



**BUILDING
RESILIENCE
IN
COMMUNITIES**



EMPOWERING COMMUNITIES

A resource for resilience practitioners

ACKNOWLEDGEMENTS

The Building Resilience in Communities (BRIC) Evaluation Report would not have been possible without the Devon Resilience Innovation Project (DRIP) and their partners.

DRIP is funded by DEFRA as part of the £150 million Flood and Coastal Resilience Innovation Programme (FCIP) which is managed by the Environment Agency to develop and test new approaches to help communities become more resilient to the effects of flooding and climate change.

We would also like to thank all our stakeholders and communities. Without their collaboration, BRIC would not have enjoyed the success it has since April 2023.

We look forward to continuing to develop and deliver activities that help to support and build human, physical and climate resilience.

Contents

ACKNOWLEDGEMENTS

INTRODUCTION

1. PROJECT OVERVIEW

- Aims and Objectives

- Target Areas

- St Levan Park and the surrounding area

- Lipson Vale / Bernice Terrace

- Other Locations in Plymouth

2. ENGAGEMENT MODELS

- Asset Based Community Development

- Five Key Principles of ABCD

- Engaging with Communities Using ABCD

- Conclusion

- Appreciative Inquiry

3. IN-PERSON ENGAGEMENT

- Water Talk

- Education

- Primary Schools

- University

- Workshops and Conferences

- Conferences and Events

- Knowledge Sharing

4. WRITTEN ENGAGEMENT

- Slowing the Flow Booklet

- Newsletter

- Social Media

- Digital Badges

- Email Updates

- Website

- Postcards

5. ENGAGEMENT ACTIVITIES

- Flood Tank

- Urban Flood Simulator

- Mini Water Butts

- Raindrop to Flood Campaign

- Overview

- Raindrop to Flood Exhibition

6. ENGAGEMENT CAMPAIGNS

- Climate Pioneer Street Campaign

- Collaborations

- Engagement with Climate Pioneer Street Residents

- Communication Methods

- Adopt a Drain Pledge

- Research and Inspiration

- Clean Our Patch Collaboration

- Adopt a Drain, Digital Badge Earning Criteria

- Community Flood Responders

- Overview

- CFR Digital Badge Earning Criteria

7. ENGAGEMENT STATISTICS AND FINDINGS

- Flood Awareness Survey

- Engagement Figures

8. RECOMMENDATIONS AND LEARNINGS

9. ACRONYMS

10. GLOSSARY

INTRODUCTION

The Building Resilience in Communities (BRIC) Team are part of Plymouth City Council, the Lead Local Flood Authority, overseeing the city's Flood Risk Management Strategy.

BRIC has delivered two successful phases. The first was as the lead partner in an Interreg France-Channel-England programme funded by the European Regional Development Fund (ERDF) where we addressed the issue of flood management from a social innovation perspective. The findings from phase one can be found by downloading the Model Guide from our project webpage: <https://www.plymouth.gov.uk/building-resilience-communities-bric-phase-1>

This following evaluation report relates to the phase two work carried out in Plymouth and funded by DRIP.

Over the last two years, BRIC has been developing and expanding its activities to build resilience in topics beyond community resilience and social innovation. The BRIC Model in Figure 1 is representative of the types of resilience BRIC is directly involved in supporting.

- **Human Resilience** includes engagement, behaviour change and attitude to water use, being prepared for a flood event, knowing how to act during and recovering well after a flood.
- **Physical Resilience** includes raising the profile of capital projects and monitoring equipment such as, the development of sustainable drainage schemes (SuDS) and installation of weather stations, rain gauges and flood bollards.
- **Climate Resilience** includes educating communities on ways to adapt to the higher risk of flood events due to our changing climate.

The BRIC Evaluation Report gives an overview of the campaigns and activities we have been delivering to address our resilience model. While this report is aimed at anyone who works with communities to raise awareness of flood risk, the ideas and concepts

are easily transferable to people wishing to find ways to raise awareness of any risk associated with climate change.

BRIC has achieved many significant milestones during its second phase, including:

- recruiting Community Flood Responders (CFRs)
- delivering a diverse range of community engagement programmes
- implementing the Asset Based Community Development (ABCD) model and championing Appreciative Inquiry (AI)
- collaborating with various organisations including other Local Authorities across the UK, stakeholders and schools
- creating a new suite of Digital Badges.

The project has also created successful social media campaigns, conducted workshops and events, and raised awareness about flood risk and water use in the community. Of significant note is how the ABCD model is working in our Climate Pioneer Street Campaign (CPSC). Furthermore, BRIC have led public information sessions to help build interest and buy-in for large scale capital SuDs schemes.

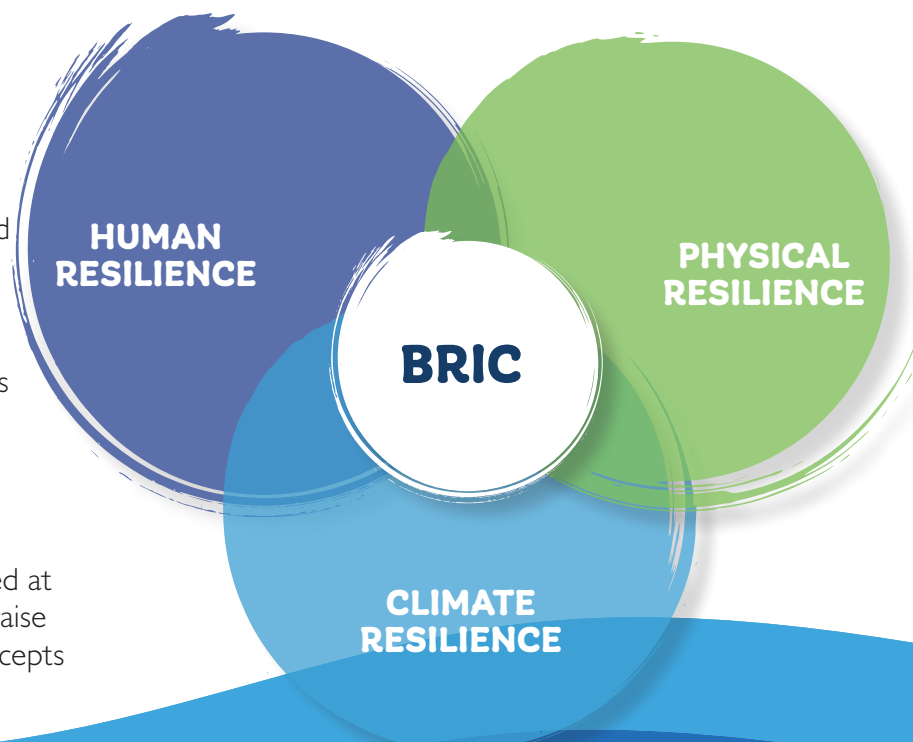


Figure 1: BRIC Resilience Model



PROJECT OVERVIEW



Aims and Objectives

Aim

BRIC is a social innovation project with a primary focus of supporting community resilience. Through engaging with neighbourhoods around the topic of flood risk awareness and adaptation methods, we can encourage positive behaviour change and attitudes towards surface water runoff from local properties and streets.

The project particularly focuses on flood mitigation and adaptation measures alongside nature-based solutions (NBS) in urban streetscapes. The project is varied and promotes many different aspects from supporting large scale planned capital SuDs schemes, to encouraging residents and neighbourhoods to create rain gardens, install water butts or lift a garden or patio slab to plant a tree.

The project also supports and leads the engagement for two flood relief schemes in Plymouth. Trefusis Park – a scheme to reduce the runoff into Lipson Vale by creating a series of wetland basins, and St Levan – a scheme currently in the design stage.

Objectives

- engage with local communities and residents using the ABCD model and AI methods to encourage behaviour change around the increased risk of localised flooding
- host and attend events and workshops to promote our 'slow the flow' campaigns, flood awareness and preparedness
- create a 'Climate Pioneer Street' pilot project, demonstrating the importance of localised flood mitigation and NBS
- develop a school programme and deliver lessons and workshops about flood preparedness and resilience
- create a network of volunteer Community Flood Responders (CFRs)
- create quarterly community newsletters to raise the profile of BRIC, other local initiatives and projects and engage with a wider audience
- develop and issue a suite of Digital Badges to event, activity and training participants
- deliver online and face to face training and workshops for CFRs
- develop strong collaborations with gateway organisations to reach a wider audience
- continue to promote the development of a Plymouth Flood Resilience Network (PFRN) so the CFRs and Flood Action Groups can become independent and self-governing
- promote capital SuDs schemes and small-scale streetscape projects

Target Areas

St Levan Park and the surrounding area

The flooding that occurs in St Levan Park and the surrounding area is caused by surface water (see Figure 2). There are very steep streets, which funnel the water down to the low-lying areas around and within the park. This problem is compounded by a combined sewer system, which is at capacity. The sewer system can sometimes become tide-locked, which causes the system to back-up.

To avoid sewage backing up in the toilets of properties beside the park, there is a hinged manhole cover in the park that allows sewage to escape

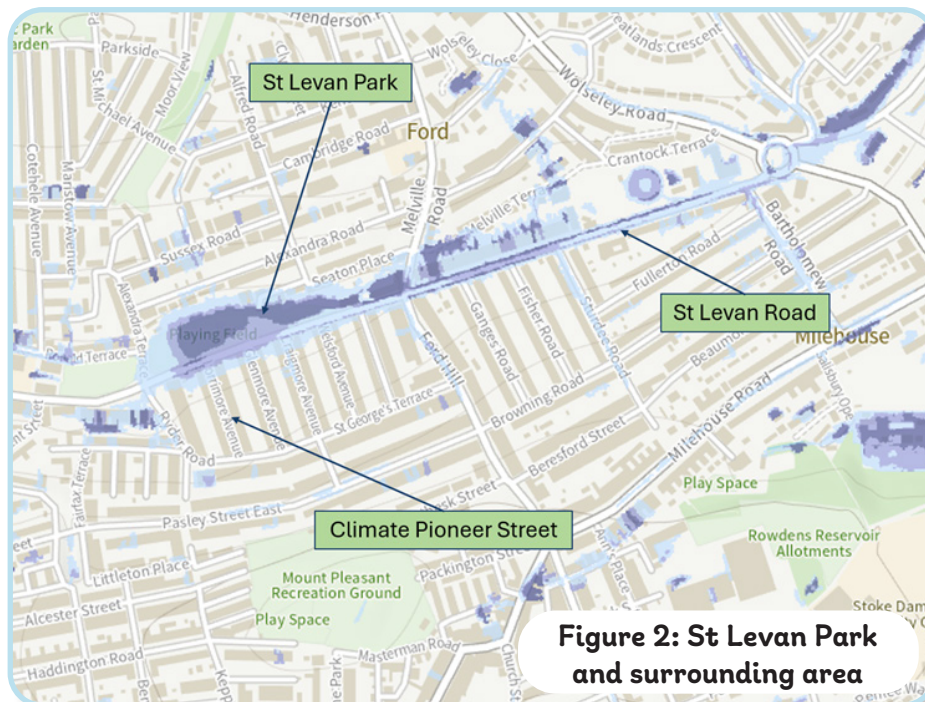


Figure 2: St Levan Park and surrounding area

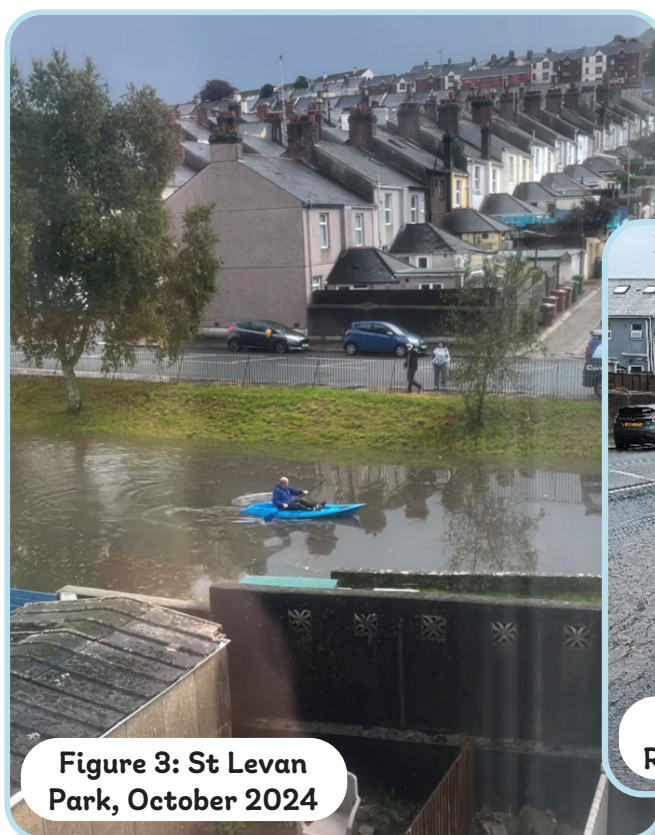


Figure 3: St Levan Park, October 2024



Figure 4: St Levan Road, October 2024

when necessary. After heavy rainfall, raw sewage can sometimes be found in the park, which is both dangerous and unpleasant for park users.

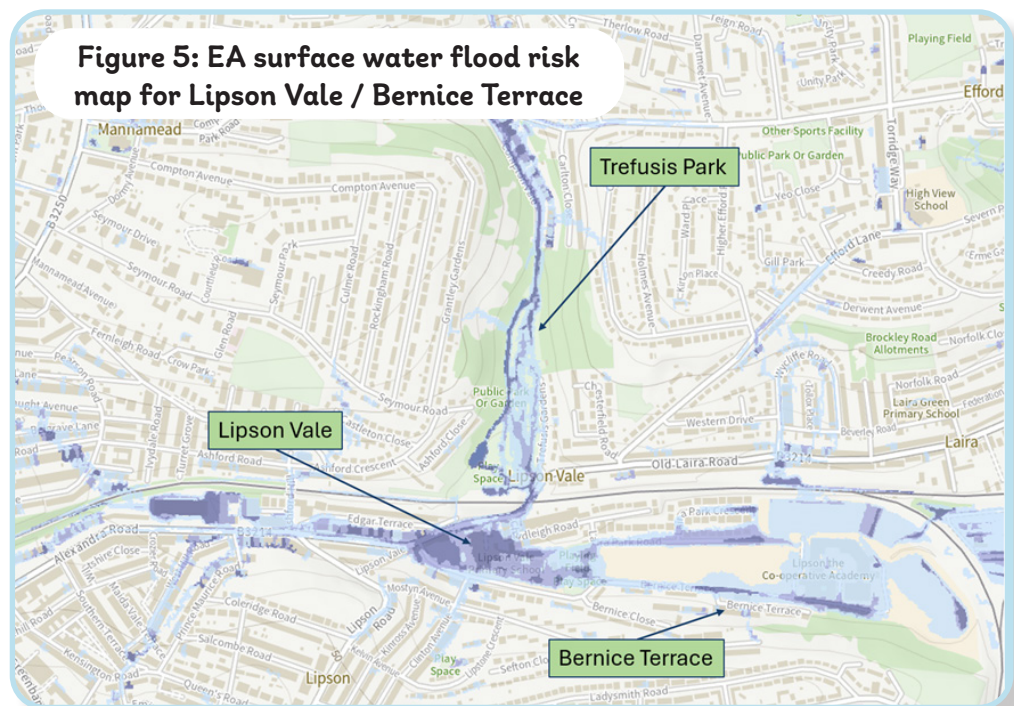
St Levan has an active Neighbourhood Watch Team (NWT) who run a community Facebook

page, distribute a newsletter and run a well-attended summer fun day during July. The NWT have been supportive of the project throughout, sharing information and advising of the areas affected most by heavy rainfall.

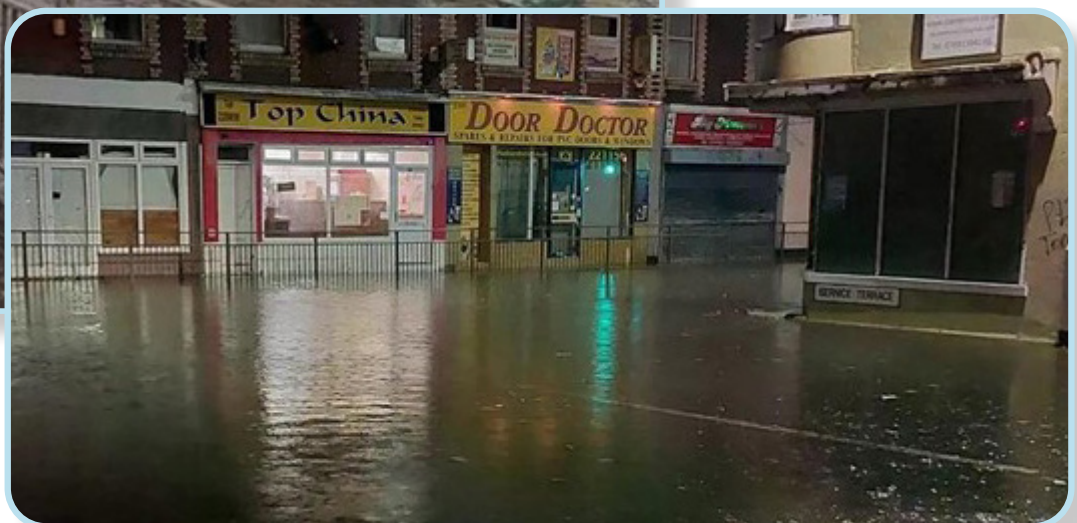
Lipson Vale / Bernice Terrace

Frequent surface water flooding occurs in the Lipson Vale / Bernice Terrace area. This part of the city is heavily urbanised, with steep streets draining to a flat and low-lying area where surface water frequently overwhelms the drainage system.

Figure 5 shows the Environment Agency's (EA) surface water flood risk map for the area. The dark blue areas are those at high risk.



Figures 6 and 7: Flooding in Lipson Vale, October 2023 and October 2024



Other Locations in Plymouth

Aside from our target locations, we have also worked in Stoke and Stonehouse. Since 1905, these locations have also become increasingly urbanised and filled in, and some of the tidal creeks leading into the city have been developed over.

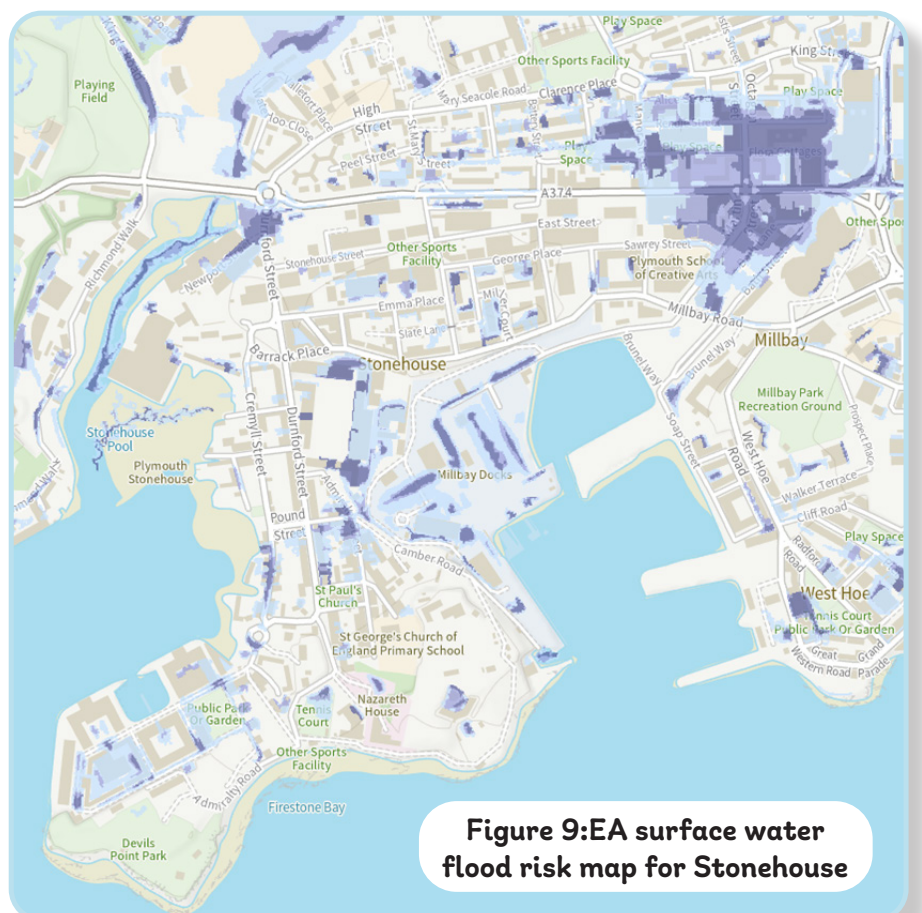
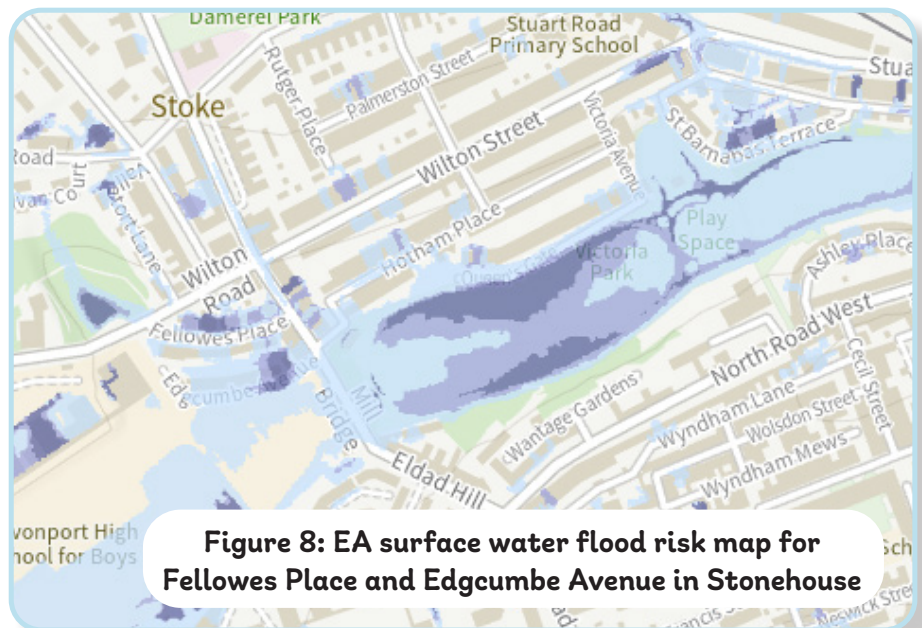
Stonehouse Creek Catchment

The Pennycomequick Stream is a culverted watercourse for most of its length from Milehouse to Stonehouse Creek. The culverted nature of this watercourse causes problems as water can only enter the culvert in specific areas. The culvert also has a finite capacity, and flooding occurs during times of heavy rain when that capacity is exceeded.

Flooding also occurs when the flap valves at Stonehouse Bridge are either not working properly or are locked by high tides and the Pennycomequick Stream cannot discharge.

The initial target area here would be around Edgcumbe Avenue and Fellowes Place, which are known to be at increased risk from surface water flooding.

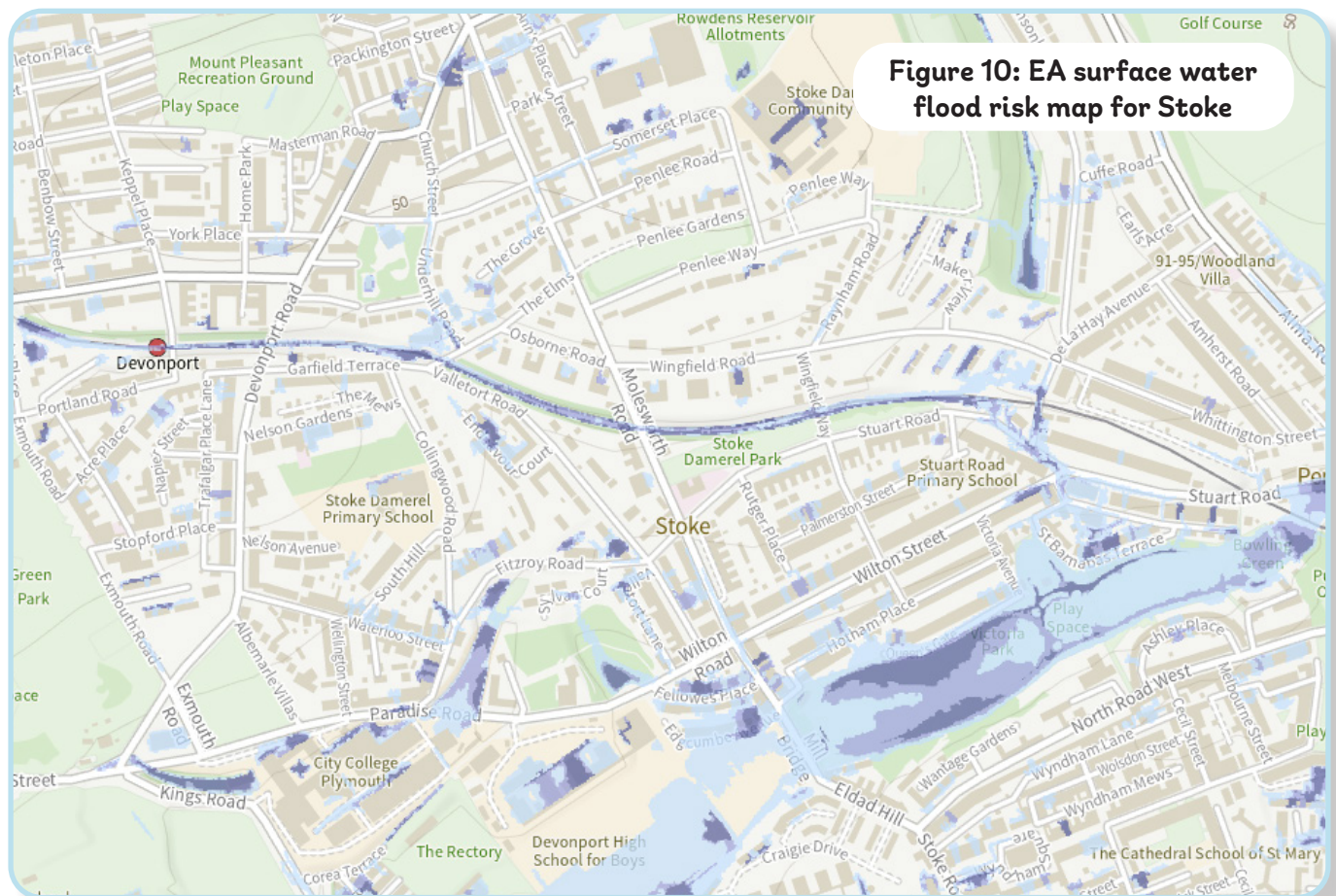
Stonehouse also boasts an active community who have welcomed the opportunity to engage with us. We have attended local community group meetings and held our first volunteer Community Flood Responder workshop here.



Stoke

Stoke is at risk from pluvial flooding in both the North East and South West of the ward, in Milehouse and Millbridge respectively. The development of Stoke is an anomaly compared to the other areas, as in 1905 it was already becoming built up due to its proximity to Devonport Dockyard and the industry there. Blockhouse Park is one of the highest points in Plymouth, so the topography comprises steep-sided streets leading into both St Levan Valley and Albert Road, meaning that runoff from these streets increases flood risk.

Stoke has a vibrant little community who are keen to engage. Residents have participated in a Home and Dry workshop, given constructive feedback on our Slowing the Flow booklet and contributed to our community newsletter.





ENGAGEMENT MODELS



Asset Based Community Development

The ABCD model is a community development approach that highlights the strengths and resources of a community rather than its needs and shortfalls. This model is grounded in the belief that communities are capable of self-governance and that they possess the skills, knowledge, and assets necessary to address their own challenges.

We used the ABCD model in a neighbourhood setting.

Five Key Principles of ABCD

1. **Focus on Assets:** Using the ABCD model helped us to identify the existing assets within the neighbourhood; from individual skills, local organisations, physical resources, and local community groups such as the Neighbourhood Watch Team. The asset-based picture shifts the story from what the community lacks to what it already has.

2. **Community Engagement:**

The model emphasises the importance of engaging community members in the development process for example: 'working with them' rather than 'doing to them'. For us, this involved encouraging residents to participate and collaborate within their neighbourhood and with stakeholders, to ensure that all their voices are heard and respected.

3. **Building Relationships:** Strong relationships among community members are the cornerstones of the ABCD model, promoting networking and collaboration by encouraging residents to share their resources and skills with one another. There are neighbourhood champions in

every community who haven't yet fulfilled their potential – this model empowers them to act. One of our community champions wrote a letter to the residents on their street, encouraging them to take part in BRIC initiatives and offered practical support to enable those less able to participate.

4. **Empowerment:** The ABCD approach also empowers neighbourhoods by involving them in decision-making processes. This empowerment has led to increased ownership of initiatives and fostered a sense of pride and responsibility within the neighbourhood.
5. **Sustainability:** By focusing on local assets, ABCD initiatives are more likely to be sustainable in the long term. Communities are better equipped to maintain and grow their initiatives because they are rooted in their own resources and capacities. Evidence of this is that initiatives continue to grow.

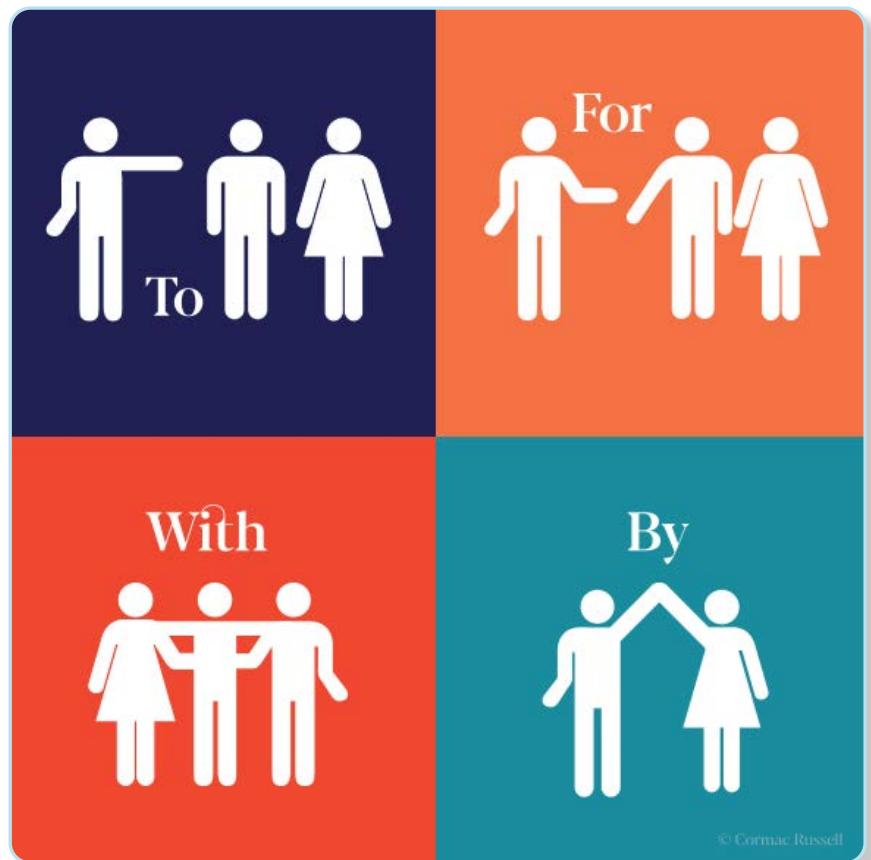


Figure 11: ABCD Model

Engaging with Communities Using ABCD

1. **Asset Mapping:** We carried out an asset mapping exercise to identify the community's strengths. This included mapping the skills, networks, local organisations, institutions, physical assets, and other resources. Engaging community members in this process ensures diverse perspectives and encourages participation.
2. **Facilitate Conversations:** We held meetings with residents to discuss the findings from the asset mapping exercises; encouraging open dialogue about the residents' skills and knowledge and how they can be used to address challenges (in their case flood risk) and enhance their quality of life.
3. **Collaborative Planning:** This could involve setting up working groups focused on specific areas of need. We've worked with neighbourhood champions to co-create action plans that utilise the identified assets.
4. **Capacity Building:** We provided training and resources to enhance the skills and knowledge of community members by offering training for CFRs. Capacity building could also include workshops on leadership, project management, or specific technical skills relevant to community initiatives.
5. **Celebrate Successes:** It's important to acknowledge and celebrate the achievements and milestones of neighbourhood projects. This helps to build momentum and encourages continued engagement and investment in community development.
6. **Foster Partnerships:** Encourage collaboration with local organisations, businesses, and associations that can provide additional resources and support to community initiatives. Building these partnerships can help expand the reach and impact of community-driven projects. In our case we have worked with internal and external partners, such as the Lead Local Flood Authority (LLFA), South West Water (SWW) and the EA.
7. **Continuous Feedback and Adaptation:** Establish methods for ongoing feedback from community members. This allows for the continuous adaptation of initiatives based on evolving community needs and aspirations.

Conclusion

The ABCD model is a powerful framework for engaging with communities in a way that honours their strengths and fosters self-empowerment. By focusing on assets, building relationships, and empowering residents, communities can create sustainable solutions that reflect their unique needs and aspirations. This approach not only enhances community resilience but also fosters a sense of belonging and ownership among its members.

Appreciative Inquiry

Introduction

AI is a cyclical engagement model that follows four stages – Discover, Dream, Design and Deliver. AI can be used alongside other models such as ABCD and can help to facilitate positive change in community settings by involving residents at risk – in BRIC’s case, the risk being the increase in future flood events.

Using the AI process ensures that activities, campaigns and events are planned according to the strengths and needs of the community, in this way helping to influence positive change.

The AI cycle

The AI cycle shown below starts from a feeling of hope rather than from the ‘issue or problem being explored’.

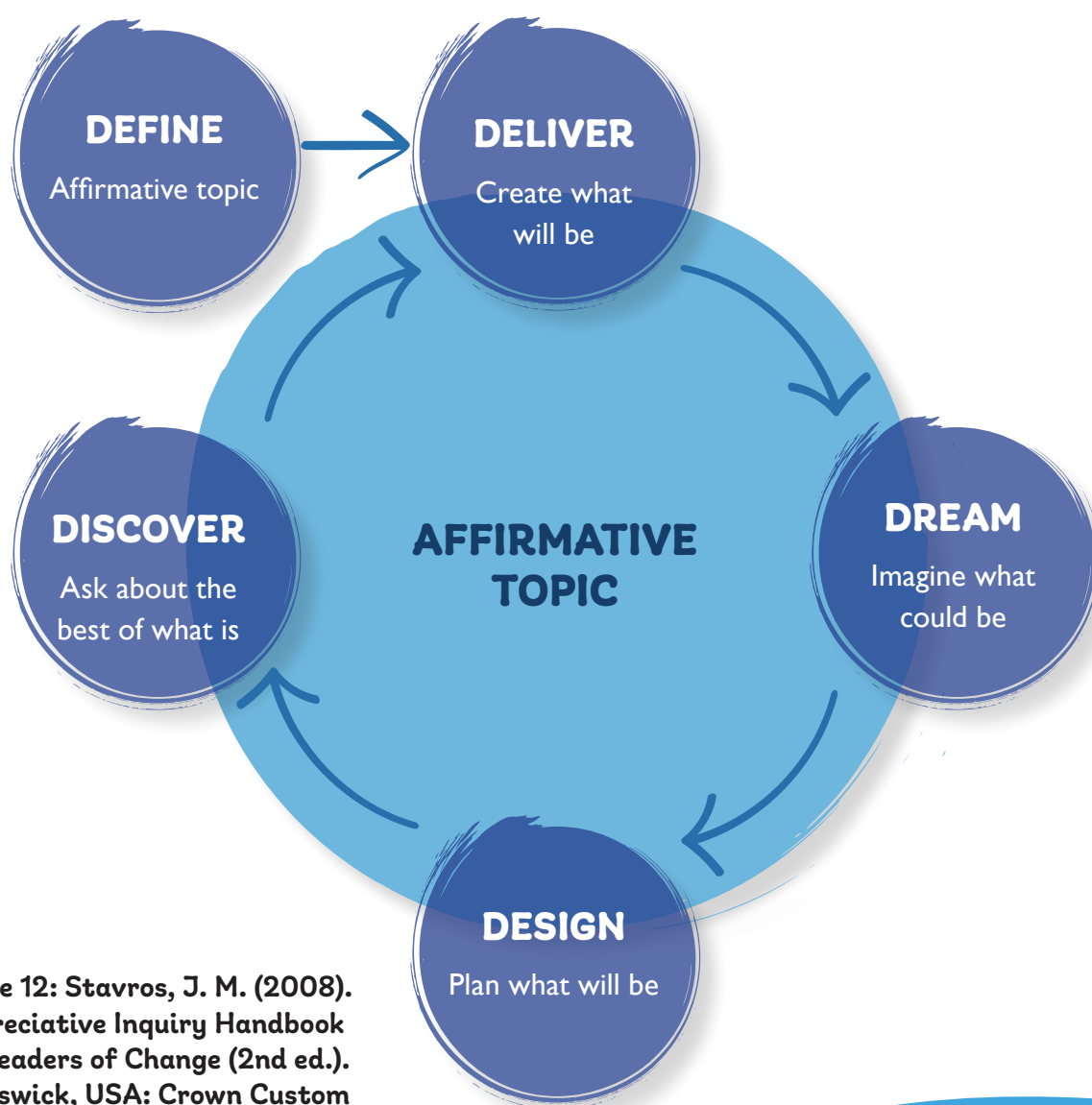


Figure 12: Stavros, J. M. (2008). Appreciative Inquiry Handbook for Leaders of Change (2nd ed.). Brunswick, USA: Crown Custom Publishing.

Discover Stage

This stage is where the community's current situation is explored, for example. where do they feel they are now? While it is best carried out by conducting face-to-face interviews in the local neighbourhood, it is possible to include AI questions via online surveys that can be accessed via a QR code or weblink. This can be particularly useful for public consultations.

The table in Figure 13 shows the questions we asked. The starting two questions aim to be neutral to encourage a person to talk and allow rapport to be built. The third question is topical and relevant to today's changing climate and leads nicely into the last questions about a person's flood preparedness.

Figure 13: AI questions

1	What do you like about this area?
2	How could things improve here?
3	What are your thoughts on climate change?
4	On a scale of 1 to 5 (1 = not prepared at all; 5 = very prepared), if you were flooded tomorrow, how prepared do you feel you would be?
5	Why have you given this score?

We feel the interviews are best conducted in pairs so one person can ask questions and be attentive to the interviewee and the other can write down what they said.

N.B. All responses are recorded anonymously and written down in the first person and as close to the actual words spoken as possible – this helps when the stories are shared during the next stage.

Dream Stage

The Dream stage is where the stories from the community are shared with stakeholders at listening events. Stakeholders could include Risk Management Authorities, representatives from local community groups, Ward Councillors and anyone with an interest in the neighbourhood.

The listening events allow participants to look deeper at the stories collected and to imagine what the community could look like with future interventions. Including local stakeholders adds to the depth of understanding of local issues being encountered.

The AI responses are shared in the first person, keeping the answers as close to the actual words spoken as possible – this might include swear words. This approach enables the event participants to imagine they are listening to the community speaking directly to them.

While the stories are read aloud, participants listen and note any key and common themes that emerge. An online sharing platform can be used to collect the key themes identified and used to facilitate deeper discussions about how stakeholders can use the information in their own work or projects to inform future activities or plans.

Design Stage

The information collected and lessons learned from the Discover and Dream stages enable an implementation plan to be written in line with the needs of the community.

Deliver Stage

Campaigns, events and activities are delivered to help to raise awareness, educate and encourage participation and behaviour change. These will be discussed later in the report.

The AI loop

AI doesn't finish at the Deliver stage; it carries on back around the loop – there are always new things to learn about a local neighbourhood and its residents. One of these is “have our interventions had any impact on raising awareness of flood risk, and have behaviours changed towards water use?”. We can ask this by revisiting the Discover stage.

Conclusion

- we have found that AI is a powerful engagement tool
- we believe that our engagement has been more effective and meaningful using the AI cycle
- using AI leads to a better understanding of a community's needs and avoids assumptions being made
- AI builds trust and empathy because it is carried out together with the community and stakeholders
- AI can lead to neighbourhoods making positive changes in behaviour
- it is an integral part of the ABCD toolkit



IN-PERSON ENGAGEMENT



Water Talk

Water Talk was the name of our residents' meetings, which we held separately for each community to address their flooding concerns and engage with the BRIC project.

During phase two we held initial meetings in Lipson and St Levan, delivering invitations to households within 500m buffer zones around both Trefusis and St Levan Parks. These were opportunities for the communities to share their experiences and concerns around surface water flooding. Local councillors also attended.

In response to numerous inquiries about drain and gulley maintenance, we subsequently met with senior members of the Council Highways team. We conveyed the residents' concerns, and a representative from the Highways team attended

follow-up Water Talk meetings in each area.

These follow-up meetings allowed us to update residents on the actions we had taken and our ongoing efforts to tackle surface water flooding in their areas.

We approached these meetings as consultation exercises, helping us to build a picture of the neighbourhoods through the people that know them best. By actively listening to the community's experiences and have been able to shape our campaigns to align with their needs and priorities.

Building Resilience in Communities (BRIC) invite you to

WATER TALK



An evening of discussion about water, flooding and how it affects us



BUILDING
RESILIENCE
IN
COMMUNITIES



PLYMOUTH
CITY COUNCIL

University

During Autumn/Winter 2023 we were invited to take part in a consultancy project with final year BSc (Hons) Business Management students who were undertaking a Project Management module.

The University of Plymouth was looking for real-life, one-off projects who could share an issue that the students could try and resolve.

We used our Climate Pioneer Street campaign (CPSC) as the real-life case. As this campaign was still in the planning stage, it gave students the opportunity to look at the scope, risks and opportunities, budget constraints and stakeholders.

The module leader was particularly interested in using our project as it was a revenue project involving community engagement and not a capital project with a 'tangible' product at the end such as a building.

We gave the following brief to the students to work from.

To create an ambitious scheme to monitor the level of rainwater that flows into local drains by measuring whether localised flood relief solutions can help to reduce the amount of rainwater flowing into the drains especially during heavy rainfall.

The objectives for this campaign are to have:

- trialled flood alleviation systems on a localised scale such as, increased the use of water butts, installed rain gardens, replaced slabs and concrete in gardens for trees and plants
- monitored the effectiveness of working with a street/neighbourhood rather than a wider community
- created a network of local flood responders
- created a report showing how the scheme can be replicated in other neighbourhoods across

the city.

We spent a total of six, in person, sessions with the students and follow-up email exchanges to answer questions that arose.

Learning about the CPSC, the students were able to experience the highs and lows of delivering a social innovation project and discuss what the day-to-day life of a project manager and their team look like.

Engaging with the students and hearing their perspectives and questions also enabled us to reflect on how we work and gave us a fresh perspective on moving forwards with the CPSC.

Feedback from the project was overwhelmingly positive with all students finding the sessions informative. See student's feedback on the following page.

What have you enjoyed about these sessions?



"It's a different type of project rather than a 'for profit' project, which has made it more difficult but does show that projects are everywhere"

"To learn more about the BRIC Project and linking project management theory to a live project"



"How each session had a plan on what parts of the project will be mentioned, and how a live project has to adapt to real live world issues"



"Being able to ask questions that I couldn't find online"

"Being able to communicate in person and finding out about a project that may not be as publicly known"



"I've enjoyed a good level of detail, and learning about a real life project while it's still operating"

"Learning about a live project and seeing how things change as time goes on. Good energy also"

"I have enjoyed how interactive they are, and how they represent real life problems"



"Open ended and conversational, applying theory to reality"

"Getting an insight into live project and how random challenges appear and can be dealt with"



"Listening about how a real project works, learning the struggles and problems of local scale projects"



"Seeing theory and reality compared. Seeing all stages of the project"

Workshops and Conferences

Workshops

Home and Dry

The University of Exeter and theatre groups worked with communities in Cornwall and Kenya to create this two-hour workshop. Home and Dry gives participants an idea of the decisions people need to take to protect themselves from flooding.

We held this workshop in a community space in Stoke where community members worked together to make decisions about preparation and response to a flood, in relation to the specific needs of their area.

The interactive nature of the workshop enables rapport to be quickly built with participants to enable quality discussions to take place. The topics covered during this workshop makes for a good precursor to introducing communities to the concept of creating a local flood action plan.



Figures 15 & 16: Home and Dry Workshop

Forest Rising

Forest Rising is a 'scheme for the next generation of leaders, that harnesses youth power and puts young people at the heart of Plymouth and South Devon Community Forest'. The young people involved are aged from 16-28 years.

We hosted a workshop for them in January 2024. Starting with a guided walk around the Central Park Ponds Scheme, the participants learned about flooding in urban areas and the use of (SuDS) to slow the flow of water in flood risk catchments. We were able to link our talk to the important part trees play in intercepting water and slowing it down.

To continue the 'watery' theme, we finished the workshop with our Raindrop to Flood Campaign.



Figure 17: Forest Rising Workshop



Figure 18: Conferences attended

Conferences and Events

We have exhibited at two conferences - the Cornwall Community Flood Forum (CCFF) Conference and the Devon Community Resilience Forum (DCRF) Conference, hosted by Devon Communities Together (DCT).

These conferences have enabled us to reach wider audiences, many of whom are based in rural locations, and share information about how we engage with communities in urban areas. Networking at this scale has opened doors for wider collaboration and resource sharing across the South West region.

We ran workshops at both conferences, showcasing our engagement methods and activities. This was particularly relevant at the CCFF conference where the theme

was 'How communities can help themselves, building resilience to flooding and coastal change'. The diverse content shared in our workshops prompted interesting and insightful conversations with attendees from both the community and environmental sectors.

We used the DCRF conference as an opportunity to collect feedback on our first iteration of our Slowing the Flow Information Booklet.

Tamar Catchment Partnership

We were invited to present at the Tamar Catchment Partnership (TCP) Quarterly Meeting to talk about our engagement strategies and achievements over the past 18 months. TCP is hosted by the Westcountry Rivers Trust (WRT) and facilitate communication with everyone working within the River Tamar catchment landscape. Our talk was well received and led to more in depth conversations during lunch time networking and the afternoon site visit.



Figure 19: BRIC stand at CCFF Conference, November 2024

Knowledge Sharing

The BRIC project has built a reputation for successful and innovative engagement since initially starting in June 2021. The extent and style of our engagement has led to other Local Authorities, community groups and flood risk management organisations, well beyond the boundaries of Plymouth, to approach us for advice and knowledge sharing.

Cornwall, East Sussex, Suffolk, Bristol, Cardiff, Torbay, London, Somerset and France are just some of the areas we have touched. Under the DRIP partnership we also collaborate and learn from another 18 Devon organisations, share

knowledge with different teams within the EA and as part of the wider Flood and Coastal Innovation (FCIP) partnership are part of the communication and engagement forum across England.

Our achievements have led us to share our knowledge at flood forums and flood and monitoring committees and to be featured in the first two editions of the Flood Industry Magazine.

It takes time, sustained activity, a solid social media presence, networking and reciprocal collaborations to build relationships.



WRITTEN ENGAGEMENT

BUILDING FLOOD RESILIENCE IN COMMUNITIES



Supporting our local communities to plan ahead, act quickly and recover well

Welcome to the BRIC Spring newsletter

In this edition you'll find our final updates of BRIC Phase 2 and news from other projects working around Plymouth.

Raindrop to Flood exhibition

From Saturday 8 March to Tuesday 11 March, we will be exhibiting the Raindrop to Flood collaborative artwork on the ground floor of Drakes Circus!

This coincides with British Science Week – the perfect time to come talk about how we can work together to reduce surface water flooding in Plymouth.

Alongside the exhibition, we'll have copies of our new Slowing the Flow information booklet and will be on hand to talk all things BRIC.

Over 400 people contributed a crafty puddle to this project last year – were you one of them? Come and see if you can find your puddle and try to spot the sneaky sewer rats hiding in the display.



Slowing the Flow Booklet

Our 'Slowing the Flow' booklet provides an overview of solutions and interventions that contribute to flood alleviation, adaptation and resilience in urban areas. The solutions range from easy to source ones such as installing water butts, to more involved actions such as establishing green roofs and walls.

We also describe how to slow the flow of water through gardening, putting an emphasis on small actions that not only reduce flood risk but enhance local nature and biodiversity too.

The creation of this booklet was an extensive process, with the team researching all aspects of surface water flood prevention in urban areas. After producing a first draft, we gathered feedback from stakeholders, collaborators and target audiences to ensure the final booklet was as accurate and relevant as possible.

This included presenting the booklet at a DCT conference, circulating it to our DRIP partners, and collecting feedback from internal partners within the Council. The first iteration had a QR code on the back cover to direct readers to our feedback form.

We met with leaders of local community groups who have experience with professional gardening and the creation of community gardens. They helped us find ways to make the information more accessible, approachable, and relevant to urban audiences.

Following feedback and revision, the final booklet is targeted at individuals, communities and groups who are affected by, or affect, surface water flooding. It provides readers with ways to capture and store water, providing solutions for any amount of space or time.

The final booklet was launched at the Cornwall Community Flood Forum (CCFF) conference in November 2024, to a very positive response. We will be distributing copies at local events, to local community groups and spaces within Plymouth, including

libraries in flood risk areas. A digital copy is also available to download on our project page at <https://www.plymouth.gov.uk/building-resilience-communities-bric-phase-2> and can be accessed via the QR code.

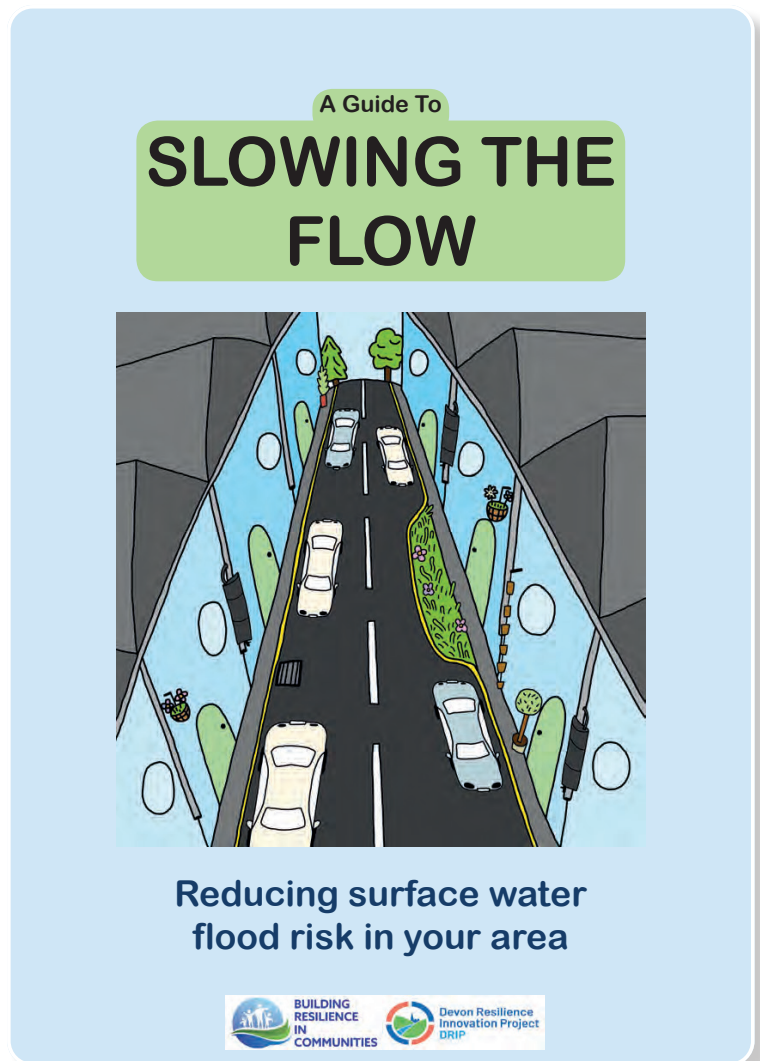


Figure 21: Booklet front cover

Newsletter

We have produced and delivered six quarterly newsletters to 10,700 homes within a 500m buffer zone around our target areas of Lipson Vale and St Levan – that's a total of 64,200 newsletters. To reduce costs, they were distributed with a local newspaper.

This was our most widespread method of written engagement. The newsletters were a useful way of touching base with residents to keep them informed, especially during the winter months when 'in person' engagement is not so easy. They also gave residents the opportunity to engage with the project, whether that be solving our back page puzzle or signing up to be a volunteer.

Each issue included articles on BRIC's activities over the previous few months, and what events and opportunities were upcoming for the project. Ongoing opportunities, such as our Adopt a Drain and Community Flood Responder volunteer campaigns, were featured in each newsletter. Our quarterly back page puzzle related to flooding which was both educational and fun.

Other newsletter content included articles about other Council projects, information about Plymouth community groups and other city initiatives.

While these newsletters give us a channel to broadcast information to residents, it was challenging to initiate quality, two-sided engagement with readers. Despite consistently including adverts for voluntary opportunities, most sign-ups for these campaigns came from in-person events, meetings and conversations.

BUILDING FLOOD RESILIENCE IN COMMUNITIES

Supporting our local communities to plan ahead, act quickly and recover well

Welcome to the BRIC autumn newsletter

In this edition we'll be sharing what the team have been doing this summer, showing how some amazing community members are slowing the flow at home, and letting you know how you can get involved.

SUMMER WITH THE BRIC TEAM...

ST LEVAN FUN DAY

It began with **St Levan Family Fun Day** on 6 July – a superb event hosted in St Levan Park and organised by their incredible Neighbourhood Watch Team. This was BRIC's third year at the Fun Day, and as always, we had a great day sharing information, running activities and having valuable conversations with the public.

FIT AND FED

During August we attended **Fit and Fed** at **Victoria Park, Ernesettle Green, Tothill Park, and Central Park**. These events are always buzzing with activity, with so many family-friendly activities. We always have a great time and talk to so many people about the BRIC project, including how all of us can make small actions to reduce our surface water flood risk.

BUILDING FLOOD RESILIENCE IN COMMUNITIES

Supporting our local communities to plan ahead, act quickly and recover well

Welcome to the Summer edition of the BRIC newsletter.

Read on for news about what we've been doing, other exciting projects happening in Plymouth, and to find out how you can get involved.

WHAT WE'VE BEEN UP TO

Bridging the Tamar

During the school holidays we took over the learning centre at Bridging the Tamar with our surface water flooding activities for two days. The main event was our Raindrop to Flood activity, where we asked people to make crafty puddles to go towards a large piece of art we will be exhibiting next year. There was a great turnout, and lots of interest from everyone we spoke to. If you missed the event, we'll be back at Bridging the Tamar in August, so keep an eye out for more details at www.bridgingthetamar.org.uk/events

School Flood Awareness workshop

The BRIC team enjoyed spending an afternoon with two Year 5 classes at Lipson Vale Primary School. We invited students to slow the flow of water in our surface water simulator to teach about the surface water flooding that affects Plymouth's streets. We used our flood tank to raise awareness of the dangers of flood water and helped the students make puddles for our Raindrop to Flood exhibition. We were impressed with the great responses to our question 'when does a puddle become a flood?'. "Puddles join together to make floods." Yr5 pupil from Anglerfish class. "A puddle becomes a flood when it gets really big!" Yr5 pupil from Orca class.



Social Media

Our social media profiles and campaigns have provided a platform for us to share project updates and useful facts.

Through our posts, we showcase the visual brand identity we have developed for BRIC, which runs through all our printed and digital promotional material. On social media this comes through in repeated layouts, colour palettes, illustrations and font styles.

Examples of social media campaigns we ran:

- Property Flood Resilience (PFR) themed month – with posts on different PFR methods, giving information on each
- Natural Flood Management (NFM) themed month – giving information on the different types of NFM strategies
- Unblocktober – We joined in with the Unblocktober campaign, created by Lanes Group in 2019 to raise awareness of drain blockages and fatbergs
- Posts including household water use tips
- Save the Date posts, especially during the summer season, to share information on events we were holding or attending
- The 12 Days of BRICmas – A fun and engaging Christmas campaign, incorporating references to our project

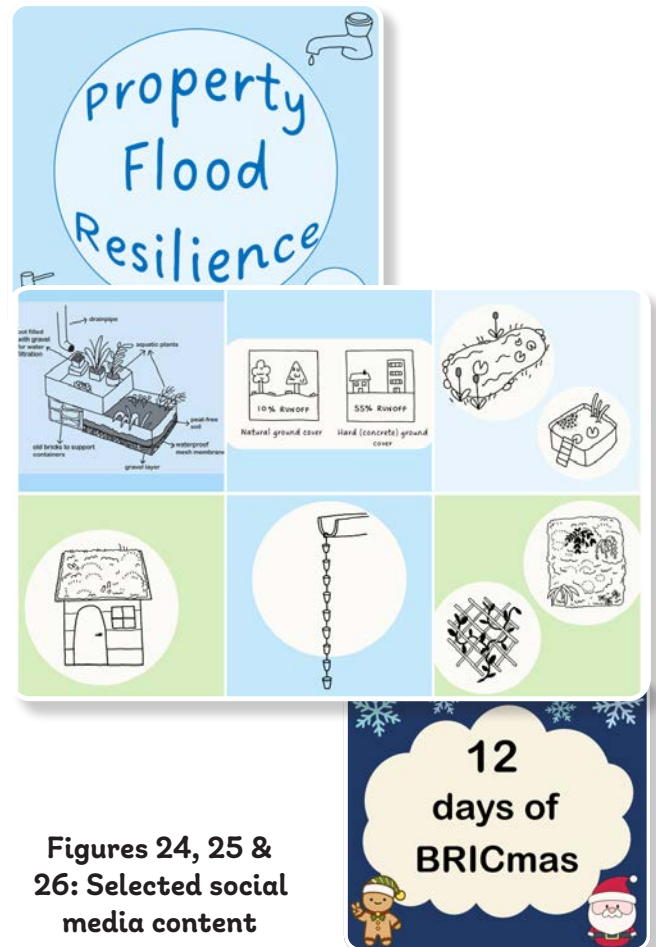
We utilised local Facebook groups that were established in our target areas. These were useful for directed campaigns, such as local residents' meetings and volunteer workshops.

The figures show that we had better engagement on Instagram and LinkedIn than Facebook. However, on Facebook we focused more on posting in community groups rather than boosting engagement with timeline posts.

It is worth noting that on Instagram, we had a more even spread of likes across all posts, whereas on LinkedIn there were spikes in engagement – with some posts amassing over 20 likes, and others with one or no likes.

Moving forward, we will continue to post in local Facebook groups to share information relevant to their area. On LinkedIn we aim to produce

more in-depth educational and evaluative content, as this has attracted quality collaborations. For instance, we were contacted by Flood Industry Magazine via LinkedIn after they saw our profile – which led to a two-part article on BRIC in the inaugural issues of the publication.



Figures 24, 25 & 26: Selected social media content

Between January 2024 and January 2025, we reached:



110 followers on Instagram,
with **693 likes** across **131 posts**



31 followers on Facebook,
with **174 likes** across **137 posts**



157 followers on LinkedIn,
with **483 likes** across **135 posts**

Digital Badges

Following the success of developing and distributing our Flood Awareness Digital Badge in collaboration with the Real Ideas Organisation during phase one, we partnered with the Green Communities project to create a suite of new Badges under the Plymouth Nature Badges umbrella.

Digital badges are endorsed by City and Guilds and The Royal Society for Arts, Manufacturers and Commerce. They are designed to motivate learning and ambition and represent an individual's skills and personal development. They are awarded after the earner has completed an activity or undertaken training.

Their digital format enables the badges to be displayed on the earner's CV, social media profiles, and email signatures. They provide a visual recognition of acknowledgement of the skills gained through volunteering and other avenues, that can otherwise be hard to show on a CV or job application.

The earning criteria for our digital badges can be found in the Adopt a Drain and Community Flood Responders section of this report.



Figure 27: Flood Awareness Digital Badge

Email Updates

To ensure continuous contact with our stakeholders and volunteers, we sent out regular email updates...

Volunteer emails

These were sent every three weeks to our volunteer mailing list and included project updates and external opportunities. The updates included the following information:

- **What have we been up to?** Including Dates for the diary and any upcoming events, meetings or activities
- **Slowing the flow, one action at a time...** Achievable household actions to save water
- **Questionnaire...** This could be about flood awareness or adopting a drain

Through sustained communication, there was an **increase in the number of volunteers** on the database from **28 to 45 people** across our target areas.

We also emailed volunteers with external opportunities including webinars and other environmental events that they might have been interested in.

Stakeholder emails

Monthly emails were sent to our external stakeholder mailing list which grew **from 50 to over 80**. They included opportunities for workshops and events.

Again, through sustained communication and engagement, stakeholders became familiar with our project, and they distributed opportunities to their wider networks.

Level of Engagement

Much of the email content we sent was campaign updates and event information and therefore two-way engagement was low. However, when we included invitations to workshops that we were hosting, including for CFRs, the interaction and responses from both volunteers and stakeholders increased.

Website

We have a dedicated project page on the Plymouth City Council website. This provides the following general information about the project:

- our project aims and how we plan to achieve them
- information about our campaigns
- downloadable resources such as our Slowing the Flow Booklet
- how to get involved
- links to our social media accounts – alongside images of our public engagement.

We can direct community members, stakeholders and other interested parties to the page to provide additional information and context to conversations held at events and via other communication methods.



Figure 28: BRIC Phase 2 webpage

Postcards

We have sent out meeting invitations in the form of postcards to two different audiences, with different visual identities to suit the needs of each.

For our general residents' 'Water Talk' meetings, postcards were hand delivered to around 300 homes in our target areas, inviting residents to a focused meeting to discuss the flood issues in their area. The design of these (shown in Figure 29) was simple, clear and generic, featuring easily identifiable images instead of illustrations. With images of flooding, and a simple font style, the purpose of the invitation was plain.

On a smaller scale, our Climate Pioneer Street invitation has been focused on a specific audience of 57 homes who we have been working to build a special relationship with. This design (shown in Figure 30) has an emphasis on friendliness and openness. We used hand drawn illustrations, handwritten style of font and consistent colour palette for each postcard. We also carried this style across other forms of correspondence to these homes. We signed these postcards with our first names, with the aim of creating a personal touch with residents.

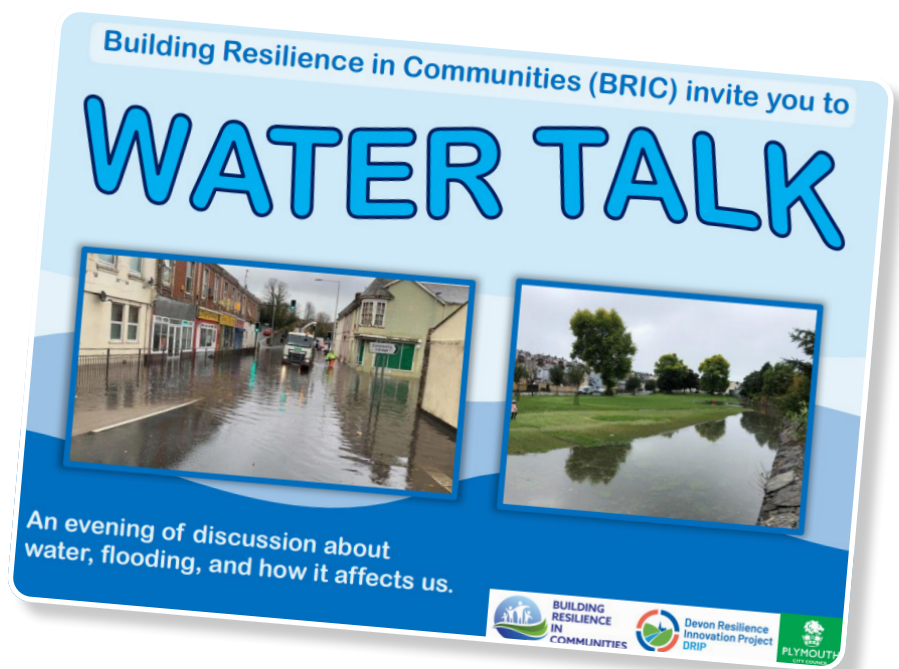


Figure 29: Water Talk Postcard Front

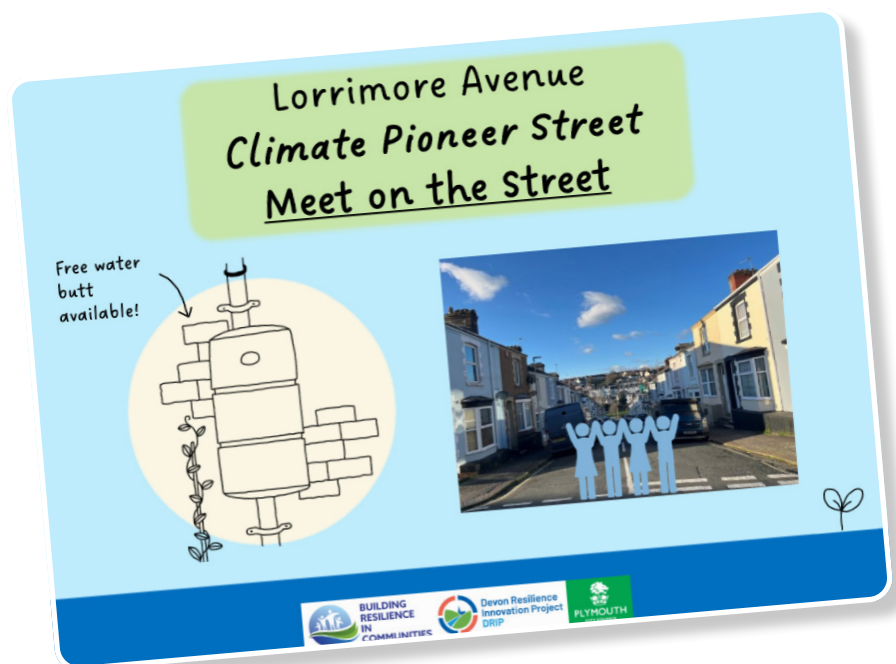


Figure 30: Climate Pioneer Street Postcard Front



ENGAGEMENT ACTIVITIES



Flood Tank

The Flood Tank is an activity to raise awareness of the dangers of floodwater.

We used milky tea or coffee to discolour the water in a clear tank to show that floodwater can be polluted, and displayed a range of objects that illustrate the everyday items that can make the water dirty and polluted. We asked participants to identify which of these items could change the colour of the water and make it unsafe.

One benefit of this activity is how different objects can be used to illustrate different hazards. For example, in Plymouth, surface water flooding from the combined sewer system means that floodwater can be contaminated by raw sewage, and therefore one of the objects we used to highlight this is fake poo – this is particularly popular with children and is the answer to the question we posed “what makes this flood water brown?”.

When using this tool for different types of flooding, sewage may not be the most concerning factor of the floodwater, therefore changing the objects, such as adding in rocks to represent unseen underwater hazards, allows the Flood Tank to be adapted for different scenarios.

This activity is easy to put together. Our version is made from a plastic fish tank, a laminated sign, a selection of hazard objects, a few inches of water and half a cup of milky tea or coffee to discolour the water.

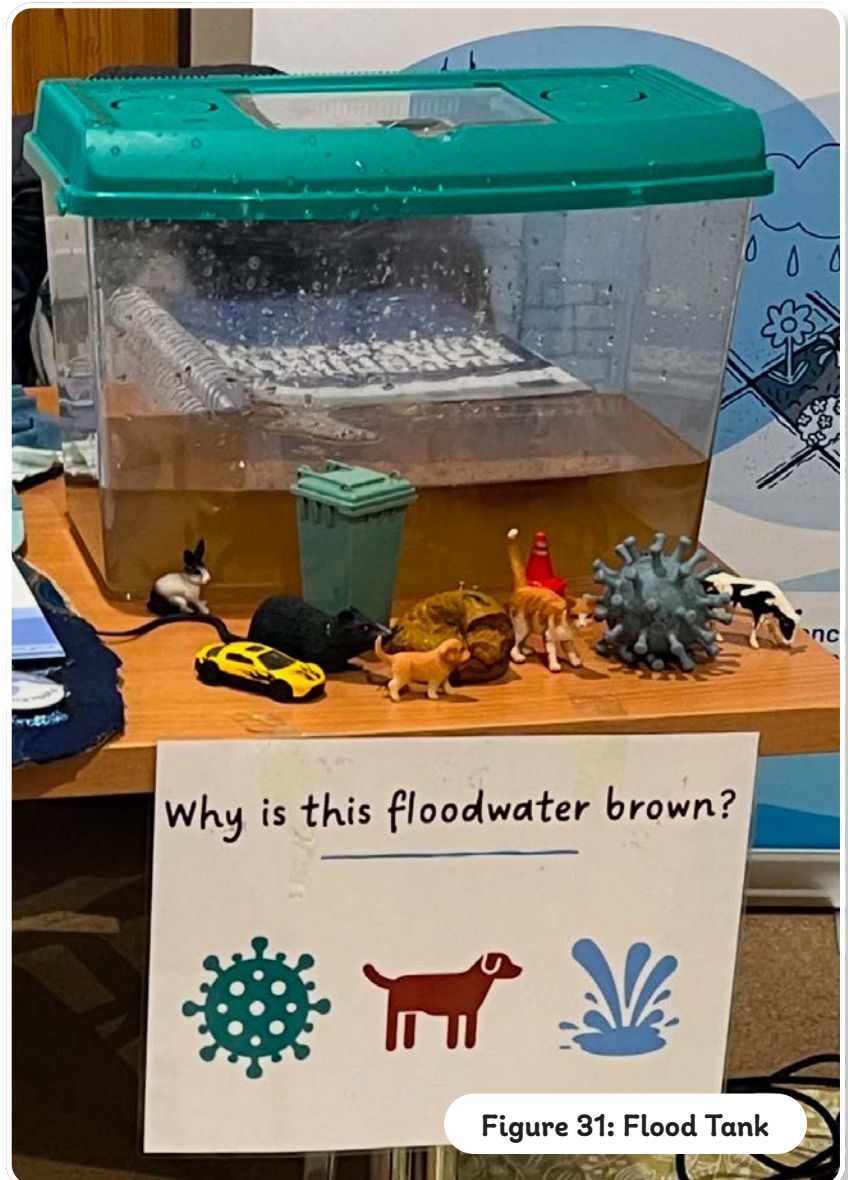


Figure 31: Flood Tank

Urban Flood Simulator

We developed the Urban Flood Simulator to enhance our practical engagement methods. The activity has proven to be an effective way to demonstrate how water behaves on a steep, highly urbanised street like those in our target areas. The simulator highlights solutions that could be implemented to slow down, store water and reduce the risk of flooding.

The equipment required to create the simulator:

- one large plastic tub, about half filled with water
- pond pump (mains powered for indoor events or solar powered for outdoors)
- alternative to pump – two plastic water jugs
- two short lengths of gutter (approximately 1m), with attachments
- a small stepladder (approximately 50-60cm)
- sticks, small rocks/pebbles, and sponges

As can be seen in the photo, we decorated one of the gutters to look like a road by using waterproof paint. The decorated 'road' shows how water normally behaves with no interventions in place, and we use the undecorated gutter for the practical activity.

The idea is for the participants to use the objects provided to slow the flow of water down the gutter. To give the objects 'real life' flood management meaning, we explained that the sticks could be trees (canopy cover, stabilising roots), sponges could be grass, moss or plants (permeable surfaces) and the stones could be built out traffic calmers or raingardens.

We used this activity in a wide range of settings – from family events, workshops, and school sessions to conferences and board meetings. It

is an engaging and visual way to depict hard to understand concepts.

One bonus we didn't expect was how the activity has helped to promote more in depth and technical discussions with adults at family events. It's become a multi-generational adaptive learning tool.

The activity could easily be adapted for different types of flooding. For example, if trying to depict river flooding and the use of leaky dams, one channel could be decorated as a river with banks, and sticks would be used to slow the water down.

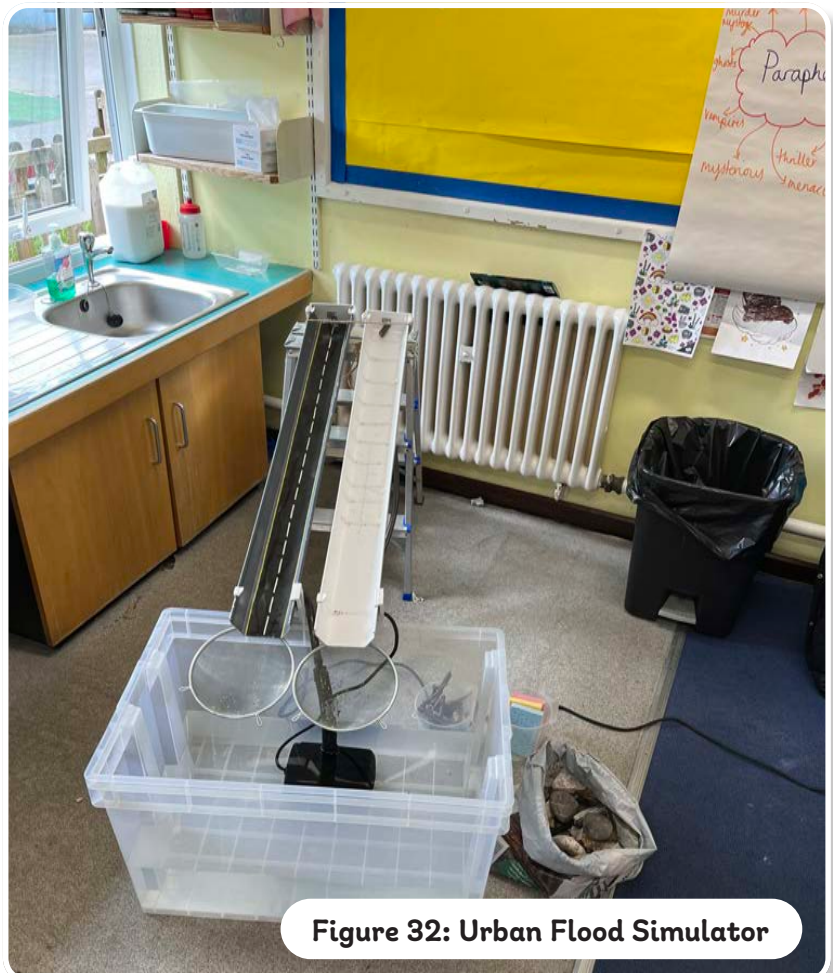


Figure 32: Urban Flood Simulator

Mini Water Butts

This children's activity was used to raise awareness of how water butts and other water collection/storage devices can help to slow the flow of runoff from properties to reduce the risk of flooding while also being useful for watering the garden in dry weather.

Participants were tasked with decorating washed and prepared laundry detergent bottles that we sourced from our local Scrapstore. We asked them to hang them outside at home, inviting them to send us pictures for social media as seen in Figure 33. This activity was hugely successful, getting both children and adults involved and thinking about saving water.

Despite its success we decided to put this activity on hold due to issues sourcing materials. Laundry detergent bottles were our preference due to their larger size, and better smell – even when washed well, milk bottles can begin to smell bad while in storage.

To fill this gap in our engagement, we developed a visual step by step guide (see Figure 34) which we included on our event display boards. Visitors to our stand could take a photo of the guide and complete the activity at home. We also posted a version of the guide on our social media accounts.

Our phase one evaluation highlighted the importance of using creative activities to engage audiences to talk about flood risk, a topic that can be considered 'dull'. This gap in engagement led to the development of our creative Raindrop to Flood campaign.



Figure 33: Hanging up a mini water butt



Figure 34: Mini water butt step-by-step guide

Raindrop to Flood Campaign

Overview

Raindrop to Flood was a creative campaign that we delivered at events, and which closed as a public exhibition in Plymouth city centre.

Our idea for the campaign emerged after attending a workshop by local community interest company (CIC), Art and Energy, who are delivering the Mossy Carpet project. They are creating a participatory artwork, inviting people to make 'mossy' pompoms out of reused wool and fabric while engaging in conversations around climate action. Conversations flowed while everyone was doing something with their hands. It was further proof that involving people in a creative activity promoted high-quality discussion and positive outcomes.

Having received images and videos of flooding from our residents, we realised there is a misconception about what a flood is. Some of the photos showed large puddles, which while inconvenient to the public, are unlikely to cause major infrastructure or property damage. We wanted to dispel some of these misconceptions and as such, thought an interesting conversation starter was "When does a puddle become a flood?".



Figure 36: Forest Rising Raindrop to Flood Workshop



Figure 37 & 38: Puddle Professionals with Certificates and Badge

From this came the idea of using a creative activity to aid discussion. We asked participants to create cardboard puddles using recycled fabric and glue that would form parts of a large artwork. All the equipment and materials used for this campaign, apart from PVA glue, were re-used either from our own stores or our local Scrapstore.

The campaign was initially launched at one of our Water Talk meetings but we realised this was not the right setting, as residents were more focused on talking about their experiences with flooding and blocked drains. We trialled the activity at a workshop for Forest Rising participants. These participants were more engaged with the topic, having an established interest in environmental issues. This workshop was much more successful, providing us with insightful answers to our conversation starter, and the first production of crafty puddles.

As we needed to keep the puddles for a later exhibition, we created "Puddle Professional" certificates and metal badges as tangible rewards for children's participation in the activity. These proved to be a huge success – people found the

Puddle Professional title fun and engaging and were often delighted to be awarded a badge.

We ran the campaign at most events we attended, including Fit and Fed fun days in parks across Plymouth, the Ocean Squad programme at the National Marine Aquarium, and sessions at the Bridging the Tamar Learning Centre. It was successful with a wide age range and over 500 puddles were created.

This campaign has been a huge success, showing that using creative activities as engagement methods are easily accessible and can break down barriers to communication, opening conversations around surface water flooding. We would highly recommend that other projects consider how a creative campaign could fit into, and enrich, their community engagement programmes.



Figure 39: Raindrop to Flood Workshop participants

Raindrop to Flood Exhibition

To conclude the Raindrop to Flood campaign, we connected over 500 puddles together to form a collaborative art piece – a fabric ‘flood’.

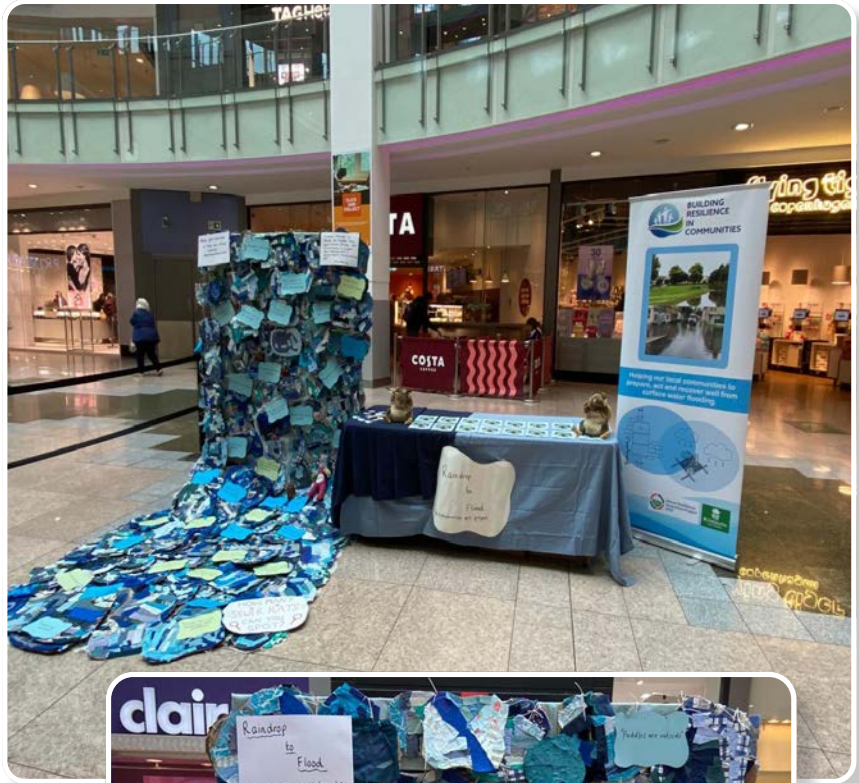
This art piece was displayed in Drake Circus shopping centre in Plymouth for four days, with the team on hand to speak with the public about the campaign and the wider aims of BRIC.

To increase engagement and broaden our topics of discussion, we included crafted ‘sewer rats’ within the display of puddles, hiding them so that children could ‘spot the sewer rat’ to win a Puddle Professional badge. We also used sewer rat hand puppets, waving at people passing by to draw them in for a conversation. These became our unofficial mascots during the time the work was on display, proving to be great catalysts for conversation, whether people loved or hated them.

Also incorporated into the display were quotes from people who participated in the campaign – answers to the question “When does a puddle become a flood?”. Reading the quotes enabled viewers to engage with and understand the artwork on a deeper level.

We spoke to a total of 465 people over the four days, reaching residents from all corners of Plymouth and further afield. Almost everyone who spoke to us also took a copy of our Slowing the Flow booklet.

The central location of the shopping centre, combined with our eye-catching and interesting display, led to us reaching a huge amount of people with messages about reducing surface water flood risk and adapting to a changing climate. This exhibition was a fantastic way to round off this phase of the BRIC project and celebrate our achievements.



Raindrop to Flood Quotes

Here are just some of the wonderful quotes we collected during the Raindrop to Flood Campaign, from the prompt "When does a puddle become a flood?"



"A puddle becomes a flood when it is BIG!"

"A puddle is when there is a small or large area overlapped by water"

"Condensation can make a puddle on the floor after rainfall"

"Disturbance to everyday life"

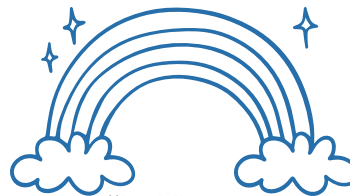


"Flood is damaging to human and ecological systems i.e. property, possessions, drain systems"

"Floods normally take up more space and puddles tend to be a lot more cleaner than floods"

"If it rains too much or if the drains don't get all the water up from the puddles"

"If you can stamp in it in your wellies"



"Natural flood can be a good thing – water resource management and planning"

"Puddle is undamaging, small and temporary"

"Puddles are magic"

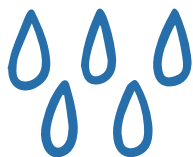
"Puddles don't harm the climate or the natural habitats, but floods do"

"We need to clear plastic out of the drains so that it doesn't hurt the world"

"When all the drains are full, and the water has nowhere else to go"

"When it gets huge, and it doesn't evaporate"

"When it impedes someone's ability to safely get to a place"



"When lots and lots of puddles join together"

"When rain causes a puddle to expand over a significant area"

"When there's just so much rain it goes on and on and on"



"A flood is big and would flood the whole world"



ENGAGEMENT CAMPAIGNS



Climate Pioneer Street Campaign

Overview

We have supported the creation of a Climate Pioneer Street in St Levan, one of Plymouth's high flood risk catchments. We are engaging with residents living on a highly urbanised, steep ladder street comprised of 57 terraced properties with small concrete fronts and shared downpipes.

The street was chosen following a consultation with the St Levan Neighbourhood Watch Team. The water from the suggested street runs off and pools at the bottom during heavy rainfall, damaging properties and obstructing the main road as seen in Figure 42.

The aim of this campaign has been to monitor the level of rain and grey water that flows into local drains and to measure whether localised flood relief solutions such as installing wall mounted water butts or drainpipe gardens at the front of properties can help to reduce the amount of water entering the drains, especially during heavy rainfall.

Alongside some of the external solutions, we are also encouraging behaviour change inside the property such as not using the washing machine or dishwasher during heavy rainfall.

The campaign grew and is now a wider collaboration. South West Water (SWW) have supplied drain monitors and have installed a rain gauge at the local school. An organisation called Our Rainwater have carried out a desktop roof survey to measure the potential of runoff capture from both the front and back of the properties and provided recommendations for further methods we could use to capture runoff.

The project has used an ABCD approach to build momentum and widespread participation within the neighbourhood. We started by running residents' meetings in the local school during the winter months before hosting 'meets on the street' and inviting residents to bring a cuppa to their doorsteps with the aim of introducing them to the scheme. As the campaign has progressed some of the residents have bought into the scheme, installed water butts, planted in pots and encouraged neighbours to do the same.

Starting engagement in February 2024, we feel we have only just started to scratch the surface with this campaign and intend to replicate the model and expand to other high flood risk neighbourhoods in the city, such as Lipson Vale and Stonehouse.



Figure 42: St Levan Road Flooding

Collaborations

Our Rainwater

Our Rainwater are a company with a big vision to transform rainwater management by using data-driven, innovative approaches to unite individuals, communities, organisations and business at a large scale.

For the Climate Pioneer Street (CPSC), we commissioned Our Rainwater to produce a rooftop survey showing the potential amount of rainwater that could be captured from the properties on the street.

The results showed that by installing water butts there would be a decrease in the amount of water entering the drains at any one time. The survey also showed that more difference would be made if each household had a downpipe instead of one between two houses.

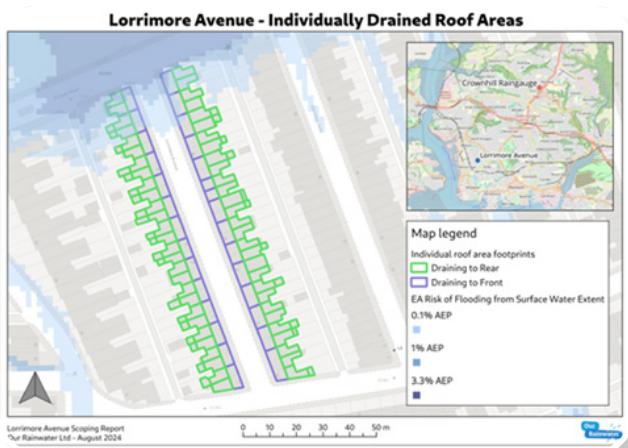


Figure 43: Rainwater Rooftop Survey

While the data from the report was useful and can be used to inform future climate pioneer streets, the style of water butt recommended would not be suitable for the street we were working in. This is due to the limited area on the front of the terraced properties.

While we agreed with the suggestion that installing one downpipe per house would increase rainfall capture, this is a measure that we were unable to introduce and discuss with residents due to the time constraints of the campaign.

South West Water Services Limited (SWW)

SWW look after the water and wastewater services across Cornwall, Devon, the Isles of Scilly and parts of Dorset and Somerset. They are a Risk Management Authority and have a partnership with Plymouth City Council and the EA.

SWW have supported our data collection for the CPSC by installing a tipping bucket style rain gauge (see Figure 44) on the roof of the primary school in St Levan and two flow monitors in the drains at the bottom of the Climate Pioneer Street.

The analysis of data collected from these monitoring devices has allowed us to track rainfall patterns that have led to localised flooding. We monitored prolonged dry spells, which can increase the likelihood of flooding - when heavy rainfall hits hard, dry ground it is less permeable and therefore unable to soak away, causing excess water on the surface and increasing the pressure on the already overworked combined sewer system.

These devices have allowed us to monitor the rainwater capture measures, such as water butts, that we have promoted and have been installed on the Climate Pioneer Street. As mentioned before, it is too early to identify if the interventions have slowed the flow of water down the street and decreased the amount of surface water runoff.



Figure 44: Rain Gauge

Engagement with Climate Pioneer Street Residents

Getting out and talking to the community was essential to identifying and empowering the residents. To encourage involvement and engagement with the Climate Pioneer Streets' residents, we carried out different styles of events:

**February
and March**

First residents
meeting

**April and
May**

Meet on the
Street

June

Meet on the
Street - Cuppas
and Cakes

July

Pasties in the Park

September

Water butt use
postcard

October

Project refresher
postcard

November

Emails to
Community

December

Christmas Cards

February

Residents meeting

Residents meetings

During late winter and early spring 2024, we invited residents to join us for two evening meetings at a local primary school to introduce them to the campaign. It was at these sessions we first implemented the ABCD approach – see 02. Engagement Models.

The questions that we discussed were:

- what local resources/assets can you tap into?
- if three of your neighbours were willing to help, what would you love to do to make your community a better place?
- what will be the impact of this community change?
- what are the barriers to getting involved and how can we overcome them?
- what would it take for other residents to get involved?

While the turnout was low, we had meaningful discussions with five of the streets' residents - it is worth mentioning that we were experiencing some of the wettest weather on record, which is not a great motivator to leave the comfort of one's home on a cold, dark, wet evening.

As an incentive to attend, we advertised on the postcard invitations that we would be providing free water butts to residents on the street. This did encourage one resident to attend to find out more about the scheme and order the first water butt. We also offered refreshments as tea and biscuits can also be an incentive to attend.

Meet on the Street

As the weather warmed up and the evenings became lighter, we began engaging on the street to encourage greater community involvement. Meeting the residents in their space was preferable to meeting at the school.

We experimented and held meet ups at different times of the day and found that evenings worked best for most people due to work and other

commitments. We had a high turnout and over the course of these events met residents from eight properties in the street. Not only did we engage with several properties, but we held quality conversations with them, discussing any barriers or concerns that they had about the water butt installation.

Our first Meet on the Street event highlighted the interest that this campaign had generated with seven people coming outside to find out more.

At one of our Meet on the Street events, we brought along cakes, encouraging residents to meet us outside with a hot drink. This gave residents another opportunity to speak to us about the free water butt.

We took a water butt along to each event so that we could demonstrate how little space it would take up on the wall and what it would look like when it had been installed.



Figure 45: Our first Meet on the Street event

Pasties in the Park

Not only did we host many 'Meet on the Street' events, we also tried to be creative and come up with new ideas to encourage engagement. This included turning up in St Levan Park for a Pasties in the Park event at the start of the summer holidays. We used this event not only to talk about the Climate Pioneer Street but also to discuss flooding with other residents in the area. As we might have mentioned, providing free food can often be a good encouragement for people to attend.

Our location in St Levan Park meant that the event was well attended with three of the Climate Pioneer Street residents stopping to chat with us. One resident who had been particularly vocal at one of our events about blocked drains in the neighbourhood, took the time to come over and thank the Team for their support and commented

that the drains had now been cleaned and there had been a reduction in flooding.

Our Adopt a Drain campaign (see Adopt a Drain section) also proved popular with the residents and resulted in two more drains being adopted in St Levan.

The wide range of events and community engagement methods that we have implemented over the course of this campaign have demonstrated that trialling these keeps communities interested and engaged in our work.

As a result of the campaign, we now have two community champions living on the street who are keen to see the campaign become a real success and are prepared to put in some effort to encourage other neighbours to install a water butt and green up the front of their houses.



Figure 46: Our Pasties in the Park event

Communication Methods

Over the course of the CPSC, we communicated to residents and stakeholders using several methods. Initially, we contacted local ward councillors, notifying them of the campaign and its aims. As the campaign progressed, we contacted these councillors with updates and invitations to relevant meetings and events. Our primary contact method with residents was via postcards and fliers, posted through their doors. These included invitations to events, project information, our aims, and the interventions available. To keep an informal and friendly tone, these postcards used a handwritten style font and hand-drawn illustrations. We also sent seasonal greetings, such as a Christmas card. Each piece of correspondence included our contact details and encouraged residents to contact us for more information and request their free water butt.

Residents would occasionally email us following these postcards – one email led to a follow up meeting with someone who was unable to attend our event due to their work schedule.

We also sent regular email updates to engaged residents who supplied their email addresses, maintaining their involvement and interest. As with the postcards, these included information about meetings and events.

There was no social media presence for this campaign, due to its targeted nature. Working at a local level with just one street meant keeping communications physical and/or direct and more personal.

One of the residents wrote and delivered their own letter encouraging their neighbours to get involved with the campaign. They wrote about the importance of the campaign from their perspective and offered up plants and pots from their own garden. This was a great step towards the community taking ownership of the project and reflects the ABCD principles behind the work.

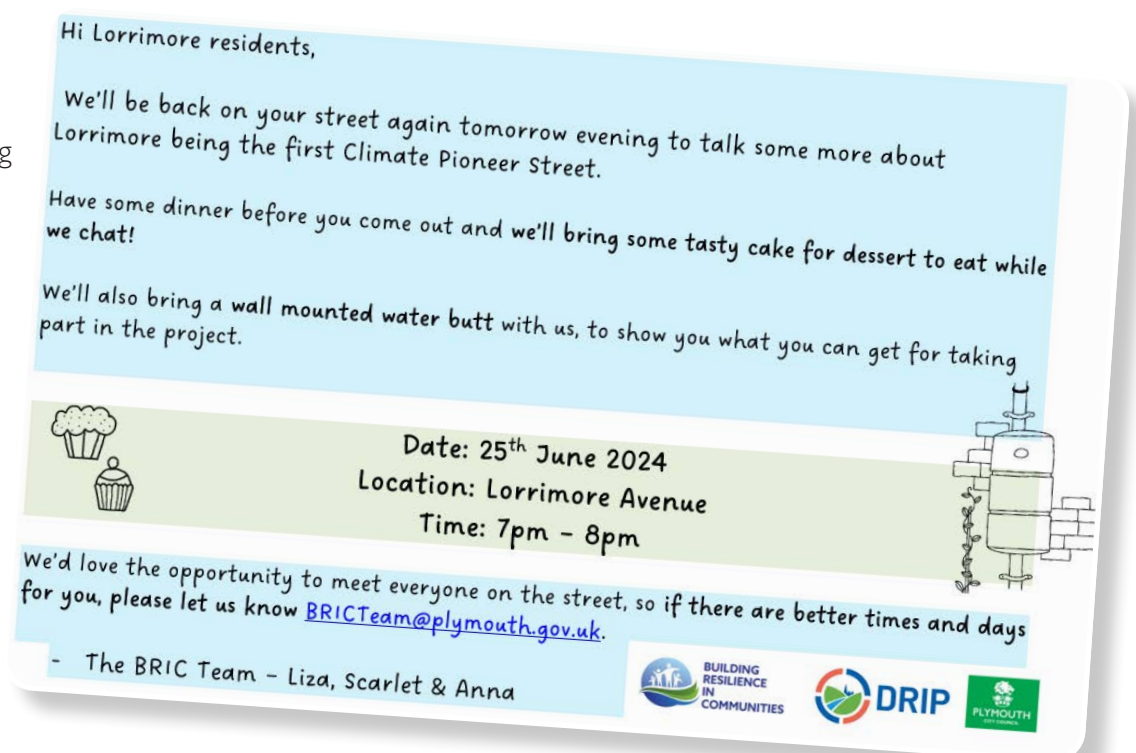


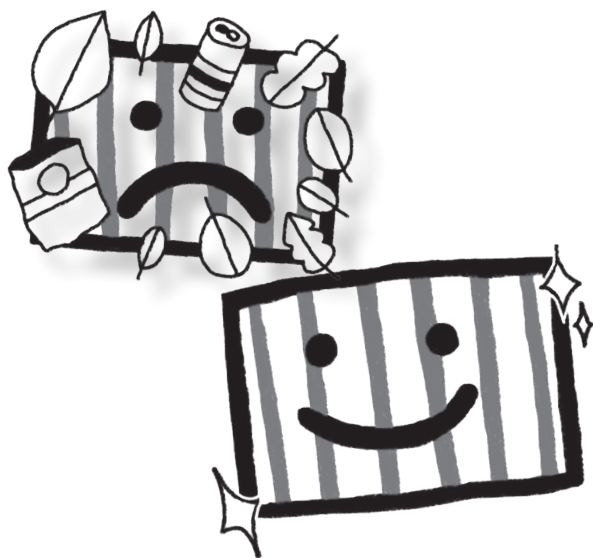
Figure 47: Climate Pioneer Street Postcard

Adopt a Drain Pledge

Research and Inspiration

We first came up with the idea of asking residents to 'Adopt a Drain' during a Water Talk meeting. We were discussing 'pride of place' and residents were reminiscing over how people used to sweep their front gardens, the path outside their property and sometimes even the road. We suggested people could adopt a drain near to their property and keep the top clear of leaves and debris. The idea was greeted with some enthusiasm and agreement.

Having had these conversations, we were curious to know whether anyone else was running similar schemes. We found out that this isn't a new idea - there is an Adopt a Drain Campaign in Minnesota, USA, and it's also being done in Keevil, supported by Wiltshire Council. After finding out about these projects we thought why not try it in Plymouth.



We started the campaign by putting the following article in our quarterly newsletter

“Did you know that you can help keep our local community clean and safe by adopting a drain? It’s easy and only takes a few minutes of your time!

All you need to do is choose a drain in your neighbourhood and make sure it stays clear of leaves, rubbish, and other stuff that can block it. Just spend 15 minutes every now and then clearing the top.

Remember to be careful and stay safe while you’re doing this. Don’t try to lift the drain cover or stand in the road.

If you decide to adopt a drain, you’ll even get a special Digital Badge to show that you’re helping out. You can display your badge on your email signature or social media!”

We created a sign-up page via a QR code and added some extra health and safety information to ensure the adopters knew not to step into the road and always watch for traffic. On the sign-up page, we also gave them an opportunity to make a behaviour change pledge around their water use. From simple things like turning the tap off when brushing their teeth to not running the washing machine during a heavy storm. We believe that every little action adds up and can bring about change.

Since, launching the campaign we have had over 16 drains adopted, and interest from the EA. We have also been asked to deliver a workshop to Somerset community groups later in the year to talk about how we went about setting up the scheme.

Clean Our Patch Collaboration

In the planning stages of this campaign, we met with local CIC Clean Our Patch to discuss the idea and explore a potential collaboration. Clean Our Patch are based in St Levan, working with councils and communities to tidy up urban and rural areas. They organise group litter-picks across Plymouth, providing volunteers with the equipment they need to get involved.

As the campaign focused on litter-picking and community pride, we knew it would be a good idea to connect and find out how we could support each other.

Clean Our Patch fully supported the campaign, saying that they often clear the tops of drains while on group picks. They were able to promote the scheme through their networks, with us doing the same for them.

We also made a donation to the CIC in return for the loan of several litter-grabbers, bag toppers, and purple refuse sacks. These are available to borrow for anyone who signs up to the campaign, making it easier and safer for them to carry out their role.

This collaboration has helped to legitimise and support the campaign a great deal. Being able to supply volunteers with the appropriate equipment is a real benefit, and something we would have struggled to achieve on our own.



Figure 48: Clean Our Patch

Adopt a Drain, Digital Badge Earning Criteria

Earners of this badge have connected with, and done their bit for, nature in Plymouth, by volunteering their time to adopt a drain in their local area.

This activity takes months to complete. Earners access this activity for free.

- Earner has demonstrated initiative, enthusiasm, and an interest in building resilience to surface water flooding by registering their interest in adopting a drain. They have either emailed the Building Resilience in Communities (BRIC) team, or completed an online form, to provide their details and details of the drain they are adopting.
- Earner has shown open mindedness and willingness to learn by reading the Adopt a Drain health and safety guidance. They have demonstrated their understanding via the Adopt a Drain online form.
- Earner has performed their voluntary role as a Drain Adopter by observing their chosen drain and keeping it clear of debris, such as litter and leaves. They have successfully followed safety guidance while tending to the drain, such as keeping clear of the road, and not lifting the drain cover.
- Earner has shown their strengths in communication and consistency by reporting any drain blockages to Plymouth City Council through an online reporting tool.
- This badge is open to all.

Tags:

Communication; Consistency; Demonstrate; Enthusiasm; Environment; Flood Awareness; Health and Safety; Initiative; Observation; Open-mindedness; Reporting; Resilience; Surface Water Flooding; Volunteer; Willingness to Learn

Figure 49: Drain Adopter Digital Badge



Community Flood Responders

Overview

The Community Flood Responder volunteer role is adapted from the Flood Warden position championed by the EA.

“Flood wardens provide a vital link between the at-risk community and us at the Environment Agency. Flood wardens inform the responsible government body of blockages that can cause flooding and help raise awareness among the community.

Flood wardens also tell us and the council about issues in the community, helping us build a better understanding of flooding in the area and help us develop more suitable approaches to reducing flood risk.”

Environment Agency

Flood Wardens are often recruited as members of Flood Action Groups for specific areas at risk from flooding.

In phase one, we set out to increase the number of Flood Action Groups in Plymouth. This proved successful in one small community, who were exceptional in terms of their proximity, pre-established relationships and specific experience of flooding. We also re-ignited Flood Action

Groups who had ceased to be as active. In larger neighbourhoods, creating new groups has proven more difficult.

Moving into phase two, we decided to try a different approach. We started by changing the role title to Community Flood Responder (CFR), as we felt this sounded friendlier and potentially more contemporary and encouraging than Flood Warden. We also recruited and trained CFRs without an emphasis on Flood Action Groups. Our aim was to create a network of CFRs across the city who, as a result of training together and learning from each other, would naturally form a collaborative and supportive alliance.

Our first CFR workshop was held in person, at a community space in Stonehouse. This was a neutral location to encourage residents from different areas to come together.

Attendance

We had six attendees at our first workshop from across four flood risk areas of Plymouth – Lipson, Oreston, St Levan and Stonehouse. This was the first time in the project that residents from all these locations had met in the same place.



Figure 50:CFR Workshop

Workshop Sessions

We split the training into five digestible sessions and made sure there were plenty of comfort breaks. Each session was presented as a mixture of facts and practical suggestions.

1

Introduction to Emergency Response

2

Understanding Flood Risk

3

Flood Risk Awareness and Health & Safety

4

Flood Plans and Resilience

5

Role Profile

Resources

We created and supplied comprehensive digital handouts for the CFRs to refer to after the training. These have been designed to be used in a flood, and before or after.

Reporting blocked drains walkthrough

At the end of the workshop, we digitally walked the participants through 'how to report a blocked drain via the Council website'. This is one of the aspects of being a CFR. By asking them to formally 'report a blocked drain', the most relevant department receives detailed information about the blocked drains and the potential impacts associated with them in a specific area of Plymouth.

Feedback

We received the following feedback from the CFR workshop:

What did you find most informative from this workshop?

Two attendees found that different Risk Management Authorities look after different types of flooding the most informative part of the workshop and one attendee fed back that 'the whole workshop was very informative'.

Is there anything you would change about this workshop?

The main element of the workshop that people would change is the timing of the first session. There was a lot to digest over a three hour period. We responded to the feedback by scheduling the second workshop to be held over two shorter evening sessions.

Do you feel that you received enough information prior to the workshop?

All attendees answered positively about receiving adequate information before the workshop

For our follow-up meeting, would you prefer in-person or online?

Three quarters of attendees stated that they would prefer a follow-up meeting in-person instead of online

Would you recommend this workshop to others?

All attendees would recommend this workshop to others

Do you have any other feedback for us?

We received two remaining pieces of feedback about the workshop – a request for more photos of vulnerable areas and providing some of the resources as pre-reading for the session instead of going through all the information in the session.

CFR Digital Badge Earning Criteria

Earners of this badge have connected with, and done their bit for, nature in Plymouth by contributing to flood preparedness in their local community, participating in meetings, volunteering their time, and carrying out responsibilities in their role.

This activity takes months to complete.
Earners access this activity for free.

- Earner has attended a Community Flood Responder (CFR) meeting, where they have learnt in-depth information about the role and responsibilities of a volunteer CFR. They have shown initiative and an eagerness to learn and support their community.
- Earner has registered interest in becoming a Community Flood Responder (CFR) by communicating with the BRIC team after attending a CFR meeting. They have demonstrated self-motivation, participatory spirit, and a desire to uplift their local community through working with others.
- Earner has undertaken free training for their role as a Community Flood Responder (CFR). They have attended an in-person or online training session where they have learned about the risks involved with surface water flooding, relevant health and safety practices, and in-depth information about the responsibilities of their role. By undertaking this training, they have shown active listening skills, open-mindedness, and determination.
- Earner has carried out their responsibilities as a Community Flood Responder (CFR), including reporting flooding, receiving and distributing flood alerts, and safely clearing debris from drains. They have demonstrated a strong ability to both self-motivate and work together with others, and a drive to support their community. They have made a positive difference to the resilience of their community, by consistently and enthusiastically engaging with their role as a CFR.
- This badge is open to all.

Tags:

Active Listening; Communication; Community Volunteering; Consistency; Demonstrate; Determination; Enthusiasm; Environment; Flood Awareness; Health and Safety; Initiative; Online Learning; Open-mindedness; Reporting; Resilience; Surface Water Flooding; Willingness to Learn; Working with Others



Figure 51: Community Flood Responder Digital Badge



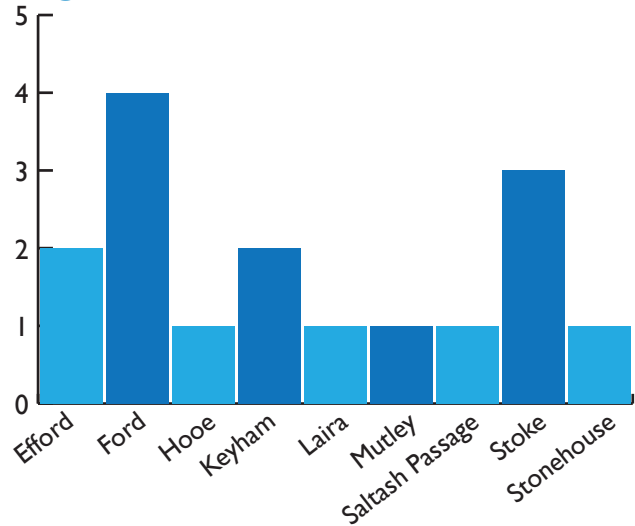
ENGAGEMENT STATISTICS AND FINDINGS



Flood Awareness Survey

This survey is based on the questions from our AI – the additions to this survey are about the types of flooding participants associate with Plymouth and how often people have seen flooding in Plymouth.

What neighbourhood of Plymouth do you live in?



The number of responses highlighted in the graph reflect our newsletter distribution areas. We had nine responses from the St Levan area which includes, Ford, Keyham and Stoke. We had four responses from the Lipson Vale area which includes, Efford, Laira and Mutley. The three outliers are Hooe, Saltash Passage and Stonehouse:

- Hooe is at risk from tidal and surface water flooding
- Saltash Passage is at risk from tidal flooding
- Stonehouse is at risk from tidal, river and surface water flooding

Have you ever seen flooding in Plymouth?

100% of participants have seen flooding in Plymouth

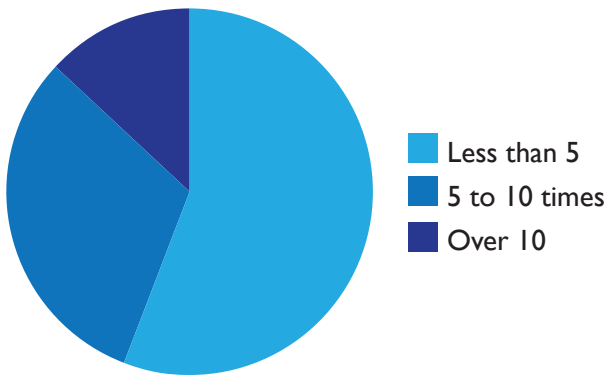
What type of flooding do you associate with Plymouth?

All participants associate surface water flooding with Plymouth, with two also associating Plymouth with coastal flooding.

Can you give any details about the flooding? (when and where you saw it).

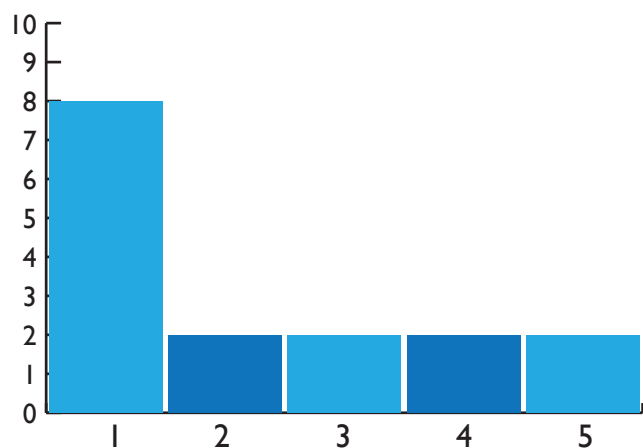
This question gave participants a free text box to describe the flooding events they had experienced in Plymouth. All participants answered this question in detail, giving us comprehensive overviews of what they had seen. We were also able to share this information with the Council's Engineering Design Team to use as evidence for business cases when applying for funding for capital projects that could improve and reduce flooding in the area.

If you have seen it flood multiple times in Plymouth, please select an option



56% of participants have seen flooding over 10 times in Plymouth and 13% have seen it flood less than five times. 31% of participants have seen flooding between 5 and 10 times.

If your home was to flood tomorrow, how prepared would you feel? (1: not prepared at all, 5: extremely prepared)



16 people responded online with an average flood preparedness score of 2.25, an increase of 0.5 since phase one. The majority of the participants responded with a score of 1 with all other scores achieving a frequency of 2.

Why have you given this score?

The comments clearly demonstrate that investment and time needs to be made to ensure residents are made aware of how to prepare for a flood or that interventions they put in place could make a difference to properties downhill.

We haven't invested in safety equipment or mitigation schemes that would help us protect our property.

Because we have to be ready (sandbags etc) else we risk being flooded. If the council cleared and maintained the drains in the area regularly it wouldn't be an issue.

I always check forecasts and plan accordingly

Our kitchen and sitting room are both below street level and we will deal with it again if and when it happens.

My road would flood a long time before my house so I would either be stuck or have to leave long before it would flood

No chance of my home flooding due to location on hill so no need to prepare

It's not something I would expect to encounter.

We haven't invested in safety equipment or mitigation schemes that would help us protect our property.

Have no sandbags or methods of diverting water

I feel fairly confident about what to do during a flood

I live in a ground floor flat and no higher level to evacuate to

I have nothing to stop the flood coming into the house

We do not have a flood plan as yet

This survey has provided us with useful information and has assisted in building our volunteer base, however despite being included in our quarterly newsletters via a QR code, we did not receive many responses. The survey was aimed at our main flood risk target areas of Lipson Vale, St Levan, Stoke and Devonport to gain greater insight into the flood knowledge in the neighbourhoods.

Behaviour Change

During phase one we used AI as a behaviour change cyclical model to collect baseline data on flood preparedness and to create campaigns to help change people's mindsets towards flood risk. Out of 184 responses the average flood preparedness score was 2.2 out of 5. (one = not prepared to five = being very prepared.)

The most common themes that emerged were:

- people living on a hill didn't think they would flood
- no concept of the implications of flooding
- flooding is caused by blocked drains – Council issue
- litter and falling leaves block gulleys
- not knowing what to do in the event of a flood

Rather than repeating AI in phase two, we decided to build on the findings and adopt an ABCD approach. With the aim of empowering communities to become more resilient by changing small household behaviours relating to water use and taking action and control as a neighbourhood such the Climate Pioneer Street and Adopt a Drain Campaigns.

Our results show that we have had more volunteers sign up and pledge to take actions that can help to decrease the risk of flooding by slowing the flow on their street.

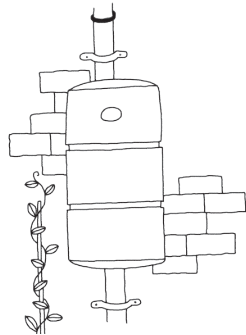
Slow the Flow Pledges

Slow the flow pledges were an optional part of signing up to the Adopt a Drain campaign, where people could also made pledges to change household behaviour – whether it was to slow the flow of water, prevent buildup of fatbergs, or improve water quality. People could make multiple pledges at the same time.

We have received a total of 71 pledges:

7

people are installing water butts



9

people aren't running the washing machine in heavy rain/storms

10



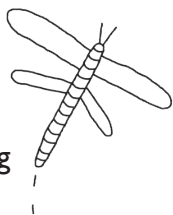
people are turning off the tap when they brush their teeth

9

people are fully loading the washing machine or dishwasher before they put it on

7

people are using eco-friendly cleaning products



9

people aren't pouring oil/fat down the sink



9

people aren't using wet wipes with plastic in them



7

people are reusing pasta water to water plants

Engagement Figures

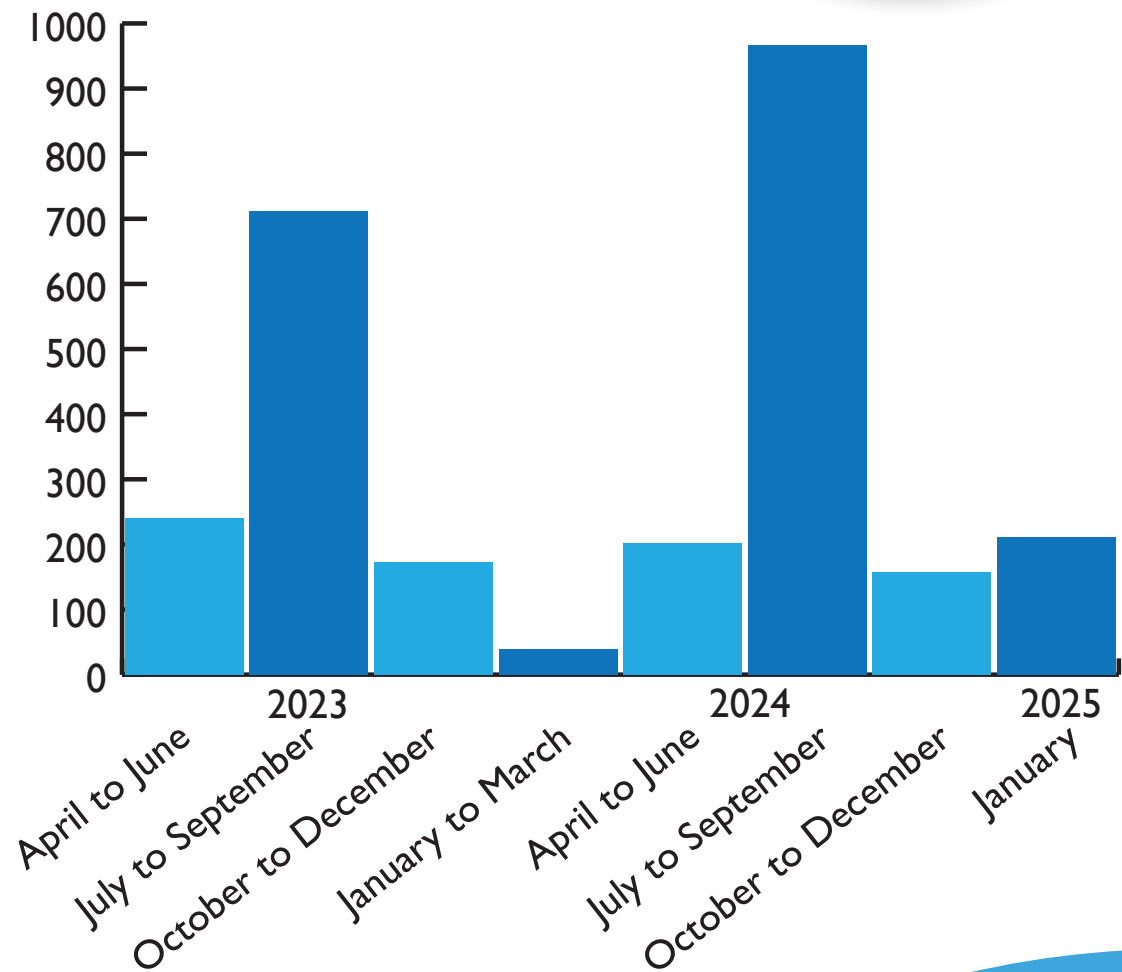
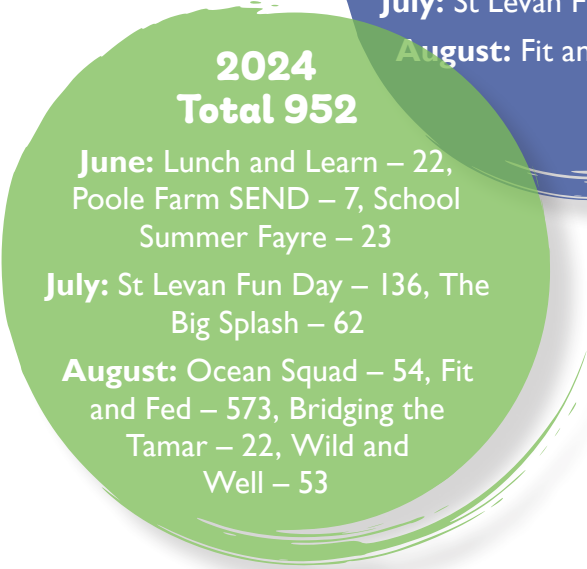
Engagement

We increased our engagement numbers from 2023 to 2024 by 241.

2023 - 1,125 2024 - 1,366

In January 2025 alone we have engaged with 211 people at meetings and workshops. This is 172 more people than in the first quarter of 2024.

The higher engagement figure for 2024 was due to attendance at more diverse events during the summer including a series of targeted workshops at the Ocean Conservation Trust's 'Ocean Squad' and a Wild and Well event at Poole Farm.



Overall Summer total of 2023 and 2024 – 1641

One of our aims was to reach the wider Plymouth population. As can be seen in Figure 52 our engagement area shows a good geographical spread across the city where we held or attended events or workshops. As expected, there are higher concentrations of engagement in our target areas of Lipson Vale and St Levan.

While the map of geographical spread is encouraging, we would like to find ways to increase our engagement in the north of the city and Plympton.

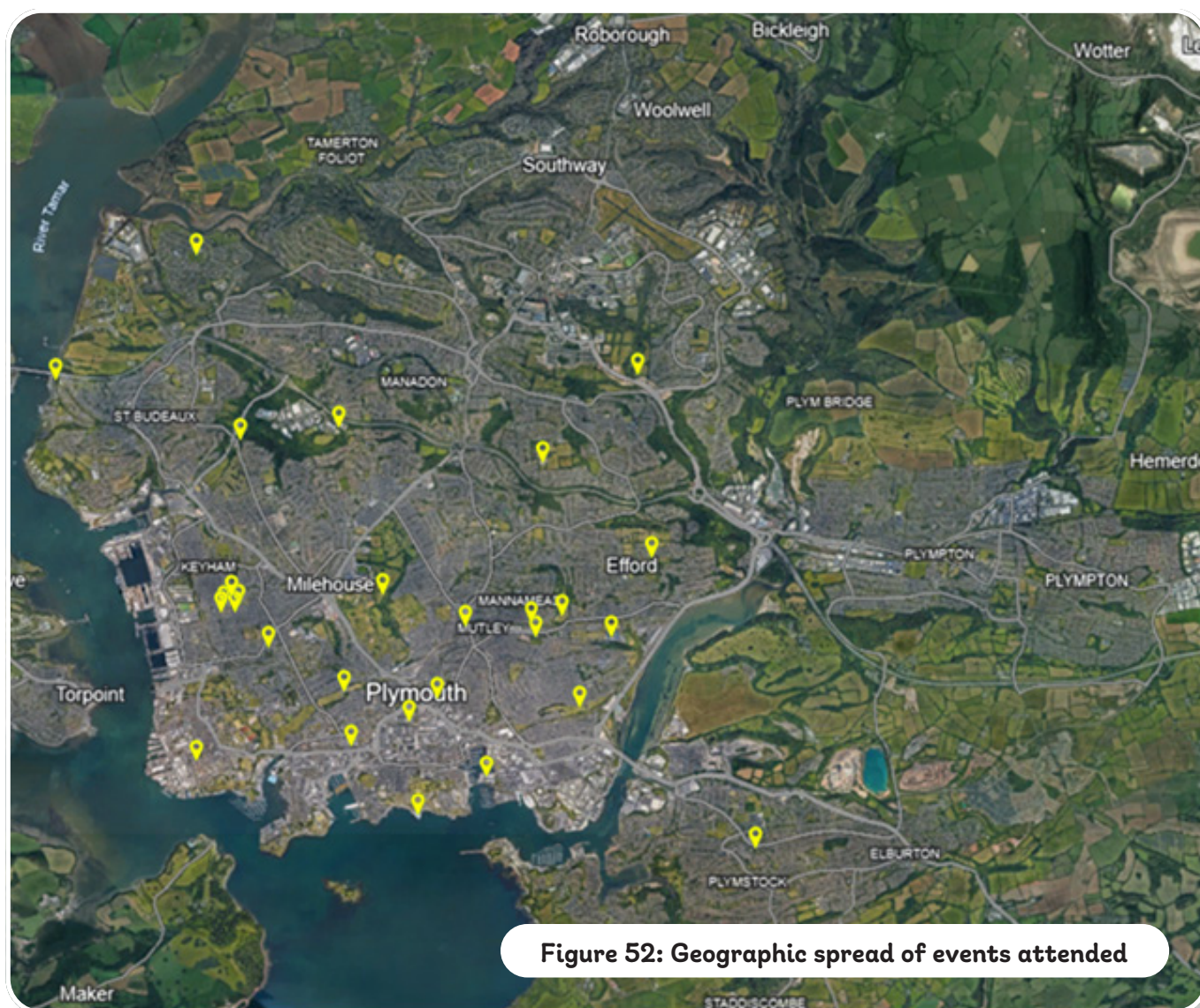


Figure 52: Geographic spread of events attended

Slowing the Flow Booklet

The interest in our Slowing the Flow Booklet has been higher than expected with the initial 50 launch copies flying off the shelf at the CCFF Conference in November 2024 resulting in the team printing another 200 for local events over the winter and another 250 copies for our Raindrop to Flood Exhibition in March 2025.

Educational establishments

Schools

We have engaged with local schools both through holding a Year 10 careers talk in May 2023 to 207 secondary school students and running two flood awareness workshops to 61 Key Stage Two pupils in April 2024.

University

We co-delivered a project management module with two study groups at the University of Plymouth Business School

Cohort 1 – 10 students

Cohort 2 – 13 students

Online stats

110 followers on **Instagram**, with 693 likes across 131 posts

31 followers on **Facebook**, with 174 likes across 137 posts

157 followers on **LinkedIn**, with 483 likes across 135 posts

Number of badges/certificates awarded to children after an activity

273 certificates and 487 badges

Digital badges

CFR – 6 participants

Adopt a Drain – 12 participants

Public Information Sessions for Capital Project

Trefusis Park – 16

Primary School – 4

Trefusis Park – 18



RECOMMENDATIONS AND LEARNINGS

Recommendations and Learnings

- It is important to find community champions in a neighbourhood to help promote activities and campaigns. Community Champions can be individuals or groups such as Neighbourhood Watch Teams or 'Friends of' Groups.
- It is important to 'work with' and not 'do to' a community. Residents, neighbourhoods and communities are assets and can apply energy and great ideas when given the time and opportunity.
- Communication isn't a 'one size fits all' model. As a guide, we particularly like the CSCCE Participatory Model which is attributed to the Centre of Scientific Collaboration and Community Engagement. Following this model can ensure that many methods of communication are used – from in person events to encourage collaboration, to distributing newsletters which can inform and inspire, to posting on social media for a wider audience.
- Embed tried and tested engagement models into practice, such as the ABCD model, and create engagement toolkits from them using tools such as AI and Asset Mapping.
- Create child friendly activities. School children are likely to go and share what they've been doing with parents, carers and grandparents etc. especially if they have received a certificate of recognition. Involving children in activities they can become absorbed in during events, allows adults time to talk and makes them a 'captive audience'.
- Design workshops to encourage participation through discussion and activity.
- Creative activities can break down barriers and are accessible for a large range of audiences.
- Create campaigns that are both small scale and focused

to reach localised neighbourhoods, and broad and mobile to engage a wider audience.

- Take risks and say yes to opportunities even if they appear outside the scope of the project. The best collaborations can come from 'not playing it safe'.
- Create a clear brand identity that runs through all communications making it easy for engaged audiences to recognise when a relevant message is being broadcast. If it is eye catching even unengaged people may be drawn to the brand if exposed to it on a regular basis.
- Work in collaboration with other projects and internal teams to reach other engaged audiences.
- Engage via gateway organisations who may have better access to your target audiences.
- Make incentives part of activities and campaigns such as certificates, metal or cloth badges, free water butts, booklets, Digital Badges.
- Provide refreshments at events – a cuppa and cake can go a long way to helping build rapport.
- Be creative, try new things – if they don't work, don't worry, just tweak and learn from them.

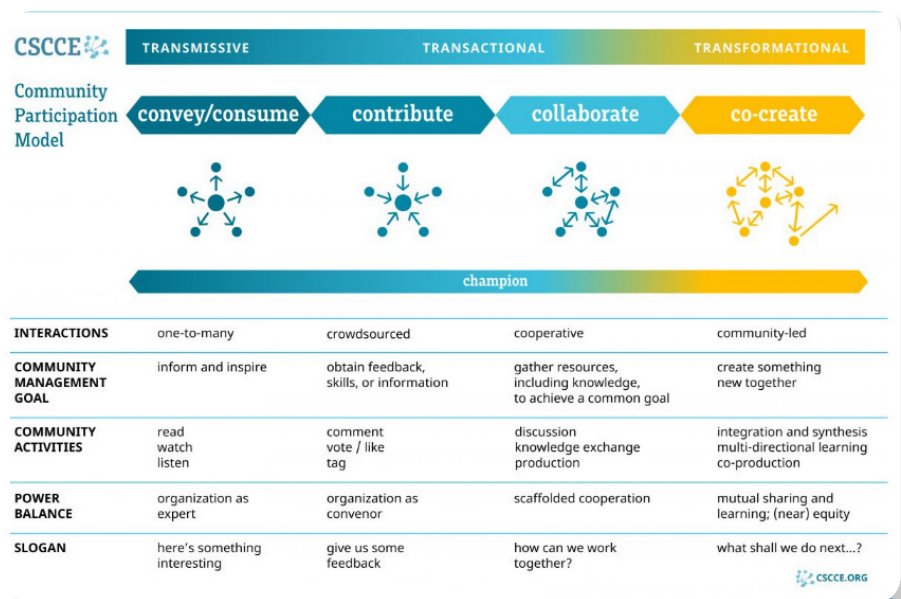


Figure 53: CSCCE Participatory Model



ACRONYMS

ABCD	Asset Based Community Development
AI	Appreciative Inquiry
BRIC	Building Resilience in Communities
CCFF	Cornwall Community Flood Forum
CFR	Community Flood Responder
CIC	Community Interest Company
CPSC	Climate Pioneer Street Campaign
DCRF	Devon Community Resilience Forum
DCT	Devon Communities Together
DRIP	Devon Resilience Innovation Project
EA	Environment Agency
EDG	Engineering Design Group
FCIP	Flood and Coastal Innovation Programme
LLFA	Lead Local Flood Authority
RMA	Risk Management Authority
SuDS	Sustainable Drainage Systems
SWW	South West Water Services Limited
TCP	Tamar Catchment Partnership
WRT	Westcountry Rivers Trust

GLOSSARY

Term	Definition
Adaptation	Action taken to adjust to natural events, reduce damage, limit impacts, or cope with climate change
Climate change	A long-term change in average temperature and weather patterns
Coastal flooding	Happens due to several factors such as high tides, extreme weather, storms and large waves. When tides are high, it requires less extreme weather to cause flooding than when tides are low
Combined sewer	These transport sewage from homes and industry as well as surface water runoff from gutters, drains and highways
Flash flooding	Happens very quickly when rain falls on dry land or hard surfaces. It tends to happen with little to no warning
Flooding	The temporary overflowing of water onto an area of land which is usually dry
Flood risk	How often or likely a flood will happen in an area and what the consequences of one would be if it did
Lead Local Flood Authority (LLFA)	Oversee the flood risk management strategy, this could be a unitary authority or district council
Mitigation	Actions taken to reduce the risk to life and property from natural hazards
Monitoring	Recording of physical changes to help predict when and where a natural hazard may happen
Natural Flood Management (NFM)	A practice to help reduce flood risk. It complements other flood risk management approaches and involves working across the landscape to protect, restore or mimic the natural hydrological processes that occur. These include increasing infiltration of water; slowing the flow of water across the landscape, storing water and holding back sediment
Nature-based solutions (NBS)	Actions to protect, sustainably manage, improve and restore natural or modified ecosystems, that address societal challenges effectively and adaptively, simultaneously providing human wellbeing and biodiversity benefits
Pluvial flooding	Another way of saying surface water flooding
Preparedness	Steps that can be taken before a flood including: understanding your flood risk, create a flood plan and make a grab bag, follow government advice and move vehicles to higher ground
Property Flood Resilience (PFR)	Changes that homeowners can make to their property so that if it floods, less damage is caused, and homeowners can recover faster
Rain gardens	Planted areas which can receive runoff in urban areas and absorb rainwater
Recover	Returning back to normality after a flood, including cleaning and drying properties and to check for health risks as a result of a flood
Resilience	The ability of an individual, community or system to recover from flooding

Risk Management Authorities (RMAs)	These are the Lead Local Flood Authority, Environment Agency, and the local water company
Runoff	Excess water that land cannot absorb. Instead, it flows over hard surfaces
Social innovation	Developing and implementing new solutions to systemic and complex social and environmental issues. These solutions are more effective, just, and sustainable than existing solutions
Surface water flooding	Happens as a result of heavy and intense rainfall leading to the build-up of water, called standing water or flooding, in areas that are not normally wet. Surface water flooding can happen anywhere at any time
Sustainable Drainage Systems (SuDS)	Engineered ways to capture rainfall in a similar way to nature. They stop water from adding to the surface water or entering drains
Tide-locked	When raised sea level stops water draining out to sea
Urbanisation	The process of people moving to towns and cities instead of rural areas
Vulnerability	A measure of how likely someone or something is to suffer long-term damage as a result of flooding





Empowering Communities – A resource for resilience practitioners
Published by Plymouth City Council
March 2025

CONTACT

BRIC Team, Environmental Planning
Plymouth City Council, Plymouth PL1 3BJ
Tel: 01752 398393



Devon Resilience
Innovation Project

