

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

Cut Throat Dene Restoration

Project Lead

Company/ Organisation	Named Lead	Position
Wear Rivers Trust	James Dodsworth	Senior Project Officer

Bluespaces Improved

Year	Claimed	Originally Proposed	Reason For Any Change
Year 5	2.9 km	5 km	The 5 km proposal included the whole investigation area, of which 2.9 km was improved during this project (Phase 1) and remainder will be improved in Phase 2

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	May 2023	N/A	N/A
Water Environment Steering Group (Internal)	May 2023	May 2023	N/A
Water Environment Governance Group (External)	May 2023	May 2023	June 2025

Project Timescales

Candidate Project Approved	Project Initiated	Project Completed
May 2023	June 2023	March 2025

Project Summary and Highlights

Summary

Northumbrian Water has worked in partnership with Wear Rivers Trust (WRT) and Sunderland City Council to deliver 2.9 km of improvements, and to conduct investigations in support of future Phase 2 work, in Cut Throat Dene.

Cut Throat Dene marks the border between Sunderland and South Tyneside and is a watershed between the Tyne and Wear operational catchments. The watercourse extends to approximately 7.5 km in length and its catchment is approximately 6 km². This catchment expanded in 2017 with the connection of the drainage from the Boldon Flatts Nature Reserve, which receives input from most of Tiledshed Burn, formerly a tributary of the River Don.

The dene's source is within agricultural land near the Fulwell Quarry nature reserve (SSSI). Cut Throat Dene is situated on the Magnesian Limestone, a primary aquifer which is abstracted locally by Northumbrian Water for potable supply to the area of Sunderland. The catchment has several common water quality pressures, stemming from both agricultural and urban sources. Flows from Boldon Flatts contain high levels of nitrates from the dense bird populations that use the site, while a significant contributor to poor quality on Tiledshed is an area used for horse-grazing. The dominant land-use in the catchment is arable agriculture with several land drains emptying into the dene, as well as public and private outfalls, and urban drains.

This work expands on the 2017-20 Topsoil Interreg-funded project (<https://northsearegion.eu/topsoil>) which included collection and analysis of surface water samples in Cut Throat Dene (<https://northsearegion.eu/topsoil/pilot-areas/uk-1/>). WRT has continued to work in the catchment and has identified a number of potential water quality issues.

Bluespaces has delivered short term benefits to the environment and local communities, and has allowed WRT to investigate suspected pollution sources and to identify remediation options to eliminate pollution sources and pathways. Further improvements to deliver long-term improvements to the local environment and the local community would be delivered in a second phase of this work, should this be funded by Bluespaces and other partners. The long-term vision of partners is to provide an attractive green corridor linking the coast at Seaburn with Fullwell Quarry Nature Reserve and with Whitburn Moor and Boldon Flatts. Stakeholder discussions relating to funding to carry out identified improvements have been positive, but are at an early stage.

Phase 1 of the project has allowed WRT and Sunderland City Council to engage with local individuals, community groups and local Sunderland and South Tyneside schools to publicise the potential of Cut Throat Dene, as a "green lung" for the area. Through using the water environment as an educational resource, it has helped to raise awareness of the connectivity and the importance of controlling terrestrial, river and marine pollution. Volunteering events were held, focusing on stream litter clearances, and Himalayan Balsam control, working through local schools and community groups.

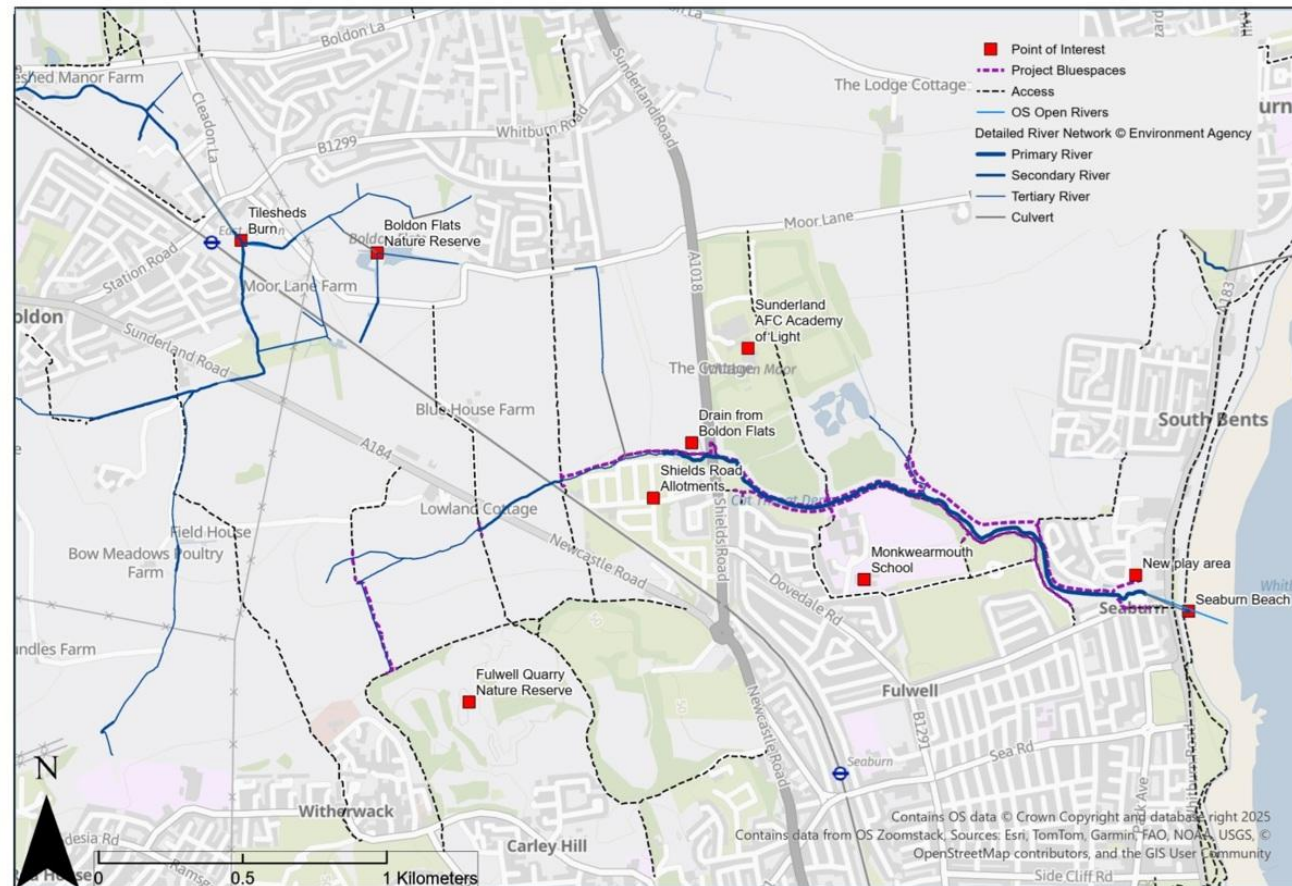
Highlights

- 45 volunteers engaged from six partner organisations.
- Litter pollution removed from the eastern half of the project area.
- INNS mapped, complete removal of Himalayan Balsam at the identified source location.
- Pollution sources within the dene mapped.
- Plans developed for water environment improvements (encompassing access, biodiversity and water quality outcomes) at five sites within the catchment will form the basis of a Phase 2 funding proposal.



Maps

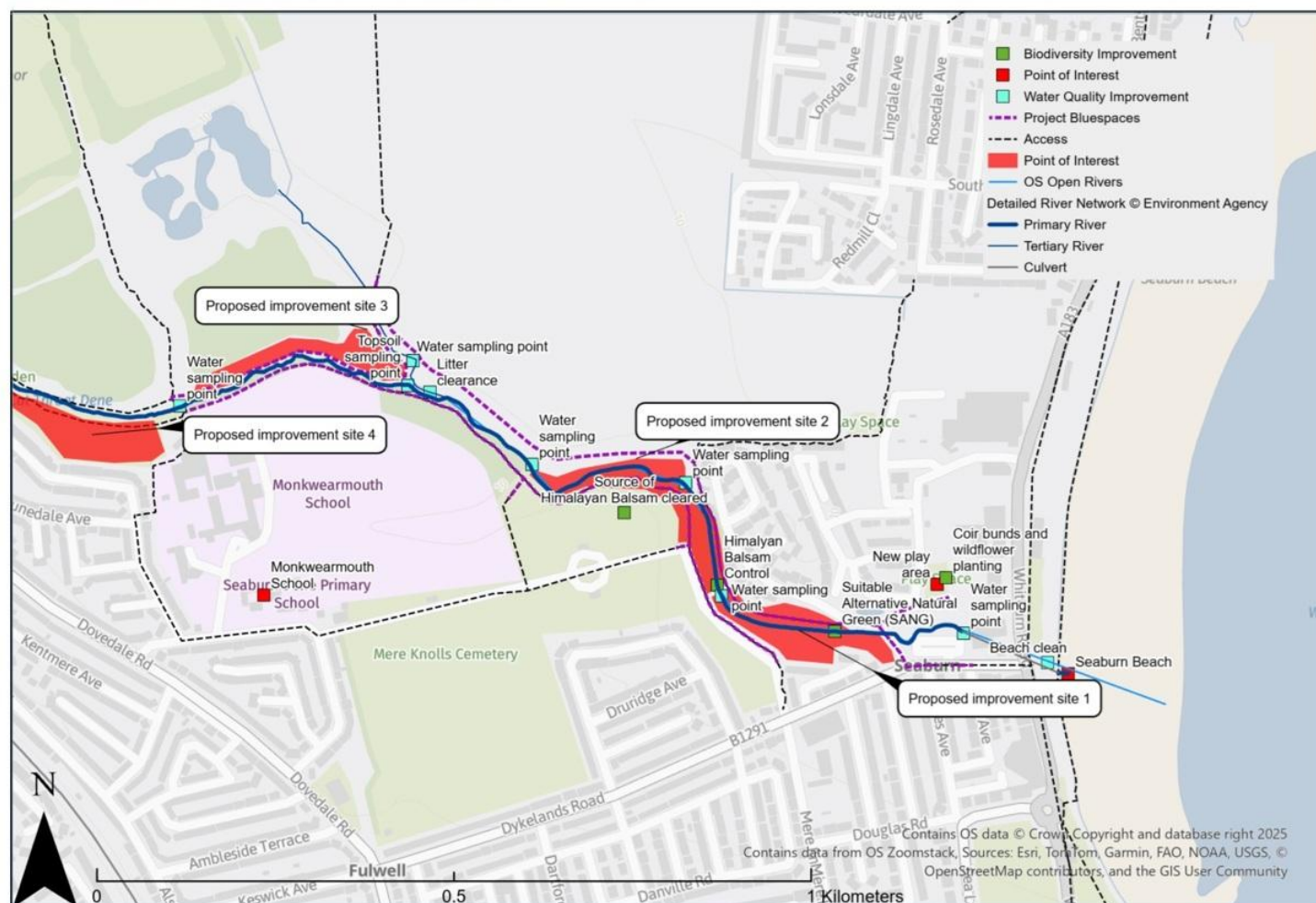
Cut Throat Dene



Total length of Bluespaces: 5 km

Figure 1: Potential for km of Bluespaces improvements in the Cut Throat Dene Restoration project area, as originally proposed.

Cut Throat Dene - eastern end



Total length of Bluespaces: 2.9 km

Figure 2: Bluespaces improved during this project (Phase 1) were all focussed at the eastern end of project area; map also shows 4 of the 5 proposed sites for Phase 2 improvements (red polygons).

Cut Throat Dene - western end

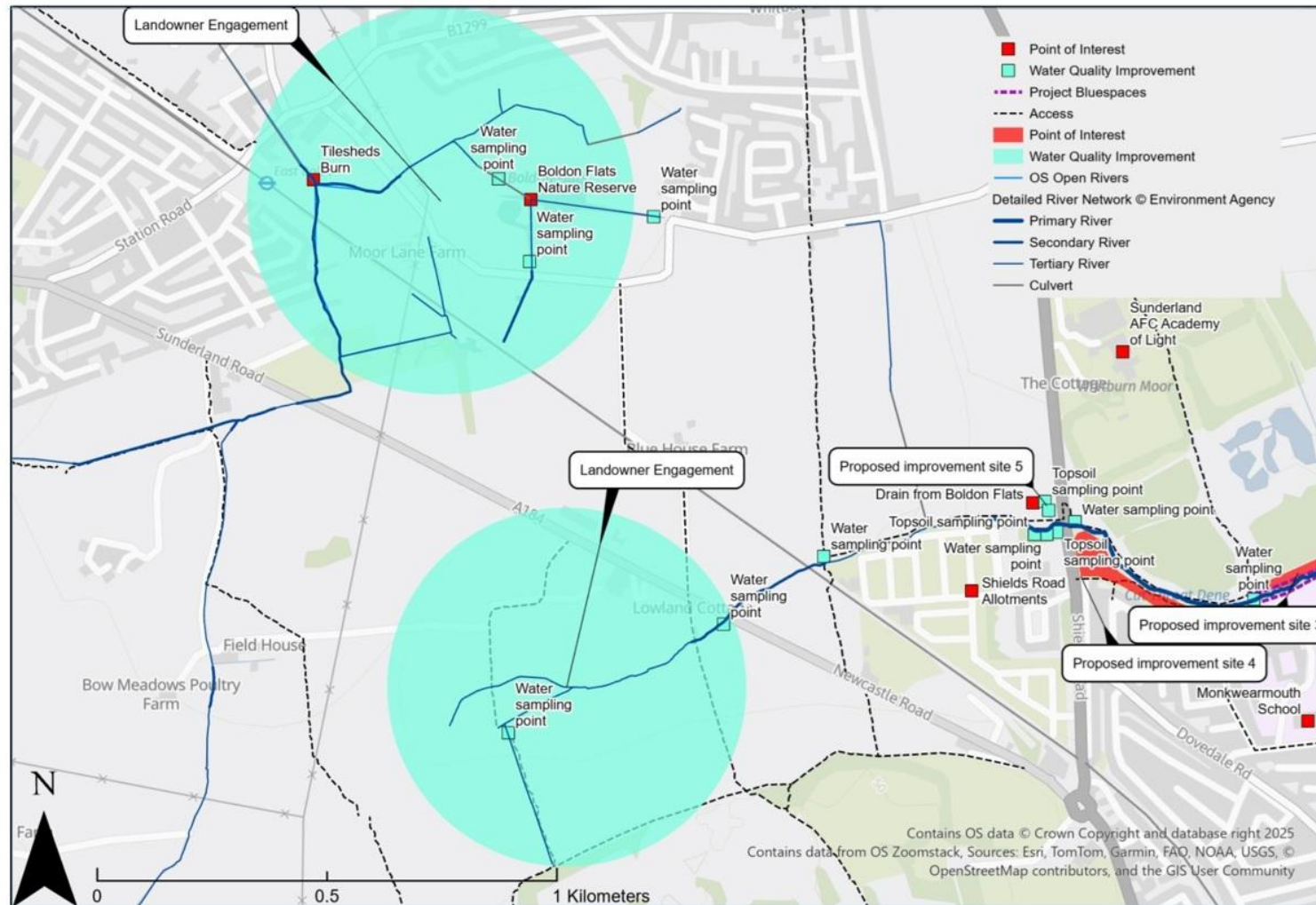


Figure 2: Western end of project area, showing remaining areas for proposed Phase 2 improvements.

Project Outputs, Benefits & Evidence Against Criteria

Access, Facilities & Recreation	
Expected Project Outcomes	Benefits
1. Identifying pollution sources and pathways and initiating mitigation will drive engagement and active participation. Improvements to water quality and the riparian environment will drive access and enjoyment. 2. Engagement of volunteers and the local community in protecting and enjoying the environment in these areas will increase the time spent in nature and benefit mental and physical wellbeing. 3. Active community engagement and participation in catchment restoration will actively influence positive behaviour. Litter picking throughout the catchment will raise awareness of river-born marine plastic pollution.	➤ A1: Increases access to, engagement with and enjoyment of the water environment ➤ A2: Benefits health and wellbeing through: ➤ A3: Influences positive environmental behaviours
Outputs	
1. Litter pollution was highlighted and addressed through volunteer litter pick events (September 2024 and February 2025), raising awareness of the issue amongst the local community, and directly improving the environment. Pollution sources were investigated through conducting water sampling throughout the catchment. This identified agricultural run-off as the most likely source of pollution. Proposals for environmental improvements to mitigate against this were shared with the community and stakeholders, and have been included in Phase 2 proposals. Opportunities for access improvements, including surface and signage improvements, for delivery in Phase 2 were also identified, with proposed locations and design of signage presented in a report prepared by the partner (see link in Other Supporting Evidence section at end of report). 2. 45 volunteers were recruited from partner organisations such as NWG, Sunderland Council, East Boldon Forum, Coast Sunderland Volunteer Programme, Seaburn Dene School and Monkwearmouth Academy. Volunteers expressed enjoyment of outdoor tasks and their work was commended by dog walkers and other local residents who expressed their gladness at 'seeing some love' being given to the catchment again. Through the relationships built during this project, these organisations have been identified as key stakeholders for engagement in Phase 2. 3. The local community were engaged in a day of Balsam control (May 2024) and two litter picks (September 2024 and February 2025). The September event was a beach clean in partnership with Coast Sunderland.	
Evidence	
	
Extent of litter problem (Monkwearmouth Academy boundary), and result of a litter pick in this area	



Example of area subject to agricultural run-off, and currently unwelcoming park entrance



Volunteers, and pupils from Seaburn Dene Primary school, helping with Balsam control

Wildlife & Biodiversity

Expected Project Outcomes

1. INNS management allowing the establishment or planting of native vegetation will improve habitat quality and quantity. Improved connectivity of the catchment with the Suitable Alternative Natural Green space (SANG) and the beach is a key outcome.
2. Himalayan Balsam is widespread throughout the catchment. This adds to water quality issues through erosion and exposed banks during the winter months when the plant has died-back. Tiledshed Burn will be surveyed for INNS absence or presence and mapped if required.

Benefits

- B1: Improves the quantity, quality and connectivity of habitats
- B3: Reduces risk or impact of invasive non-native species (INNS)

Outputs

1. INNS management, described in point 2 below, will provide opportunity for establishment of native plants in areas currently dominated by Himalayan Balsam. Management to support natural re-establishment, and to conduct additional planting, forms part of the proposals for Phase 2 work. These proposals have identified a series of sites between the in-flow from Boldon Flatts down to the SANG, collectively securing improved connectivity and quality of the water course.
2. WRT conducted a series of walkover surveys and confirmed the presence of Himalayan Balsam, with the source identified at Mere Knoll cemetery, from where it had spread downstream. All sightings were recorded on the INNS mapper (a database used by the North East Environmental Records Centre (ERIC)). Before setting up volunteer events, WRT spent 2 days in June 2024 strimming the Balsam growth to contain its spread and make it more manageable for volunteers to tackle. A total of 46 hours was spent tackling the Balsam in 2024 including 2 primary school sessions by Seaburn Dene. This resulted in complete removal of Balsam from the cemetery and an estimated 40% of the downstream extent managed. A legacy of this project is that WRT and Coast Sunderland will jointly continue their volunteering efforts to tackle the Balsam into 2025 and beyond.

Evidence



Clearing Balsam

Water Quality	
Expected Project Outcomes	Benefits
1. This project will investigate suspected pollution sources and remediation options to eliminate pollution sources and/or cut pathways. This includes agriculture, public and private outfalls and drains, allotments and amenity grassland. 2. Actions to improve surface water quality will reduce any future risk to the Magnesian Limestone aquifer. Cut Throat Dene discharges across Seaburn beach into coastal waters. Improvements to water quality will help protect and enhance coastal waters. 3. Re-meandering of the channel where appropriate, and the identification and mitigation of sources of litter and the removal of existing litter will improve the state and function of water.	➤ 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. Two rounds of water quality testing were carried out to investigate pollution sources. 14 sampling points were strategically located to capture potential sources of pollution to the watercourse. These locations included upstream and downstream of land use change on the main water course, and Sunderland Academy attenuation ponds and Boldon Flats, both of which feed into the main watercourse. Samples were taken in December 2023 (a wet period with high water levels) and again in April 2024 (a dry period with no run-off from surrounding area). Analyses carried out by NWG found high levels of Ammonium and Nitrate, linked to agricultural fertilizer, with higher levels in spring near arable fields, indicating the impact of spring-time agricultural activities (ploughing and spraying) and that remedial action should focus on addressing those sources. 2. Data collected during the Interreg Topsoil project showed no surface water reaching the aquifer, therefore no risk to the Magnesian Limestone habitats. However, to address the evident effects of agricultural run-off, WRT met with stakeholders to discuss ways in which they can prevent their run-off from entering the watercourse. The Sunderland Academy Grounds Keeper had already recently changed to using 'green fertilizers' for managing the football fields. This change in management correlated with reductions in levels of pollutants recorded by WRT in this project, compared with similar topsoil measurements taken in 2018, as part of the Interreg Topsoil project, illustrating how a change in management can affect water quality parameters. The WRT agriculture team also compiled management options, including a semi-permanent pond and increased hedgerow planting to slow run-off. These options were presented to landowners, who were receptive to further discussions when Phase 2 commences. 3. Re-meandering work is planned as part of the Phase 2 proposals. Litter management has been undertaken through 2 joint volunteer litter pick events with the Coast Sunderland Team, which were well attended with 28 hours of volunteer time committed. Litter was also collected while conducting the Himalayan Balsam events.	
Evidence	
 Field drain contributing to watercourse pollution	
Full water quality assessment results presented in supporting document: CTD-WRT-EWE-DOC-Z-0001 – Water Quality Testing	

Additional & Secondary Benefits

Expected Project Outcomes	Benefits
1. Lower sections of the catchment are under development pressure and the watercourse is confined in an artificial channel. Opportunities to influence the design of the SANG in the lower areas. Channel modification in the mid-section and creation of leaky dams and water storage features in the mid and upper reaches will provide additional channel capacity, flood storage and wildlife habitat. 2. The improved ecology and visual appearance of the burn will directly benefit the local communities. CTD will become a “green lung” directly connected to Fullwell Quarry Nature Reserve in the upper catchment and Seaburn beach at its foot, improving the area’s “visitor offer” and seafront economy. 3. Project aligns to Wear Catchment Partnership plans and activities. WRT will liaise with Tyne Rivers Trust. Catchment restoration can be aligned to the developing county Local Nature Recovery Strategies. Identification of capital works benefitting the catchment for inclusion in a successor project.	➤ 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 ➤ D3: Supports strategic project or investment into strategic partnership or landscape/regional activity

Outputs

1. Sunderland City Council had already committed to creating a new play park on the lower reaches of the watercourse when WRT became involved. These works involved removing part of the steep concrete walls that contained the watercourse just upstream of the beach outfall, and replacing them with green engineering. WRT were able to advise Sunderland City Council on this bank protection, resulting in a natural slope profile. The slope toes were protected with natural coir rolls that were seeded with native wildflower to increase biodiversity and improve water quality. 2. Through Phase 1 investigations and development of proposals, the foundations are set to create a Cut Throat Dene catchment-wide “green lung” that will link coast and countryside for both local communities and visitors to Sunderland’s newly developed beach front. 3. The original plan to liaise with Tyne Rivers Trust was not progressed as they are developing a separate project on the adjacent Don catchment. Instead, WRT is working with Sunderland City Council in a joint venture to deliver Phase 2 of the Cut Throat Dene Restoration, building on the successful outcomes of this work in Phase 1. This new growing partnership combines Sunderland City Council’s strategic leadership, land access, and planning capacity with WRT’s technical expertise in catchment restoration, ecological delivery, and stakeholder engagement, ensuring a collaborative, cost-effective, and locally-rooted delivery model. Cut Throat Dene Bluespaces Phase 2 project will expand delivery of habitat restoration, community engagement, and natural flood management interventions across the Dene and its wider catchment and initial discussions have identified the following potential funding sources: ○ Heritage Lottery Fund (HLF): To support landscape-scale restoration, community involvement, and interpretation of the site’s natural and cultural heritage ○ Trees for Climate (via DEFRA and NECF): To fund woodland creation and climate adaptation works in urban and peri-urban settings ○ NWG (Bluespaces or Branch Out)

Evidence



New play area, and bankside coir bunding

Customer Testimonies & Media

"You guys are doing such a good job, it looks so much better now we can actually see the water, Thank you."

Site user passing by Balsam Bash

"It's great to see the Dene getting looked after again, we used to have to look after it all ourselves, but it just got too much. Keep up the good work and look forward to seeing the improvements"

Former member of Friends of Fulwell and site user after seeing litter pick

E-mail exchanges relating to school and volunteer engagement:

Hi Philip,

I am just getting in touch regarding the Himalayan Balsam clearing that my class helped with last year. Is this something that you will be doing again this year? The children all got a lot out of it last year so I would be keen to get involved again if possible.

Thanks

Rachel

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Rachel Golding
SENDCo
Seaburn Dene Primary School

Good Afternoon Daniel & James,

Just wanted to say thank you on behalf of myself and Becky for all the help and assistance with organising the event yesterday, I think it went really well and we did get a good bit of engagement as well as rubbish out of the dene.

@Daniel Rutland we were wondering how many people had confirmed they were attending the event and how many did attend the event just for our own records?

Looking forward to working with you all again.

(P.S. @James Dodsworth I think as a fellow birder it is my duty to inform you a yellow-browed warbler has appeared in that area today).

Kind Regards,
Samuel Handy
Coast Project Officer
Ecology Team
Strategic and Sustainable Plans Team
City Development Directorate
City Hall
Plater Way
Sunderland
SR1 3AD

To: James Dodsworth

Cc: Philip Dorian <Philip.Dorian@sunderland.gov.uk>

Flagged Start by 20/02/2025. Due by 20/02/2025.

Absolutely mountains of Rubbish we have removed . Here is a link to an album <https://photos.app.goo.gl/cBTkM74p3qkej58AA> hope you can see them.

Check out the videos..

It's a thankless task

Thanks

Peter Curtis

Hi James

It's us that should be thanking you. All who were there said how much they appreciated your presentation which shed a great deal of light on how the local river/ drainage systems work. As you say, it was also good publicity for WRT - people will now understand what valuable work you are doing.

Yes, we would very much like to hear an update when you feel you have enough new material to share. Just drop me an email when you are ready.

Best wishes
Dave

Hello Dan and James,

I hope you are both doing well and looking forward to a (hopefully) sunny spring!

We are currently looking at our events over the spring/summer and we are keen to work with you again and we had some thoughts about doing some delivery in the non-native invasive species week which is the 12-18th of May. We think it would be a good opportunity to run some potential volunteer events with removing the balsam from the areas of Sunderland and wanted to check your availability that week as well as scoping out areas to perform the works. We were thinking that we aim for cut-throat dene or the Ryhope village dene as a place to do these events but we would like your thoughts on good potential places to do potential balsam bashing events and your availability.

We look forward to hearing from you soon!

Kind Regards,
Samuel Handy
Coast Project Officer
Ecology Team
Strategic and Sustainable Plans Team
City Development Directorate
City Hall
Plater Way
Sunderland
SR1 3AD

Link to Coast Sutherland website: [Cut Throat Dene Clean-up! \(13/02/2025\) - Coast Project Sunderland](#)

Social media posts:





February 14 · 🌐

A huge success at Cut Throat Dene! 🙌

Yesterday, we partnered up with [Coast Sunderland](#) as part of our Bluespaces project, funded by [Northumbrian Water](#), to carry out a litter pick along Cut Throat Dene! 🌱

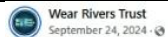
With the help of incredible volunteers, a total of 15 bags of litter were collected - preventing this rubbish from ending up in our rivers and eventually the sea! 🌊

While we've only scraped the surface in this area, it's a great start, and we couldn't have done it without the support from our amazing volunteers! 💙

Ready to make a difference? Sign up to our volunteering platform to find out about events happening near you! 🙌

<https://wear-rivers-trust.teamkinetic.co.uk/>

#MakeADifference #litterpicking #volunteersmakeadifference #volunteering
#environmentalawareness #wearconserving



September 24, 2024 · 🌐

A fantastic turnout at Cut Throat Dene and Seaburn, for our [#GreatBritishBeachClean](#) in partnership with [Coast Sunderland](#)! 🌊

Our volunteers came from far and wide today, to take part in our litter pick, ensuring our blue spaces are clean and free from plastic and other unwanted litter! 🌱

Amazing job everyone, we appreciate your hard work! 🙌

If conserving and protecting the environment within the Wear catchment is something that interests you, you can sign up to our volunteering platform via the link below! 🙌

<https://wear-rivers-trust.teamkinetic.co.uk/>

#wearconserving #GreatBritishBeachClean #conservation #volunteering



Lead Partner Quotes & Testimonials

This was my first exposure to a Bluespaces project and it did not dissappoint. From start to finish the relationship building and collorabrative idea sharing has been a breath of fresh air. We have managed to come together, Charities, Local Communties, Schools and Councils with the common goal of improving a watercourse with so much potential. This project has put us on a solid footing in creating a catchment wide improvement project for generations to enjoy. That will be the legacy of Bluespaces. All the issues and solutions outlined in the project would not have been possible with out funding

James Dodsworth, Head of Nature-based Solutions & Green Engineering, Wear Rivers Trust

It has been great to work with WRT on Volunteer engagement and plans to improve Cut Throat Dene, the potential is there, it is now down our growing relationship and collaborative working to bring about really change to the catchment

Sam Handy, Coast Sunderland