

Water Environment Improvements Project Evidence Form

Scope & Purpose

This form is to be used by the external Water Environment Governance Group (WEGG), to review, validate and formally approve the length of bluespaces improved for the Water Environment Improvements ODI. The form will be completed by the Water Environment Team with support from project partners and presented to the WEGG. After formal approval, the km of water environment improved will be recorded against the ODI and projects will be marked as completed on the Water Environment Scorecard and illustrated as delivered in the Bluespaces Mapping Portals.

Project Name

Longdike Burn Wetlands

Project Lead

Company/ Organisation	Named Lead	Position
Northumberland Rivers Trust	Peter Kerr	Director

Water Environment Improved (NWG use only)

Year	Claimed	Proposed	Reason For Any Change
Year 3	4.3km	4.3km	N/A

Water Environment Assurance

This project has been reviewed internally to ensure it has delivered benefits above and beyond our baseline and regulatory obligations to improve the water environment accessible to customers across at least two out of three aspects. Following our assurance process, the project was approved by both our internal and external groups for review before delivery. This form presents evidence of project completion and the outputs achieved, to request project sign off.

Level	Project Acceptance Date	Project Approval Date	Completed Project Sign Off Date
Project Team	March 2022	NA	N/A
Water Environment Steering Group (Internal)	March 2022	March 2022	N/A
Water Environment Governance Group (External)	March 2022	March 2022	May 2025

Project Timescales

Candidate Project Approved	Project Initiated	Project Completed
March 2022	March 2022	March 2023*

*The baseline water quality elements of this project were achieved through a phosphorus removal scheme at Longhorsley sewage treatment works which was managed separately by NWG to the Bluespaces programme elements by partners and signed off in December 2024

Project Summary and Highlights

Summary:

This Bluespaces improvements project has been delivered by Northumberland Rivers Trust (NRT) in partnership with Northumberland Zoo, Longhorsley Parish Council, The Skill Mill and WL Straughan and Sons.

The project built on a NWG water quality improvement baseline, delivered through WINEP investment, to install permanent infrastructure for removal of phosphorus from final effluent discharged from Longhorsley sewage treatment works (STW) which discharges to Longdike Burn (tributary of the Coquet).

Over and above this investment, NRT completed the construction of seven new wetlands in the Longdike Burn catchment in the dry summer of 2022, one at Longhorsley Old Church, two upstream of the ford on the Longdike Burn at Northumberland Zoo, three downstream of the ford and one at Longhorsley Moor.

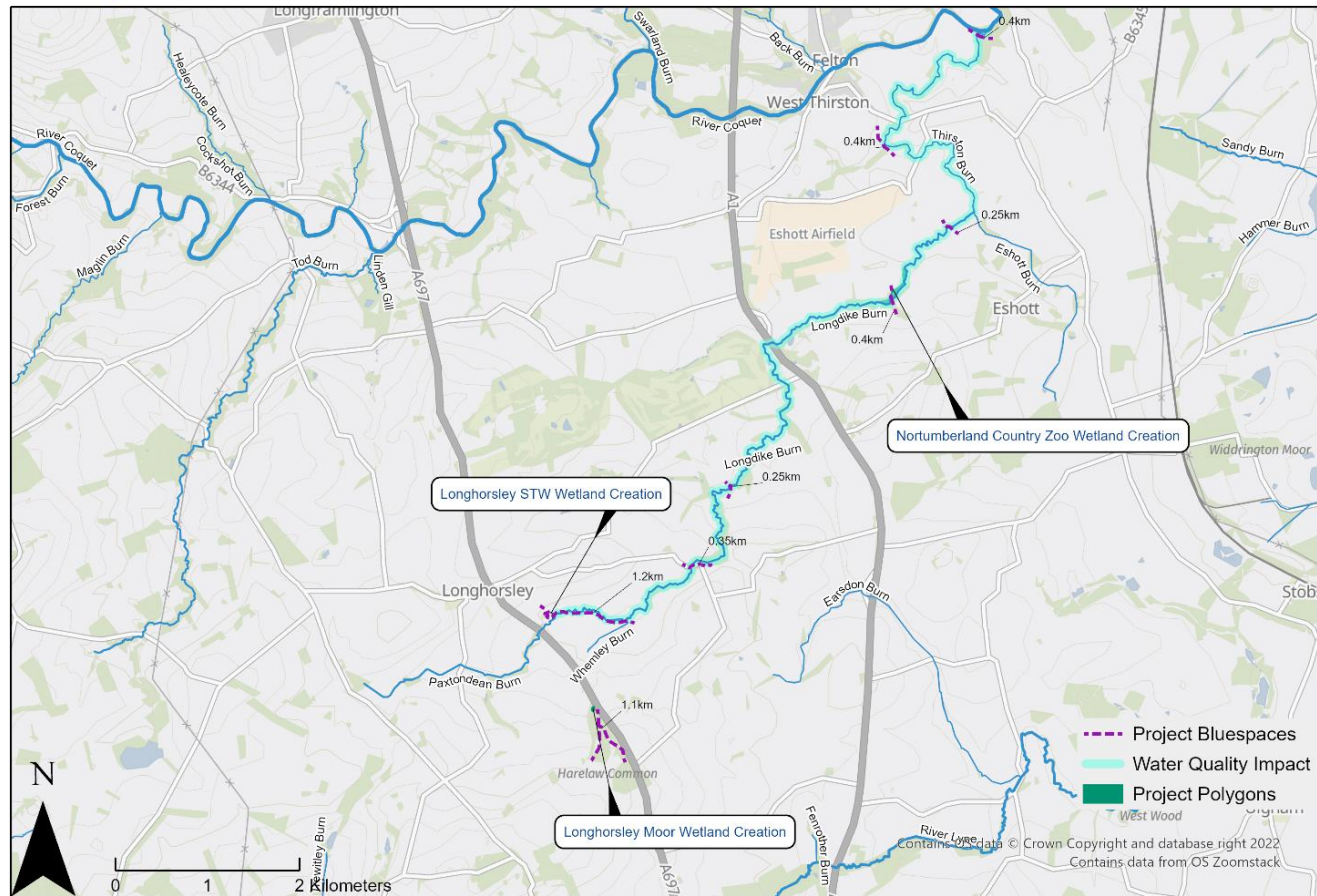
The NRT undertook path improvements close to Longhorsley sewage treatment works (STW), with support from NWG staff on a Just an Hour volunteer session in 2022. Longhorsley Parish Council and The Skill Mill have also undertaken path improvements at Longhorsley Moor and Longhorsley STW.

Highlights:

- Seven new wetlands were created by Northumberland Rivers Trust in partnership with Longhorsley Parish Council and WL Straughan and Sons, each with an area of roughly 400m² (0.28Ha in total).
- New wetlands will help to filter nutrients and retain runoff and pollutants from neighbouring land. Several field drains have been intercepted during construction which will also reduce potential point source pollution and help improve river water quality.
- This project has delivered, and will continue to deliver, benefits for residents and visitors to Longhorsley and the surrounding villages by offering the opportunity to enjoy a beautiful stretch of a Northumberland stream, and for visitors to Northumberland Zoo to engage with the local water environment as part of their day out.



Longdike Burn Wetlands



Total Length of bluespaces: 4.3 km

Figure 1: Bluespaces improved in the Longdike Burn Wetlands project area

Project Outputs, Benefits & Evidence Against Criteria

Access, Facilities & Recreation	
Expected Project Outcomes	Benefits
<ol style="list-style-type: none"> 1. Paths and signposting will be improved at Longhorsley Moor and Northumberland Country Zoo directing visitors to local water environments at the new freely accessible wetland sites and along the Longdike Burn 2. Path improvements across 100m of bluespaces will be undertaken through Just an Hour volunteer activities at Longhorsley STW 3. Guided walks will be delivered at the main delivery sites and in partnership with Northumberland Country Zoo, offering improved opportunities for engagement with the water environment 4. Volunteer sessions will be used to assess and improve bluespace access on the Longdike Burn, delivering vegetation management where possible/necessary and with any major issues reported through the appropriate channels for further action 5. Volunteering opportunities will be offered linked to project delivery, providing health and wellbeing benefits for the community through engagement with nature and the water environment 	<ul style="list-style-type: none"> ➤ A1: Increases access to, engagement with and enjoyment of the water environment ➤ A2: Benefits health and wellbeing through:
Outputs	
<ol style="list-style-type: none"> 1. Path drainage was improved by the Skill Mill at Northumberland Zoo but was subsequently damaged by 4x4 users of the Byway. Additional signage was out of project / scope budget due to increasing costs, but the byway was closed between April and September 2023 to 4x4 users by Northumberland Council pending further improvements. Longhorsley Parish Council improved paths and signposting at Longhorsley Moor and cleared fallen trees blocking public right of way connecting to the A696. 2. NWG Just an Hour volunteers improved drainage on 100m of path beside Longhorsley sewage works, and The Skill Mill used a chainsaw to clear fallen trees, brought down by Storm Arwen, that were blocking the riverside path. 3. Four guided walks were delivered on the stretch of the Longdike Burn near Northumberland Zoo project site by the Skill Mill in 2022. 4. NWG Just an Hour volunteers built and installed dipper boxes and removed tree tubes near to the new wetland at Longhorsley sewage works. All areas of bluespaces in the project area were visited in summer 2022 and spring 2023 by volunteers to assess outstanding issues, and no major issues were reported. 5. Volunteering opportunities and events were offered delivering opportunities for better access and engagement with the water environment. 	

Evidence



At Longhorsley Moor fallen trees which were blocking public right of way connecting to the A696 were cleared



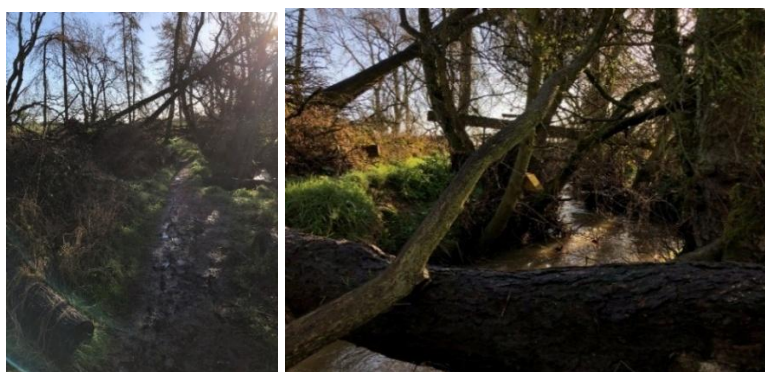
Longhorsley Moor renewed waymarking around site and at new wetland



Northumberland Zoo access was damaged by 4x4 users but route to new wetlands is clear



NWG Just an Hour volunteer day May 2022



Longhorsley Sewage Works path clearance and dipper box in situ



NZ 19801 98586



NZ 19089 99417



NZ 20085 00676



NZ 17415 95760

Bluespaces inspected in Longdike Burn catchment Summer 2022 and Spring 2023
(2021 fish passage improvements illustrated in bottom two images)

Wildlife & Biodiversity

Expected Project Outcomes

1. Wetland priority habitat creation will be undertaken in 7 new wetland areas at Longhorsley Moor (300m²), Longhorsley STW (300m²) and Northumberland Country Zoo (0.15 ha), enhancing habitat connectivity across the riparian ecological corridor and promoting wetland species within the catchment

Benefits

- B1: Improves the quantity, quality and connectivity of habitats
- B2: Improves the conservation status and or abundance or distribution of species

Outputs

1. Seven new wetlands were created by NRT in partnership with Longhorsley Parish Council and WL Straughan and Sons, each with an area of roughly 400m² (0.28Ha in total). A few of these wetlands suffered from leakage through old field drains, but NRT addressed these by searching for and sealing the pipes. High flow in November 2022 breached the 'outlet bund' from the wetland on Longhorsley Moor, an issue that was subsequently remediated by NRT and WL Straughan and Son in summer 2023.

Evidence



Langhorsely Moor wetlands during construction (August 2022)



April 2023



April 2025



Northumberland Zoo wetlands construction (June 2022)



Northumberland Zoo wetlands (April 2023)

Water Quality

Expected Project Outcomes

1. Longhorsley STW WINEP investment to remove phosphorus from final discharged effluent will improve the water quality within the Longdike Burn and improve waterbody ecological status, additional measures will help reduce diffuse pollution and address agricultural fairshare
2. Removal and exclusion of stock from the riparian area at Northumberland Zoo will reduce riverbank erosion and sediment transfer from land to water

Benefits

- C1: Reduces pollutants entering waters from point or diffuse sources
- C2: Contributes towards improved status or no deterioration of rivers or bathing waters or protecting drinking water
- C3: Improves state and function of water, including naturalisation, visual appearance, litter and odour

Outputs

1. Completed improvements at Longhorsley STW were approved on 24 March 2025. The scope of works included permanent installation of single point ferric sulphate dosing equipment for chemical phosphorous removal. Post works water quality data for the period 10-14 March and 17-20 March recorded a mean daily P concentration in the final outflow of 2.16 mg/l, thereby meeting the consent of 2.26 mg/l. These improvements were funded separately through WINEP investment and, going forward, final effluent quality will be maintained as part of NWG's baseline operations. Bluespaces funding has delivered additional improvements over and above this baseline investment.
2. Riparian fencing from an additional area of Northumberland Zoo was not possible due the cost increases impacting on the project scope. However, seven new wetlands were created that will help to improve water quality through filtering nutrients and runoff from neighbouring land. Several field drains were intercepted, and flow redirected into the wetlands, reducing potential point source pollution.

Evidence



Weekly Proposed Sampling Programme									
Longhorsley - Site Info					Final Effluent				
Day	Date	Time	Weather	Molar Ratio	TP	Orp	Alk	Ammon	PH
					mg/l	mg/l	mg/l	mg/l	*1-14
Wednesday	05/03/2025	13:30	Dry	N/A	3.23	2.88	100	<2	6.9
Base Line - No Ferric Dosing - Ferric Dosing Start @ 14:30 Molar									
Thursday	06/03/2025	12:30	Dry	1	3.4	3.1	80	0.53	6.9
Molar Ratio increased from 1.0 to 1.5 @ 16:30									
Friday	07/03/2025	10:30	Dry	1.5	2.96	2.77	80	0.51	6.88
Poly disabled on HST's / Final @ 12:00									
Monday	10/03/2025	10:15	Dry	1.5	3.18	2.85	60	0.68	6.97
Ferric PO4 relocated downstream of Screen @ 11:30 - Molar Ratio inc									
Tuesday	11/03/2025	10:15	Dry	2	2.98	2.8	60	0.76	7
Molar Ratio increased from 2.0 to 2.5 @ 16:00									
Wednesday	12/03/2025	10:15	Dry ish	2.5	3	2.52	60	1.09	6.95
Molar Ratio increased from 2.5 to 3.0 @ 16:00									
Thursday	13/03/2025	10:15	Dry	3	2.14	>1.5 & <2	60	0.82	7.01
Molar Ratio increased from 3.0 to 3.5 @ 16:00									
Friday	14/03/2025	10:15	Dry	3.5	>1.5 & <2	>1.5 & <2	60	0.4	7.03
Molar Ratio increased from 3.5 to 4.0 @ 16:00									
Monday	17/03/2025	11:15	Dry	4	>1.5 & <2	>1.5 & <2	60	0.63	6.96
Molar Ratio increased from 4.0 to 4.5 @ 16:00									
Tuesday	18/03/2025	10:30	Dry	4.5	>1.5 & <2	1.48	60	0.82	6.78
Molar Ratio increased from 4.5 to 5.0 @ 16:00									
Wednesday	19/03/2025	12:30		5	1.4	1.3	40	0.87	6.61
TP & Orp - Now Testing with 348									
Thursday	20/03/2025	10:30	Dry	5	1.53	1.24	40	1.3	6.4

Chemical dosing kiosk containing storage tank and dosing pumps (left) and optimisation daily spot final effluent results (right) at Longhorsley STW



Algal growth from intercepted field drains in new wetlands at Northumberland Zoo

Additional & Secondary Benefits

Expected Project Outcomes	Benefits
<ol style="list-style-type: none"> 1. Carbon capture and natural flood management benefits will result from wetland creation 2. Reduced runoff and flood storage through wetland creation will slow the flow of runoff from agricultural land 3. Greater opportunities will be offered for local people and visitors to engage with nature and the water environment along the Longdike Burn 4. Capital project investment will support improvements to the local community and help deliver sub-catchment-level aspirations of the catchment partnership 	<ul style="list-style-type: none"> ➤ D1: Provides resilience and adaptation to climate change and/or reduces the risk of flooding ➤ D2: Provides benefits to local communities, the local economy or NWG

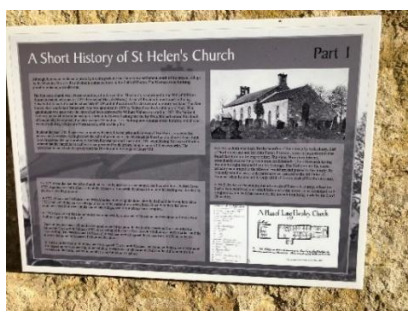
Outputs

<ol style="list-style-type: none"> 1. Seven new wetlands were created that will help to capture carbon and provide natural flood management by helping to buffer water levels 2. Run-off from agricultural land has been reduced by redirecting flow into newly created wetlands (see Water Quality evidence above). 3. Volunteering opportunities and events were offered delivering opportunities for better access and engagement with the water environment. Wetland creation was done in partnership with the local community at Longhorsely. The involvement of the Skill Mill provided employment for young ex-offenders in watercourse and horticulture services. 4. A separate restoration project was delivered at St Helens church in Longhorsley adjacent to Longdike Burn and new wetland at Longhorsley Sewage Works. This included new interpretation and seating along with works to preserve the historic building

Evidence




Bird box making with volunteers




St Helen's Church restoration project

Customer Testimonies & Media

Members of the public very impressed with the wetland at Longhorsley STW (direct comments from local residents).



WHAT WE DO... PROJECTS NEWS CONTACT US



Blue Spaces wetlands

100% 100%

100% 100%

100% 100%


We recently completed a series of wetlands on Northumberland Zoo, Longhorsley sewage works and Longhorsley Moor supported by the Northumbrian Water Fund. Tree planting and Japanese Knotweed treatment will start to get underway again in the next few weeks.

100% 100%

100% 100%

100% 100%

Northumberland Rivers Trust



WHAT WE DO... PROJECTS NEWS CONTACT US

2022-2023 financial year-new projects

100% 100%

100% 100%

100% 100%

April marks the end of one financial year and the start of the next batch of projects. We're delighted to be continuing work with Coca Cola this coming year to plant more trees and create another 6 wetlands. We will also be building 3 fish pass easements in the Wansbeck catchment and creating another 7 underwater barriers to help slow the march of Signal Crayfish. We will also be working with Northumberland Zoo to continue to raise awareness awareness of this iconic species. Also at the Zoo, we will be creating 5 wetlands along the Longdyke Burn funded by Northumbrian Water Ltd. NWL are also supporting tree planting work on the Lyne in the coming year. We're still waiting to hear about a few Environment Agency funded projects, and the new Lottery project, if successful, will start in August/September. Fingers crossed!

100% 100%

100% 100%


100% 100%

Northumberland Rivers Trust

Tree Planting

Fish Counter

NRT webpage coverage



Northumberland Rivers Trust




14 June at 21:41 · 🌐

It is really encouraging to see the shaping of a series of wetlands on the Longdyke Burn, which runs through Northumberland Zoo. Once again, our trusted local partners, W L Straughan's and Sons, have unleashed their magic to create a variety of niches on these floodplain wetlands.

The Zoo intends to run footpaths around these and link in their education delivery to highlight the vital part water plays in the environment and how we can all reduce our impact upon it.

This is one of two projects funded through Bluespaces and delivering work NRT has previously identified as positive change to local areas and which message also puts water quality at the forefront of improvements, in this case an upgrade of the Longhorsley Treatment Work.

<https://nwlcommunityportal.co.uk/.../Activity/Update/3367>




👍❤️ 17

3 shares

👍 Like

💬 Comment






➦ Share



Northumberland Rivers Trust

5 February · 🌐

Pleased to see that the new (ish) ponds near Northumberland Zoo have started to hold water (remember rainfall?) and are colonising well. Thanks to Northbrian Water Bluespaces program for the resources to do this and to the Zoo, our great partner and W L Straughans as always for the artistry.




+3

👍🗨️ 32 1

👍 Like

💬 Comment

Most relevant ▾



Mark Scotty Scott

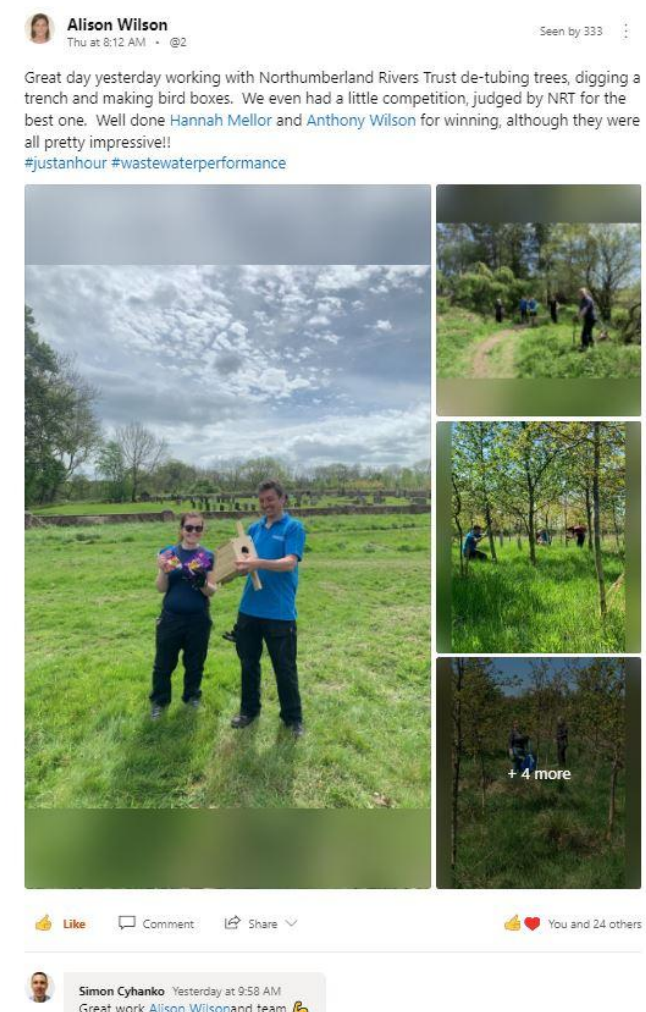
John Reed

9 w

👍

12

NRT social media coverage



NWG Just an Hour

“We did a day’s worth of JAH up at Longhorsley near the works, it was a really good day and we got a lot done removing tree covers, improving drainage, building dipper boxes and doing a bit of freshwater invertebrates monitoring”

Lead Partner Quotes & Testimonials

“It has been great to be able to deliver 7 new wetlands with very limited funding. These will deliver multiple benefits far out-weighing their cost”

Pete Kerr, Director, Northumberland Rivers Trust

Other Supporting Evidence

A detailed spending breakdown is available in the appendices 'NRT Blue Spaces Report Longdike March 2023'

Longdike Burn Wetlands

Northumbrian Water and Northumberland Rivers Trust are working in partnership to deliver environmental improvements to 4.3km of bluespaces in the Longdike Burn catchment from May 2022.

Bluespaces are areas around water that are freely accessible to our customers via road, footpath, bridleway, or other public access. The bluespaces impacted and improved by this project are shown in purple on the featured map.

Wetland Creation:

Wetland habitat creation will be undertaken across 7 areas in the catchment, at Longhorses Moor, Longhorses Wastewater Treatment Works, and Northumberland Country Zoo. In total, approximately 0.21 ha of wetland priority habitat will be created through this project, enhancing habitat connectivity across the river corridor and promoting wetland species within the catchment.

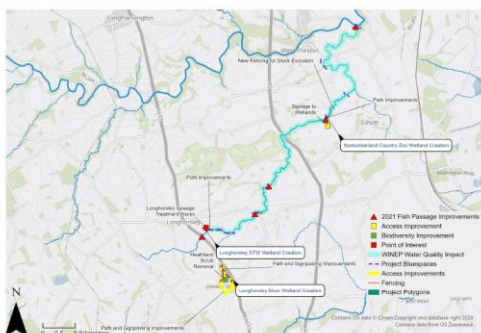
Water Quality Improvements:

By December 2024, Northumbrian Water will deliver a scheme to remove phosphorus at Longhorsley Wastewater Treatment Works which will help improve the ecological status of the Longdike Burn waterbody (currently at Moderate status)

Access Improvements

Access improvements are planned at Longhorsley Moor in partnership with Longhorsley Parish Council. These include scrub removal, path improvements and new signposting. Other identified areas of bluespaces across the project area, will be visited by volunteers during the project to assess and promote access to the Longdike Burn for local communities and visitors.

Guided walks will be also delivered at the main project sites and in partnership with Northumberland Country Zoo, offering improved opportunities for engagement with the water environment.



Proposed wetland site near to Longhorsley Wastewater Treatment Works



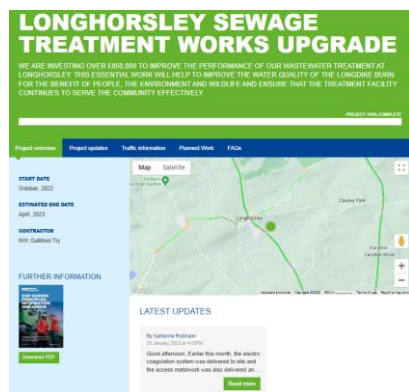
The Longdike Burn at
Paxton Dean Ford



Longhorsley Moor access and signposting issues



Poster created for the NWG community portal and linked to in letter sent out to customers in the project area



NWG community portal