver preparatory works for project:

Task 4: Deliver physical works:

Kilham Farm restoration									
#	**Project Status**	**Priority status**	**Funding status**	**Project Owner**	**Project Manager**	**Waterbody Number**	**Waterbody Name:**	**Location**	**Last Reviewed**
18	**Aspirational projects**		**Not funded**	**YWT**	**Jamie McEwan**				

Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
		✓✓	✓✓	✓✓✓		115K	4

Project description:

Following the feasibility work done on the River Torne through the WEG project and subsequent capital works at the Yorkshire wildlife park due winter 19/20. This project would deliver on already created designs for flood plain reconnection on these wetland areas of the Torne. Possible funding through Doncaster council mitigation and Keadby pumping station replacement mitigation

Maps / Photos

Next steps

Task 1: Define the project and anticipated benefits, risks and costs:

Task 2: Refine project, manage risks and develop funding bid:

Task 3: Deliver preparatory works for project:

Task 4: Deliver physical works:

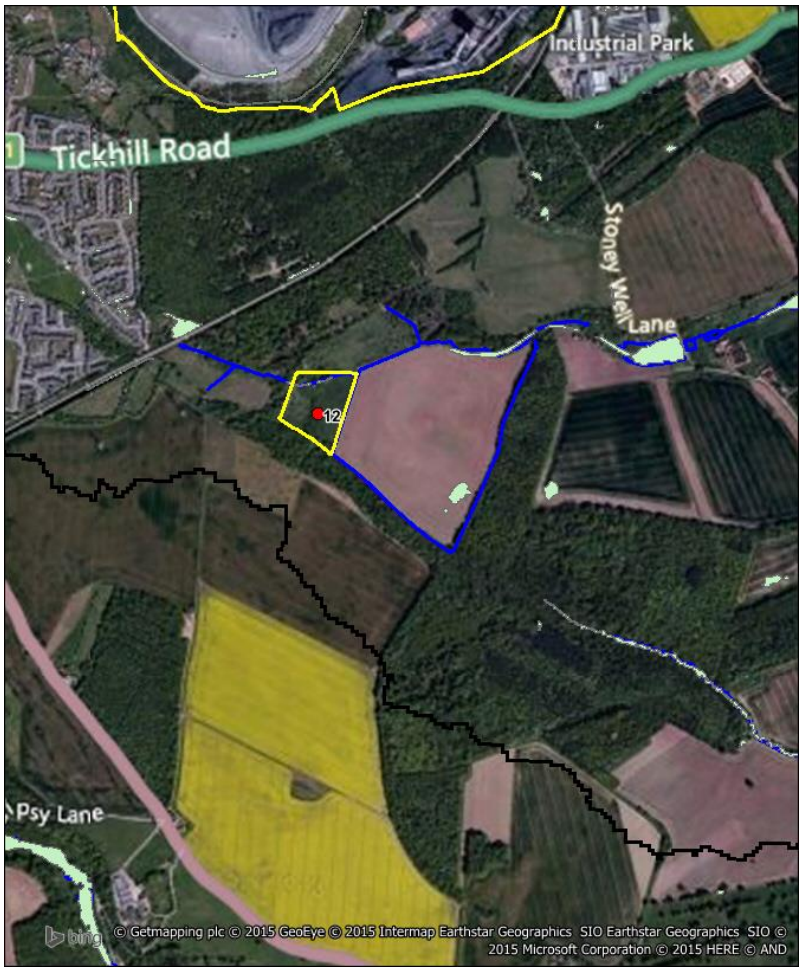
Maltby low common wetland creation									
#	Project Status	Priority status	Funding status	Project Owner	Project Manager	Waterbody Number	Waterbody Name:	Location	Last Reviewed
19	Aspirational project	5	Not funded						

Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
	✓✓✓	✓✓	✓✓			120K	3

Project description:

A sum (unknown) was agreed between sandbeck estate (owners) and Severn Trent (tenants) for the land adjacent Maltby low common to be restored by severn trent for wildlife. This has been ongoing for some years and little action has been taken. Perhaps the Torne catchment partnership could get involved at this point to see if the work can be delivered. The sight has drain running past which carries water from Maltby town. The creation of a wetland on site fed by this drain and nearby agricultural drain could limit the effect of urban diffuse and agricultural pollution lower down the water body by storing urban and agricultural run off as well as providing potential flood storage at the top of the catchment. An initial feasibility study could be done to investigate the possibility of creating wetland habitat and suggest a possible design. Perhaps Yorkshire Wildlife trust or the Torne catchment partnership could deliver this work on behalf of Severn Trent. There has been some scoping work carried out to establish the risk of contamination. Which might limit the cost of an initial feasibility scoping report. A suggested price for a feasibility study taken from similar work contracted out by YWT which included investigation into contaminated land issues was £7500 + VAT Could benefit from some drain maintenance at Maltby Common to improve flow better flushing of diffuse agricultural and urban pollution. Quoted at £800 + VAT

Maps / Photos



Next steps

Task 1: Define the project and anticipated benefits, risks and costs:

- Confirm current feasibility work
- Look into severn trents commitment to Sandbeck to restore the land
- Confirm previously agreed costing
- Potentially deliver the project through Torne Catchment partnership
- Site meeting with landowner and tenant to confirm final scope of works

Task 2: Refine project, manage risks and develop funding bid:

- Refine project brief to include location maps,
- Define outputs precisely
- Identify additional funding options

Task 3: Deliver preparatory works for project:

Task 4: Deliver physical works:

TAFTA(?)									
#	Project Status	Priority status	Funding status	Project Owner	Project Manager	Waterbody Number	Waterbody Name:	Location	Last Reviewed
20	Aspirational project		Not funded	YWT, NWT	Unknown				

Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
		✓✓✓	✓	✓	✓	210K	

Project description:

The River Torne is a lowland agricultural headwater of the River Trent. The catchment has been extensively modified and drained in its conversion to agriculture. This drainage has resulted in the degradation of wetland habitat and the loss of ecosystem structure as a result loss of biodiversity and changes in nutrient cycling. Although run off from extensively drained agricultural areas are a large part of the problem, these extensive drainage systems also present particularly good opportunity to mitigate some of these issues for a number of reasons.

One of the most straight forward reasons is that these drainage networks make up a large proportion of the water bodies in the Torne with roughly 9 meters of drainage ditch for every 1 meter of WFD classified water body. These drainage ditches by their nature also have larger surface area to volume rations and a higher retention time relative to their discharge presenting more opportunity for natural processes and nutrient cycling in sustainably managed drainage networks.

As a result, the catchment would benefit from a lot of small projects working with individual landowners to improve agricultural practices and by being small interventions in an intensely arable and urban catchment they are generally more tractable with land owners. Building on experience form the Humberhead Levels Nature Improvement area's wetland advice project and the Humberhead Levels WREN Biodiversity action fund this project proposes to work with 20+ Landowners in the Torne catchment to carry out a number of small scale interventions. All capital projects would be approved by local partnership based on fund criteria. The project would be delivered with support from the Humberhead Levels Land advisory working group and the Torne Catchment partnership.

Funding would be required to support staff time to carry out the capital work and facilitate events such as farm walks and training. Funding for capital projects carried out with individual landowners and partners would be used for installing features such as fish passes, woody debris and brash dams, Ditch improvements and restoration including two stage channels, creation of scrapes, planting of hedge rows, riparian buffers and the creation of wetlands.

Next steps

Task 1: Define the project and anticipated benefits, risks and costs:

Task 2: Refine project, manage risks and develop funding bid:

Task 3: Deliver preparatory works for project:

Task 4: Deliver physical works:

Iport water level control feasibility									
#	**Project Status**	**Priority status**	**Funding status**	**Project Owner**	**Project Manager**	**Waterbody Number**	**Waterbody Name:**	**Location**	**Last Reviewed**
21	**Aspirational project**		**Not funded**						

Aims	**Urban**	**Rural**	**Ecology**	**Hydro - morphology**	**Engagement**	**Cost (£k)**	**Ease of Delivery**
		✓	✓✓✓	✓		**115K**	**3**

Project description:

Following YWT newly taking on management of the Iport wetlands the potential for water level control in each of the lakes could be very important for management of the wetlands to maintain it as a good quality habitat but also in terms of managing it for improved water resources in the Torne and water quality in ST Catherines well stream feeding into the Torne. The iport lakes are capable of significant water storage and could be used as a potential source of water during times of low flow.

Maps / Photos

Next steps

Task 1: Define the project and anticipated benefits, risks and costs:

Task 2: Refine project, manage risks and develop funding bid:

Task 3: Deliver preparatory works for project:

Task 4: Deliver physical works:

Golf Course land fen creation and river restoration									
#	Project Status	Priority status	Funding status	Project Owner	Project Manager	Waterbody Number	Waterbody Name:	Location	Last Reviewed
22	Aspirational project		Not funded						

Aims	Urban	Rural	Ecology	Hydro - morphology	Engagement	Cost (£k)	Ease of Delivery
		✓	✓✓	✓✓	✓✓		3

Project description:

Yorkshire Wildlife Trust currently are operating large landscape-scale conservation projects, joining up core networks of habitats to connect wildlife and enable natural processes to function. As part of our vision for a more connected landscape that offers benefits to wildlife, we have been creating projects that offer connectivity within the catchment that also have significant benefits for water quality and flood management.

The Cantley/bessacarr golf course land is downstream from the Motherdrain and the River Torne. The Motherdrain runs through SSSI Potteric Carr nature reserve and past an ancient fen restoration project that is currently underway. Once the fen is restored from abandoned pasture back into a fen/floodplain, the next logical step is to acquire the golf course land and continue restoration works downstream of Motherdrain for wildlife connectivity.

The golf course land is currently an unused and unmanaged area that has great potential to be managed as fen/wet grassland. The land itself is not hydrologically isolated from the river, so with correct management the landscape can be altered into a more connected and beneficial habitat. By installing fencing on the land, the area can be grazed by cattle for effective management. Ideally the cattle will have access to the river to manage invasive species such as Himalayan balsam.

Scrapes and pools will also be created at different depths with differing levels of connectivity to the river. This will benefit wading birds and create resilience to seasonal changes in water level. Pools will be implemented at lower lying depressions. If lower lying areas already have areas of interesting vegetation (an NVC will determine this), these areas will be extended instead of uprooted. Plant species can be translocated from YWT reserves of similar habitats such as Maltby Low Common or Potteric Carr Nature reserve.

The channel on both Motherdrain and the river Torne is currently over widened. By narrowing the channel, enhancing the shape and creating additional area for flood storage, the channel would need less maintenance and provide more variable and higher quality habitat for wildlife.

Maps / Photos

Next steps

Task 1: Define the project and anticipated benefits, risks and costs:

Task 2: Refine project, manage risks and develop funding bid:

Task 3: Deliver preparatory works for project:

Task 4: Deliver physical works:

Appendices

About this document

The general principles used to identify these projects are listed below:

- Identify, discuss, and refine. The initial list of 'Aspirational Projects' should be discussed and refined by the partnership. This will ensure that the limited resources of the CaBA partnership are used to develop projects which attract the most support from the group.
- The approach is all about direction of travel, rather than achieving a threshold water quality or ecological status. This is making the use of evidence much simpler and easier to understand.
- The rivers in the catchment are highly modified and influenced by urban and rural pollution. Catchment scale water quality and overall habitat are likely to be very difficult to bring back in a way that will deliver a status of Good. Therefore, the focus of the projects is on waterbodies where we can aim towards Moderate status whilst delivering *multiple benefits for local access, habitat, and recreation*.
- Projects should provide evidence that justifies their contribution to the Catchment partnership aims whilst identifying possible funding streams and additional multiple benefits.
- The Catchment Aims have been used to select opportunities which should move the Torne catchment forward in all the areas prioritised by the catchment steering group.
- Preference is given to opportunities in areas where there is already some activity which can be built on; it is easier to make progress when activity has already started on the ground.
- The summary table could be used to change or refine the suggested projects, in consultation with the steering group, to better deliver the catchment strategy.
- All 'Aspirational projects' should deliver benefits for WFD as well as CaBA if they are to be supported by the Environment Agency.
- Each project should incorporate Environment Agency measures from the list of cost beneficial measures where possible.
- Each project should have an 'owner' to drive it forward.
- Priority 1 projects have agreement. Priority 2 projects have an 'owner' who will proceed when there is an opportunity. Priority 3 projects need an owner to progress and Priority 4 projects are blue sky.
- Projects progress when the opportunity arises. Once a project is 'agreed' by the delivery group as a priority 2 (it has an owner). It is the responsibility of the owner to move the project forward.
- The owner of a project will report progress at partnership meetings on a quarterly basis and identify the next steps in moving the project forward to provide the partnership with the opportunity to offer support were possible.

How to add a project and put forward project ideas

Additional projects for inclusion in this document are encouraged and a template project page is included in Appendix 2.

New project ideas should be submitted in the form of a completed project template to the Catchment host to be discussed at the steering group before being added to the integrated catchment plan.

A project overview needs to be filled in to provide the required general information for the project.

The projects are numbered as they are added and are listed in no priority order. As such new projects should be numbered accordingly in the list.

Project status refers to the project's activity. It is a 'potential project' if it is not yet funded. A 'funded project' if it has received funding. And a 'completed project' if it has been completed.

A projects priority status refers to its priority status within the partnership. Priority 1 projects have agreement. Priority 2 projects have an 'owner' who will proceed when there is an opportunity. Priority 3 projects need an owner to progress and Priority 4 projects are blue sky.

A projects funding status is either 'Funded' or 'Not Funded.'

Each project should be assigned an owner which will be the organisation the project sits with. A projects owner could change as the project develops for example when it moves from development to delivery.

A project manager is the individual responsible for progressing the project as such it can also change as the project develops.

A projects' location should be indicated by its waterbody number and its waterbody Name.

It should also have a grid reference.

Project progress should be reviewed on a quarterly basis and the date of last review recorded.

A projects main aims and costs should be completed indicating the main rational behind the project and which aims of the catchment partnership the project meets.

✓✓✓ indicates the main *rational* behind a project, it does not mean that the project will deliver big improvements.

✓✓ indicates secondary benefits from the project.

✓ indicates minor benefits from the project.

Which of the partnership aims that the project contributes towards should be indicated by the relevant symbols.

A cost and ease of delivery should be included.

A project description accompanied by maps and photographs should provide evidence to justify the project against the funding streams selected. It should also say how it contributes to the indicated partnership aims and any other multiple benefits. For example, if reducing rural diffuse pollution is the main rational behind the project then a description of how the proposed work will achieve that should be included as well as justifying any secondary or minor benefits identified. Where possible the next steps in progressing, this project should be identified in the form of tasks. This will allow partners to contribute and identify where they can lend support to the project.

Blank project template guide

Torne Project X									
-	**Project Status**	**Priority status**	**Funding status**	**Project Owner**	**Project Manager**	**Waterbody Number**	**Waterbody Name:**	**Location**	**Last Reviewed**
x									

Aims	**Urban**	**Rural**	**Ecology**	**Hydro morphology**	**Engagement**	**Cost (£K)**	**Ease of Delivery**

Project description:

Maps / Photos:

Next steps:

Task 1

Task 2:

Task 3:

Task 4: