

## 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

Marden Quarry Water and Wildlife

### Project Lead

Company/ Organisation	Named Lead	Position
North Tyneside Council	Pixie Phelan	Team Leader, Parks

### Water Environment Improved (NWG use only)

Year	Claimed	Proposed	Reason For Any Change
Year 2/3/4	1 km	1 km	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	November 2020	N/A	NA
Water Environment Steering Group (Internal)	November 2020	July 2021	NA
Water Environment Governance Group (External)	July 2021	July 2021	May 2024

### Project Timescales

Candidate Project Approved	Project Initiated	Project Completed
July 2021	July 2021	May 2024

## Project Summary and Highlights

### Summary

Through this project, North Tyneside Council has worked with NWG to deliver access and recreation improvements throughout Marden Quarry Local Nature Reserve improving 1 km of water environment.

Marden Quarry is an important area of green and blue space located in a highly urban area, Near Whitley Bay, North Tyneside, and is popular with the local community for walking and recreation. A variety of wildlife has been recorded using the freshwater lake habitat which dominates the reserve, and areas of broadleaf woodland and scrub also support woodland birds and roosting bats. Previously, the access around the site was poor, particularly as the area suffers from seasonal flooding which made some paths unusable, and there were also limited recreational facilities. The lake outfall discharges to the coast at Cullercoats, so improving the outfall and reducing litter and pollutants into and from the lake is also to be a wider benefit of improvements delivered through this project.

The well-used path around the lakeside is subject to seasonal flooding because of changeable water levels, and full multi-user access is now enabled year-round through reinforced and raised sections of the path. The installation of an official sloped path to the waterside, alongside a recycled plastic dipping platform, has allowed safer access to the waterside for all abilities whilst also reducing vegetation damage/ soil erosion from excessive footfall. Interpretation across the site has been refreshed and updated to engage visitors and provide information on the local heritage and ecological value of the site. Aquatic planting at the lake outflow will enhance water quality and biodiversity, and planting of wildflowers on the bank will support local wildlife.

This project was partly funded through NW capital project legacy, linked to improvements works at Whitley Bay sewage pumping station. The majority of these improvements were undertaken in Year 2, between July 2021 and March 2022, but the planting element of the project was delayed and could not be delivered until Year 4. The full project is now complete and evidence is presented here for sign off.

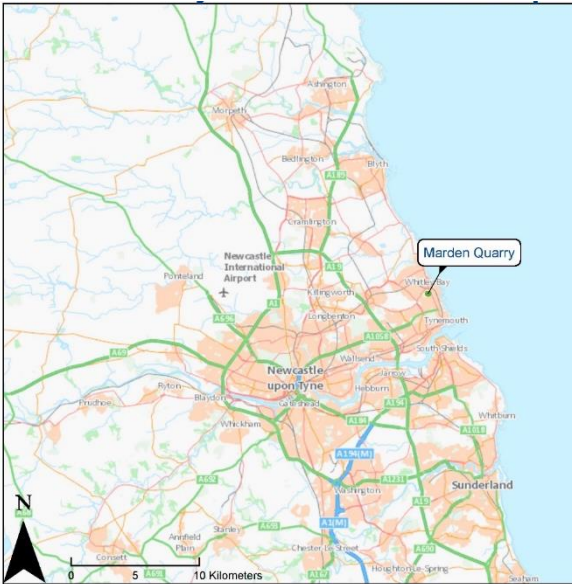
This site was visited by the Bluespaces Delivery Manager on 20/03/24 to view the improvements made in this project.

### Highlights

- Path improvements including raising of frequently flooded pathways, pothole repairs and edgework.
- Recycled plastic dipping platform installed.
- New interpretation signage with bird ID
- Planting of marginal vegetation around the outflow and wildflowers on the bank to enhance biodiversity, water quality and flood risk.



Maps




### Marden Quarry Water and Wildlife



Total Length of Accessible Water Environment: 1.0 km

Bluespaces improved at Marden Quarry

**Project Outputs, Benefits & Evidence Against Criteria**

Access, Facilities & Recreation	
Expected Project Outcomes	Benefits
<ol style="list-style-type: none"> <li>1. Improvement of path surfaces and targeted reduction of flooding risk to the paths in key areas and improve safe wheelchair access</li> <li>2. Edgework to paths to be installed to retain path accessibility next to lake</li> <li>3. Installation of a recycled plastic boardwalk and dipping platform to encourage people to remain in designated areas to reduce the erosion of the banksides whilst also providing an improved experience and engagement with the water environment for visitors and visitor with mobility needs</li> <li>4. Renewal and expansion of existing interpretation and signage, offering the opportunity for engagement with NWG customers providing clear information, enabling understanding, and overcoming barriers to language by use of pictorial displays</li> </ol>	<ul style="list-style-type: none"> <li>➤ A1: Increases access to, engagement with and enjoyment of the water environment</li> <li>➤ A2: Benefits health and wellbeing through:</li> <li>➤ A3: Influences positive environmental behaviors</li> </ul>
Outputs	
<ol style="list-style-type: none"> <li>1. Identified footpath sections have been improved, with areas cambered, raised and resurfaced to allow rain water run-off into the lake, and pot holes filled reducing risk of slips, trips and falls (completed March 2022)</li> <li>2. Access has been improved to maintain accessibility alongside the lake, with retainer structures and a ramp path created with handrail leading to the dipping platform (completed March 2022)</li> <li>3. A dipping platform has been installed using recycled plastic (completed July 2023)</li> <li>4. 2 new bird identification interpretation panels have been designed and installed along the trails to engage the public with local wildlife on site (completed June 2023)</li> </ol>	
Evidence	
	
<p><b>Lakeside access improvements</b></p>	



Before



After



Before and after images of site improvements to lake access and interpretation



Before and after images of dipping platform

### Marden Quarry

North Tyneside Council | NWG living water

<p><b>Canada Goose</b> <i>Branta canadensis</i></p> <p>A distinctive goose with a large, brown body, small black head and white chin patch. Originally found in northern North America, it was introduced to England in the late 17th Century.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>	<p><b>Tufted Duck</b> <i>Aythya fuligula</i></p> <p>A medium-sized diving duck, with a small crest. Males have a white belly, yellow eye and a black tuft on the head. Females have a brown belly.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>
<p><b>Burrowing Owl</b> <i>Falco tinnunculus</i></p> <p>A distinctive owl with very large, pointed feet and a large white patch (plum) above the beak, which gives rise to the phrase "he had a plum".</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>	<p><b>Grey Heron</b> <i>Ardea cinerea</i></p> <p>A very tall, distinct wading bird with dark grey upper body, pale grey below and yellowish-brown head and neck.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>
<p><b>Greyling Goose</b> <i>Anser anser</i></p> <p>A common large grey goose, ancestor to most UK farm geese. The adult has a brown-grey body, orange bill and orange-pink feet.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>	<p><b>Moorhen</b> <i>Gallinula chloropus</i></p> <p>A small-medium sized duck wader that closely resembles its relative, the Common Coot. Blackish body with a red and yellow beak, and long, greenish legs with large feet.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>
<p><b>Mallard</b> <i>Anas platyrhynchos</i></p> <p>A mallard duck! Breeding males have metallic green heads, chestnut chest, and metallic purple wing bars.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>	<p><b>Great Cormorant</b> <i>Phalacrocorax carbo</i></p> <p>The cormorant is a large, dark-coloured diving bird and excellent swimmer. Black and brown feathers with white patches on their sides.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>
<p><b>Black-headed Gull</b> <i>Chroicocephalus ridibundus</i></p> <p>A small gull with a blackish-chestnut head in breeding season and white head with ear spots in winter. Feeds in colonies and found from eastern North America to Japan, the western coast of Africa.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>	<p><b>Redwing</b> <i>Fusinus fuscus</i></p> <p>A large, colourful thrush, with a chestnut-brown back and yellow breast, contrasted with black, black tail, dark wings and pale grey wing and head.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>

### Marden Quarry




North Tyneside Council | NWG living water


The natural cover provided here, only half a mile from the coast, is particularly important to migrating birds. In the autumn, hundreds of thousands of birds cross the North Sea on their way to their winter quarters. They have from 400 miles non-stop in a single night, using up most of their body fat, and finding the park could quite literally mean the difference between life and death. Marden Quarry is one of the few natural wooded sites near the sea where they can come down to rest and feed.

#### Migratory species

<p><b>Fieldfare</b> <i>Fusinus phoeniceus</i></p> <p>A large, colourful thrush, with a chestnut-brown back and yellow breast, contrasted with black, black tail, dark wings and pale grey wing and head.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>	<p><b>Robin</b> <i>Eurostoeuridae ruber</i></p> <p>Unmistakable white belly and famous red breast. Young robins are mottled grey and brown. They sing from prominent perches through the winter.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>
<p><b>Redwing</b> <i>Fusinus fuscus</i></p> <p>A large, colourful thrush, with a chestnut-brown back and yellow breast, contrasted with black, black tail, dark wings and pale grey wing and head.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>	<p><b>Blue Tit</b> <i>Cyanistes cyaneus</i></p> <p>A colourful little bird with a blue cap, white cheeks, black eye-rings, orange-brown breast, yellow-brown belly and blue wings and tail. It is a distinctive bird, common throughout the UK.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>
<p><b>Reedling</b> <i>Fusinus fuscus</i></p> <p>The smallest of all thrushes, around 10cm long, it has a chestnut-brown back and yellow breast, contrasted with black, black tail, dark wings and pale grey wing and head.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>	<p><b>Great Tit</b> <i>Parus major</i></p> <p>A colourful bird with greenish-yellow plumage, black head and yellowish-brown breast.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>
<p><b>Song Thrush</b> <i>Fusinus phoeniceus</i></p> <p>A warm-brown thrush, with a chestnut-brown back and yellow breast, contrasted with black, black tail, dark wings and pale grey wing and head.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>	<p><b>Kestrel</b> <i>Falco tinnunculus</i></p> <p>Typically seen hovering, with wings held out, kestrels have a grey head and tail with prominent black bars, a greyish-brown back and a yellowish-brown breast and dark bands on the tail.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>
<p><b>Chaffinch</b> <i>Francolinus montanus</i></p> <p>A very bird, with a chestnut-brown back and yellow breast, contrasted with black, black tail, dark wings and pale grey wing and head.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>	<p><b>Sparrowhawk</b> <i>Accipiter nisus</i></p> <p>A bird of prey with a long, pointed beak, a greyish-brown back and a yellowish-brown breast and dark bands on the tail.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p> <p><b>Signage:</b> 1 panel.</p> <p><b>Head:</b> Irregularly shaped, with a small, slightly curved bill.</p>

Design of new interpretation signage

Wildlife & Biodiversity	
Expected Project Outcomes	Benefits
<ol style="list-style-type: none"> <li>1. Appropriate planting on slopes will provide a better marginal lake habitat for wildfowl (completed April 2024)</li> <li>2. Aquatic planting will provide valuable spawning habitats for breeding fish (completed April 2024)</li> </ol>	<p>➤ B1: Improves the quantity, quality and connectivity of habitats</p>
Outputs	
<ol style="list-style-type: none"> <li>1. A wildflower seed mix has been sown along the bankside in the areas where access improvements have taken place.</li> <li>2. Phragmites australis has been planted around the pond outflow, providing additional vegetation cover for breeding fish and other wetland wildlife. Hand removal of invasive marginal vegetation <i>typha latifolia</i> has also been undertaken 2022/23 to keep the plant under control and allow other marginal species to thrive.</li> </ol>	
Evidence	
<div style="display: flex; justify-content: space-around;">   </div> <p style="text-align: center;"><b>Bankside planting of wildflowers and protection during establishment</b></p> <div style="text-align: center;">  <p><b>Aquatic planting of phragmites</b></p> </div>	

Water Quality	
Expected Project Outcomes	Benefits
<ol style="list-style-type: none"> <li>1. Appropriate planting on slopes will combat soil erosion issues, reducing sediment into the lake.</li> <li>2. Reducing flood risk to the lakeside path through access improvements will lower the amount of sediment and litter that enters the lake through run-off.</li> <li>3. Pollutants entering the surface water system and discharging at the coast will be reduced through natural features installed around the lake outflow, barrier planting within the shallower water, and management of the outflow area to capture floating vegetation and debris including bird droppings and bacteria.</li> </ol>	<ul style="list-style-type: none"> <li>➤ C1: Reduces pollutants entering waters from point or diffuse sources</li> <li>➤ C3: Improves state and function of water, including naturalisation, visual appearance, litter and odour</li> </ul>
Outputs	
<ol style="list-style-type: none"> <li>1. Planting on slopes of a wildflower mix has been completed. The new planting in combination with the access improvement works encouraging the public onto the paths have minimised foot traffic on the slope, preventing soil being disturbed and entering the lake.</li> <li>2. Seasonal flooding of the lower footpath and bridge located at the northern water edge of Marden Quarry has reduced significantly, with water levels maintained at lakeside edge and below rather than overflowing onto the footpath.</li> <li>3. A protective stone barrier has been built up around the lake outfall to protect the grill from debris accumulation and blockages. This will act in combination with the phragmites, once established, to minimise the build up of debris and filter pollutants from the overflow. Subsequent information from the North Tyneside Council Coastal Officer has proved that water quality at Cullercoats is not significantly impacted by the Marden Quarry outfall.</li> </ol>	
Evidence	
	
<p><b>Stone barrier around lake outfall</b></p>	

**Additional & Secondary Benefits**

Expected Project Outcomes	Benefits
<ol style="list-style-type: none"> <li>Improvements to the lake outflow will reduce the risk of flooding on site, improving the performance of the surface water management scheme and helping reduce flood risk to local properties.</li> <li>Improved quality and accessibility of the water environment in a built-up urban area will benefit many NWG customers.</li> <li>Support for Bathing Water improvements at Cullercoats through management of the quality of outfall discharges.</li> </ol>	<ul style="list-style-type: none"> <li>➤ D1: Provides resilience and adaptation to climate change and/or reduces the risk of flooding</li> <li>➤ D2: Provides benefits to local communities, the local economy or NWG</li> <li>➤ D3: Supports strategic project or investment into strategic partnership or landscape/regional activity</li> </ul>

**Outputs**

<ol style="list-style-type: none"> <li>The outfall has been improved by a stone barrier and filtering of potentially blocking material will be assisted by aquatic planting in the lake. No flooding of local properties has been reported or recorded in Autumn Winter 22/23 following the improvement works, and the effectiveness of the solution will continue to be monitored by North Tyneside Council.</li> <li>The improvements to the site and its popularity mean that Marden Quarry was one of eight North Tyneside sites chosen to be awarded a Green Flag from Keep Britain Tidy in 2023.</li> <li>This project has delivered positive interventions which aims- to improve the quality of the lake outfall discharge to Cullercoats, contributing to wider focus on coasts and bathing waters.</li> </ol>
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**Evidence**

Green Flag Article

<https://my.northtyneside.gov.uk/news/32359/north-tyneside-parks-awarded-eight-green-flags#:~:text=The%20Rising%20Sun%20Country%20Park,Award%20from%20Keep%20Britain%20Tidy>.

The Green Flag Award scheme, managed by environmental charity Keep Britain Tidy under licence from the Department for Levelling Up, Housing and Communities, recognises and rewards well-managed parks and green spaces, setting the benchmark standard for the management of green spaces across the United Kingdom and around the world. This was one of the aspirations for achievement through delivery of this project.

[Residents / Latest news and events / News / North Tyneside parks awarded eight Green Flags](#)

**North Tyneside parks awarded eight Green Flags**



18 July 2023 - 10:04am

North Tyneside's award-winning parks and green spaces have once again been recognised among the finest in the country.

The Rising Sun Country Park, Benton Quarry, Marden Quarry, Killingworth Lakeside Parks, Wallsend Parks, Northumberland Park, and Chirton and Redburn Dene Parks have been honoured with a prestigious Green Flag Award from Keep Britain Tidy.



Customer Testimonies & Media

**Northumbrian Water**  
December 14, 2022

It's great to see improvements to the water environment at the Local Nature Reserve at Marden Quarry taking shape.

We're proud to have been able to help deliver this North Tyneside Council project, supported by the team behind maintenance of our sewerage assets at Whitley Bay and our bluespaces team.

Work, which runs into 2023, includes improvements to the access around the site, as well as new interpretation boards and planting!



**Marden Quarry, Churchill Playing Fields & Souter Park**  
19 February 2022



**Marden Quarry, Churchill Playing Fields & Souter Park**  
15 February 2022

Want to get involved. You can help this weekend, Friday, Saturday and Sunday. Come down the Quarry load the link and have a bit fun in identifying and counting the birds on the lake.  
<https://forms.gle/BGmFxRnWzH8h6eA9>

Like Comment

**Marden Quarry, Churchill Playing Fields & Souter Park**  
1 May 2022

A good day cutting the paths around the lake



15

Like Comment

**Marden Quarry, Churchill Playing Fields & Souter Park**  
15 January 2022

Some more work today in the Quarry cutting down low level branches creating more light. Also creating lovely view points in the process



9

4 1

Like Comment

## Lead Partner Quotes & Testimonials

Paul McDonald, Park Warden at North Tyneside Council submitted a statement regarding the water levels and clearance of the outflow at Marden Quarry since he took over responsibility for the park from Craig Thompson in 2022.

*“Since starting, I have manually cleared the grated outlet at least once per week, up to twice per day, depending upon the buildup of debris. Between my start at Marden and the clearing and lining of the outlet pipe in winter 2023/24, there has been very little flooding and any of this at a low level (All footpaths have been accessible whilst I have been maintaining the park). If there had been heavy rain during an absence of more than 2 days, then the flooding only slightly breached the banks at the jetty-beach (which is at a lower level than the bank) at the north of the lake and similar at the smaller beach to the Northeast of the lake, which is at least 50 cm lower than the adjacent path. There was never a time, while I have been working at Marden Quarry, that any footpaths were impassably flooded. This change of flooding rate was accomplished whilst the outlet pipe was still partially blocked by tree roots, purely by keeping the grate clear. However, once said pipe was cleared of roots and polymer-lined (Winter 2023/24) and I continued to clear the grate, there has been no true flooding at all. Maybe a puddle or two in the parts of the beaches that are below the level of the lake bank.”*

## Other Supporting Evidence

Flooding at site before works: <https://www.oldexmothians.co.uk/rls/temp4/MardenPark9.html>