FINAL REPORT
for
CREATIVE IRELAND
JANUARY 2023

Ripple

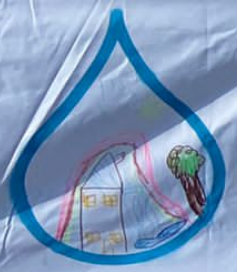**Contents**

Appendices

1. Executive Summary

During 2022, this project worked with a community in Ballina, to understand, map and record their experience, perspectives, and knowledge about their neighbourhood green spaces, in relation to water and climate change. Using a co-design process, over six workshops, residents shared their insights, aspirations and hopes for their neighbourhood, and jointly co-designed 16 potential projects to improve the movement of water, biodiversity, and amenity value of parts of the estate. They voted for their favourite design - The Paradise Garden - a haven for wildlife, nature, and people, that reimagined a part of the estate that was identified as damp but full of potential to become a climate resilient and inclusive amenity.

Nature based Landscape Architect Roisin Byrne worked with the Ripple team and the residents to develop the design. The Paradise Garden concept has changing water events and altruistic action for nature at its heart. The garden and the co-design methodology of the project is the origin of a ripple effect extending outwards from Greenhills to the broader community. The garden includes raised vegetable beds, a mini orchard of heritage apple trees, seating, native pollinator plants, and a tree nursery. Water is gathered and directed into a rain garden, slowing the flow of heavy rain, and allowing rain tolerant planting to absorb some of the water.

During the year connections were made between the Greenhills residents and the Karen Community Garden in Ballina, who kindly shared their knowledge, experience and plants with the core group who will look after the Paradise Garden. Ecologist Martin McGarrigle also led a workshop looking at water health of the River Brusna, which runs alongside the estate. Eels, shrimps and many more creatures were in abundance.

The project concluded by mapping the Ripple Effect – the hope being that the positive impact of being empowered to make local changes in response to changing climate, that are of benefit to the community and to other species and plants – ripples out, creates connections, and sparks other actions and projects, encouraging everyone to be their own best champion for their neighbourhood, for biodiversity and for climate-resilient shared places.

The Ripple Team would like to thank the residents of Greenhills Estate in Ballina for their hospitality, energy, and generous input throughout the year. Our thanks too, to Mayo County Council for their support and to Saint Muredach's Boys Secondary School for the invaluable use of their Innovation Hub. Kilcross Construction, Shaw's Nursery, ABC of Gardening and Alan Meredith worked tirelessly to build this beautiful public open space.

2. Introduction/Background to the Project

Public green spaces, common in housing estates throughout Ireland, represent a significant untapped resource for climate action, through their potential transformation as water resilient, productive, and socially cohesive public space.

In 2020 Ballina town in Co. Mayo, began a campaign to become Ireland's Greenest Town by 2025. As part of this ambition, the Ballina Greenest Town initiative – coordinated by partners on the project Mark Duffy and Kevin Loftus – initiated a series of engaged research projects. Ballina Greenest Town connected with the UCD Centre for Irish Towns to identify potential engaged research projects that could combine the aims of Ballina Green Town and the Centre for Irish Towns. The Creative Ireland Climate Action Call offered an opportunity to seek support to develop and trial a collaborative place-based approach to climate resilient green space in towns, and to work with a local community in Ballina to demonstrate the benefits of inclusive co-design in supporting local action-based climate action. One of the core tenets of climate resilience is to "leave no person or place behind" and the research team were keen to trial the approach with a community that had faced socio-economic challenges and to see if a model of respectful support, listening and engagement could be developed that would generate a positive ripple-effect. The aim was to see if this approach, if successful might evolve a set of tools that could be scaled up and out for application in other similar communities and towns in Ireland. UCD Centre for Irish Towns was the lead applicant to the first round of the Creative Ireland Climate Action Fund with the project called Ripple: Making connections between water and climate action in our towns.

The overall project aims were to co-create and test a creative and engaged approach to the design of climate resilient green space, involving residents, artists, and academics; and to explore how this could be scaled up and out to communities across Ireland, to change not just the physical and environmental character, but also the social and cultural values of these spaces, through collaborative placemaking.

The project had 5 key stages:

Stage 0 – involved the project set up, the engagement with a potential community and place; the recruitment of a Project Coordinator; graphic design of the project; project set up within UCD Research and UCD Finance. Ethical approval was also sought for Stage 1 during this phase. Greenhills Estate in Ballina was identified as a potential community and initial meetings were held to gauge interest and support with representatives of the Residents Association and the Biodiversity Group. Liaison with St Muredach's school also established a supportive connection,

which facilitated the use of the Innovation Hub as a base for Ripple during the project. Sourcing of materials for the outdoor workshops including gazebos, worktables, chairs, etc. were carried out.

Stage 1 – Storytelling.
This stage involved 2 key actions. The first was an initial Household Questionnaire, a physical questionnaire issued to every household in Greenhills Estate. This recorded baseline quantitative and qualitative data from the 200 households about attitudes to both climate action and water.
In February 2022, the team held the first on-site workshop – Storymapping – in which residents were invited to add their stories, feelings, perspectives about places in Greenhills to a collective map. The results from the Questionnaire and the mapping workshop were then combined into an illustrated map and issued to all households, with an invitation to attend the next Co-Design workshop event. Full Ethical approval for Stage 2 was also sought during this phase.

Stage 2 – Co-Design
This stage involved three on-site workshops, in March, May and July, the purpose of which were to collaboratively design climate resilient ideas related to water and the common green spaces in Greenhills Estate. The first co-design workshop in March generated 16 different ideas with residents of all ages. The focus of the next event in May was to narrow down these 16 ideas. Residents were invited to vote for the favourite top five ideas and to discuss their hopes or concerns. The two top favourite ideas were further discussed in the third workshop in July in which these ideas were staked out on the ground to scale and further discussed and refined. One favored idea emerged from this process: The Paradise Garden, located in an area identified as prone to water logging, at the east end of Greenhills. During this stage, the team appointed Roisin Byrne Landscape Architect, to advise on and develop the ideas. On-site sampling of water quality in the river, and soil moisture content and soil type was conducted with the residents.

Stage 3 - Making
Stage 3 of the Ripple Project involved detailing the Paradise Garden and appointing contractors to make and install it. Mayo County Council advised on services and gave input on future maintenance of the design. The Ripple team discussed the developed design with the residents during the Greenhills Community Day, staked it out on the ground, and hosted an ecology workshop related to the River Brusna with ecologist Martin McGarrigle. As the works progressed on site during October and November, residents were invited to a planting workshop, with discussions of plant care and future maintenance of the garden. The Karen Community Garden also kindly facilitated a garden visit to share knowledge (and plants!) with the Greenhills Biodiversity Group.

Stage 4 Evaluation

The focus of Phase 4 was to **evaluate the impact** of the Ripple Project with the residents in Greenhills Estate in Ballina using two methods. A concluding Household Questionnaire was issued to all residents, and a dedicated workshop used a Ripple Effect Mapping technique to discuss, understand and document what was achieved, how residents were engaged and what impacts of the project flow from it.
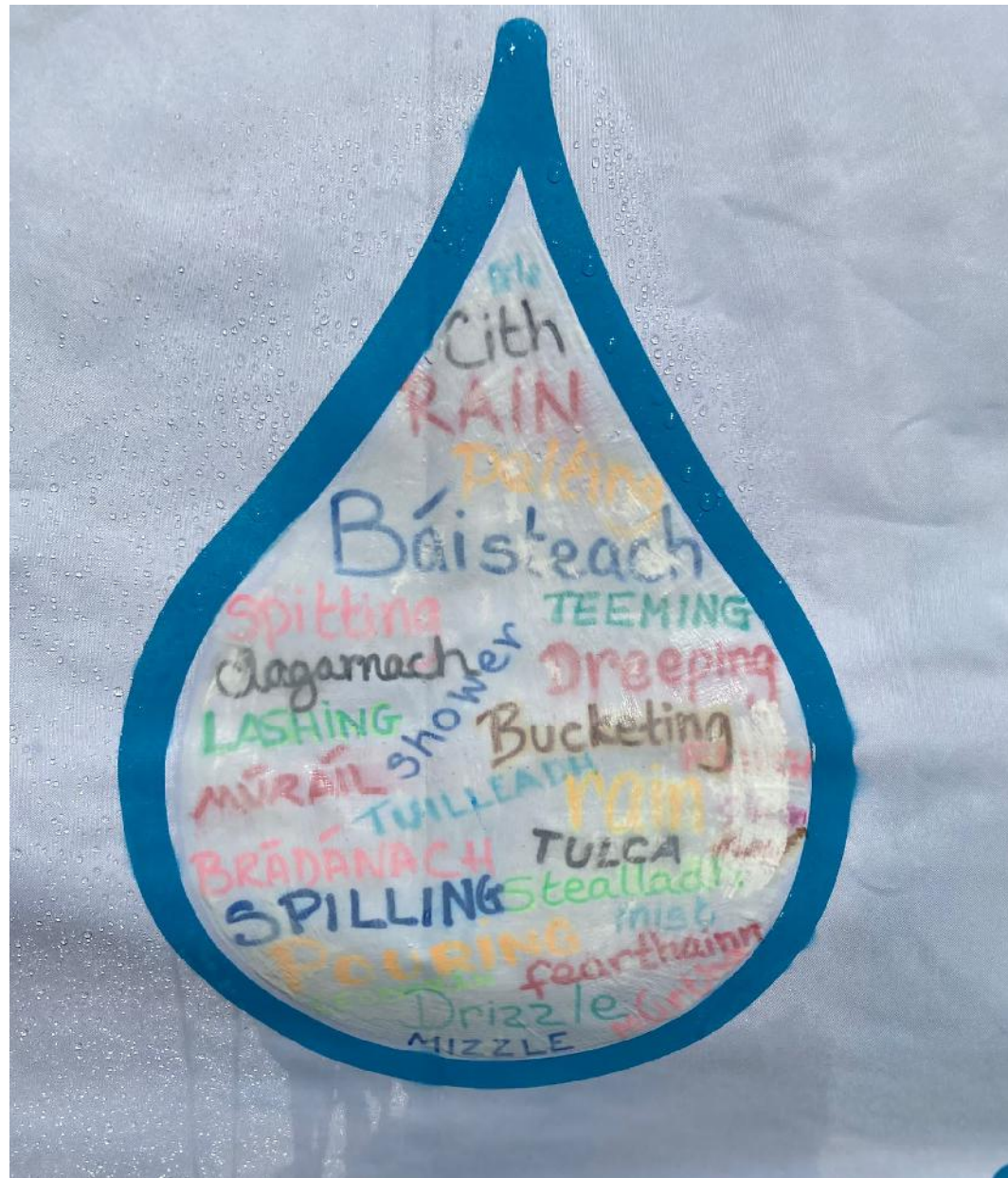
3. Outline of Team and Key Participants

The core team involved in Ripple are:

UCD Centre for Irish Towns:
Orla Murphy, Assistant Professor, UCD School of Architecture, Planning and Environmental Policy, Ripple Lead Investigator, and co-director of UCD Centre for Irish Towns
Dr Sarah Cotterill, Assistant Professor, UCD School of Civil Engineering
Dr Philip Crowe, Assistant Professor, UCD School of Architecture, Planning and Environmental Policy & School of Civil Engineering and co-director of UCD Centre for Irish Towns
Rebecca O'Malley, Ripple Project Coordinator, UCD School of Architecture, Planning and Environmental Policy.

Ballina Green Towns
Mark Duffy, Mayo County Council, and co-founder of Ballina Green Town.
Kevin Loftus, architect and co-founder of ACT Studio, co-founder of Ballina Green Town.

Ríonach Ní Néill, artist and creative practitioner with over 20-years experience in socially engaged arts practice and community education.

Key Partners and Participants:
Residents of Greenhills estate Ballina, especially the Residents Association and Biodiversity Group
St Muredach's Boys Secondary School, Ballina
Karen Community Garden, Ballina,
Mayo County Council
Roisin Byrne, Landscape Architect
Martin McGarrigle, Ecologist, and educator
Kilcross Construction
ABC of Gardening
Shaw's Nursery
Alan Meredith Joinery

4. Key Outcomes and Outputs

Key Outcomes:

1. **A tangible climate resilient action co-designed and co-created by the local community in Greenhills.** The Paradise Garden is a beautiful, climate resilient garden designed by, for and with the residents of Greenhills. The garden includes a rain garden, tree nursery, heritage apple orchard, fruit bushes, 2 raised vegetable beds, seating, and nature-based play elements.

2. A total of **16 potential projects** were collaboratively imagined by residents that could improve green space, water, and climate resilience, collated and presented as an Ideas map.

3. Baseline **Data Collection about attitudes to water and climate change** was gathered via 2 Household Questionnaires and concluding Household questionnaire. Results analysed and communicated to residents.

4. Documentation of **Stories, Knowledge and Experience** of neighbourhood green space and water collated and presented as a Storymap.

5. **Meaningful connection was made with the residents of Greenhills** through 6 workshops, 2 no household questionnaires, 7 household letters and documents; on site staking out of the chosen design, measurement of water quality and quantity; final Ripple Effect Mapping evaluation exercise

6. **Community Connections** made throughout the project with St Muredach's School, the Karen Community Garden and Mayo Co Co.

7. Ripple demonstrated how **engineering, architecture and creative art practice** can combine to achieve more than the sum of their parts. The combination of approaches and skills was vital to its success. The combination of engineering, architecture and creative arts practice brought science, spatial understanding and visual creativity together in a tangible way. This collaboration demonstrated the potential of trans-disciplinary research and action to have a positive impact on the revitalisation of Irish towns and the transition to a low carbon society.

8. **The project developed a collaborative process and tools which are scaleable** for similar engagement projects related to community-based actions climate resilience in neighbourhood green spaces. See chapter 5 below.

9. Ripple facilitated meaningful **local communities with climate change** through the medium and theme of water systems. We engaged with over 500 residents and over 200 people actively engaged with the events across the year. The project inspired a broad section of the community who might not normally get involved with addressing climate change issues to constructively engage.

10. **Intergenerational connections** were made through workshops designed for people of different age groups and outlooks.

11. **The project explored the potential of water as a point of connection with climate change** and transformed this connection into tangible actions – the Paradise Garden and 15 other potential ideas – and helped to facilitate system, lifestyle and behaviour/attitudinal changes in local communities.

12. **Climate Championing.** Through the Ripple project, individuals from a broad cross-section of the community were encouraged to transition, for example from opposition or ambivalence to observer or bystander to participant or activist. The Ripple Effect Mapping and Closing Household Questionnaire demonstrate that this was achieved.

13. Ripple helped to provide a greater **Understanding of how water has shaped a place physically, socially, culturally and ecologically over time through shared historie**s. This was particularly evident through the Water Ecology workshop with Martin McGarrigle as part of the Community Day. We also shared historical photographs of the River Brusna with residents, which helped spark stories and memories.

14. **The project inspired a broad cross-section of the community** who might not normally get involved with addressing climate change issues to constructively engage. The variety of ways to get involved with the project was appreciated by residents and noted in the evaluation feedback.

Key Outputs:

1. We wrote an **Ecocode** for the Project – see appendix I

2. We liaised with and canvased communities in Ballina to identify a neighbourhood to work with on the project.

3. We designed, produced, and carried out six on site participatory workshops

4. We designed and tested bespoke tools and processes for gathering input including prompt cubes, symbols, and prompt stickers, voting sheets – see chapter 5.

5. We wrote and distributed seven household letters to all residents in Greenhills

6. We designed and made a 3D model of Greenhills estate to demonstrate water movement, topography, and relation to the River Brusna – see appendix II

7. We adapted Interactive gazebos painted with hydrochromic paint on to which children drew their ideas. Facilitated by Ríonach Ní Néill.

8. We gathered the collected input from residents into an illustrated Storymap and issued it to all households – see appendix III

9. We gathered a longlist of 16 ideas relating to water and green space in Greenhills which we made into an illustrated map and issued a copy of this to all households – see appendix IV

10. We held regular updates and meetings with Mayo Co Co – 2 online, 4 on site.

11. We hosted and organized an Interactive workshop on water quality and river biodiversity – see key images

12. We hosted and organized a Garden visit to Karen Community Garden – see key images

13. We facilitated Citizen Data gathering through water sampling, soil moisture and soil character on site assessments, and shared the results with all households - see chapter 5.

14. We sought and achieved Full Ethical Approval for all engagement processes and events from the UCD Human Research Ethics Committee.

15. We carried out detailed Evaluation through Ripple Effect mapping exercise – see evaluation chapter

16. We circulated Introductory and closing Household Questionnaires and gathered feedback from them– see evaluation chapter

17. We designed Tools and Process that are scaleable for future roll out to other neighbourhoods – see chapter five below

Dates of Key On-Site Workshops

Storymapping 27th February 2022
OM SC PC MD ROM RNN KL
Collection and mapping of stories and experience of green space and water.
Questionnaire collection and analysis of responses
Followed by generation of Storymap – and circulation of this to all residents

Co-Design I – 27th March 2022
OM MD SC PC RNN ROM
Generation of long list of ideas and places where they might happen.
Generation of Ideas Map showing 16 ideas co-designed by the community

Co-Design II – 14th May 2022
OM OC SC RNN MD ROM KL
Voting on Long List Ideas – Collected voting sheets, live voting of favourite ideas

Co-Design III – 3rd July 2022
OM, SC, PC, KL, RNN, ROM + Roisin Byrne, Mary and Khiusha from UCD MAUCA.
On the ground staking out and discussion of 2 top voted designs with residents
Citizen data sampling of soil and water.

Making I – Community Day – 6th August 2022
Ripple took part in the Community Day in Greenhills, organised by the Residents Association and Biodiversity Group.
The garden design was staked out and discussed with the residents, and Martin McGarrigle hosted a Water Ecology
workshop, exploring samples of the water in the River Brusna for evidence of biodiversity and water health.

Project On Site Installation – Kilcross Construction started the garden installation on site

Making II and Evaluation Workshop – 6th November 2022
Ripple Effect Mapping Exercise and Planting in the Paradise Garden with closing Household Questionnaire
OM, SC, ROM, RNN, MD, KL + Roisin Byrne

5. Public Engagement Processes and Tools – how to scale up and scale out this approach

The following table highlights the key steps in the process and key tools that we used in the Ripple Project.
These can be tailored to the community, the challenge, and to the place as is needed. While Ripple had a focus on water and green space, the process could also be adapted to engage communities with climate change in different contexts, such as biodiversity, nature-based solutions, inter-generational design, and others.

The process followed a sequence that was based on building upon existing knowledge, perspectives, and experience of those who know and appreciate their neighbourhood for its strengths but who also understand its weaknesses. Fundamental to this approach is to begin by listening, asking good questions, and not to arrive with assumptions or ready-made solutions.

The potential to empower local communities is based on trust, and on valuing their knowledge of what is needed, and equally and very importantly, what they do not want. We found that it was important to build on existing relationships and to ask to be invited in to work with them – for example the Residents Association and the Biodiversity Group were core to the success of the project. The support of the Local Authority throughout the project was also essential, as public green spaces are in the care of local authorities.

Clear communication at all stages is essential, as is setting out reasonable expectations of all parties.

The table below sets out the steps, processes, and tools that we developed in a format that could be scaled up and scaled out for similar projects and in similar neighbourhoods throughout the country.

Stage	Process	Tools/Tips
1. **Project Set Up**	- Canvas neighbourhoods to scope out interest in becoming involved; - Identify neighbourhoods with at least one existing active community group - Respectfully connect with Residents Associations, Biodiversity groups, etc. - Explain the process and ask to be invited in; - Communicate openly and clearly with everyone mindful of different preferences and abilities; - Establish a multi-disciplinary team: Build in Local Authority partnership and look to partner with local schools, community gardens, Menssheds and other groups. - Connect with the Local Authority representatives and update them regularly on the progress. Invite them to the workshops and facilitate connections with community representatives if they request this. - Connect with CARO, LAWPRO and Climate Officers who may like to get involved and support the project. - Establish where you will host events and how to share information – will they be outside in a safe, but sheltered place? Will you distribute flyers to all residents to keep them updated? Do you need gazebos, tables, chairs, whiteboards? If so source these – reuse where possible.	- Road test each step of the process to ensure it is clear and inclusive. We had support from UCD Research Ethics, but you might also invite a critical friend from outside the project team to look for possible points of exclusion and work to remove any barriers; - Plan out each event clearly stating the aims, objectives, roles, times, set up and demount; - Ensure Information and Consent is sought from all participants; - Set up GDPR Protocols and a Health and Safety Plan for the Project; - Commission a clear graphic language for the duration of the project to ensure that communications are easy to identify and recognizable with the project. Legibility is important; - Take extra care to ensure young people, older people and those with any special needs are considered and that appropriate protections for vulnerable people are in place; - Write a simple eco-code for the project; - At each stage offer a symbol of thanks to all participants – this might just be a warm drink, ice cream or packet of seeds.
2. **Storytelling**	- Begin with a blank canvas, curiosity and good questions; - Invite everyone and give plenty of notice;	Draft a map of the neighbourhood at a clear scale – A0 or A1

	• Ask about daily routines, where people walk, what animals or birds they see, how the seasons affect activities or qualities; • Ask about the qualities and strengths of the neighbourhood; • Ask about flooding, potholes, soggy areas, puddles, trees that shelter, windy places, sunny places, places people love or hate; • What are the reasons for strong feelings towards a place? • What memories do older people have of places, rituals or customs in the area? • Ask about routes – routes to school, shortcuts, running routes, dog walking routes, paths – or lack of them, destinations; • Listen! • Offer everyone a small thank you; • Collate the input onto a single map and share it with all the households, with the date for the next event.	• Storycube prompts with clear images and text work well to spark memories and stories; • Sticker prompts are easy ways for people to place concise thoughts, experiences of emotions. They are much more wind friendly than post-its, and it is easy to make bespoke ones. • Make notes directly on to the maps – stories, connections, routes, encourage participants to do this too; • Encourage participants to make drawings – children may like to contribute in this way. We asked them to draw onto our gazebo in our special raindrop rain paint frames which we covered over in hydrochromic paint, so that they are become visible when it rains; • Offer of a warm drink as a thank you.
3. Co-Design	• The first stage is to try to gather as many ideas as possible. Different means to gather ideas can be helpful to ensure that people of different ages, abilities, opinions feel included and that their ideas matter; • Use questions that build on the Storymap to tease out ideas that can highlight the strengths of the neighbourhood, or address problems or challenges; • Include all ideas; • Draw them onto the neighbourhood map, add notes and encourage participants to add their own notes and stickers too;	• Draft a map of the neighbourhood at a clear scale – A0 or A1; • Storycube prompts with clear images of possible ideas, solutions, and examples; • Sticker prompts for ideas, actions, users, changes; • Idea sheets showing images of good examples, solutions with concise information on how they work; • Blank drawing sheets for ideas, sketches, notes, thoughts; • Voting ballot sheets with clear infographics;

	• Share examples of solutions in the space to show what can be done, with concise information about the examples. We shared examples of rain gardens bog gardens, no-mow areas, swales, ponds, raised beds, rainwater harvesting, but these can be tailored and adapted; • After the first collection of ideas, map them all onto one drawing and share this with all residents. We gave each idea a short name to easily identify it, e.g. Eco Bus Stop or Paradise Garden; • It is important to state the value of all ideas, and their potential to be developed in the future; • Invite everyone to vote for their favourites (we asked for top 5) and one veto. Circulate a polling sheet and collect votes; • Notify everyone of the results and invite to a third co-design workshop to develop the top two favourite ideas; • This is important as some residents may wish to voice alternative opinions. It also allows for a more detailed setting out of the chosen idea(s); • Use the opportunity to conduct citizen science data gathering. We took water samples and soil moisture samples. Again, results were shared with everyone;	• Voting collection sheet showing participants the voting results; • Data gathering tools – soil sample jars, soil moisture gauge, water sample collection; • Stakes, string, chalk spray to collectively stake out and edit the design on the ground; • Offer of a warm drink as a thank you at each event, or other thank you such as seeds, plants, information on water quality.
4. Making	• Consider events that involve the community with some part of the making of the agreed idea; • This could be staking it out on the ground, involvement of local groups (menssheds etc.), planting workshops, knowledge sharing, visits to	• Planting up of plants to take home and care for; • Physical setting out of the idea on the ground; • Ecology information sheets; • Seasonal planting and care guides;

	built examples, hands on events such as looking at water ecology, or others; • For example, we ran a water ecology event that looked at life in the river Brusna which was very popular and engaged people of all ages; • We also connected the residents with a local community garden to see how they put their ideas into practice;	• Plants such as bulbs, vegetables, flowers, for individuals to take home as well as some to be incorporated in the finished project; • Host an event to formally launch the project and thank everyone involved.
5. Evaluation	• Conduct a Ripple Effect Mapping exercise to tease out in detail how residents engaged with the project, what were their highlights, what forms of involvement they enjoyed, how the project connected with other people, how they see themselves using or engaging with the final project; • We used three boards: one to ask what we achieved, one to ask how we engaged, and the final one to ask how the project rippled out to support broader change; • Conduct a closing Household Questionnaire to gather feedback on learning and actions in relation to climate change and behaviour; • Host an event to formally launch the project and thank everyone involved.	• Ripple Effect Mapping boards; • Household Questionnaire; • Various making tools, including planting guides, pots, bulbs, seeds.

CUBE

bio-swales

water butts

celebrate water

meadows

bog gardens

RIPPLE: Ideas Workshop Cubes
27.03.2022

Ideas and solutions for public green
spaces in Greenhills Estate, Ballina, County Mayo.

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Ripple

Flood	Flood	Puddle	Pothole	Soggy	Marshy	Swim	Swim
Flood	Flood	Puddle	Pothole	Soggy	Marshy	Paddle	Paddle
Puddle	Puddle	Puddle	Pothole	Squishy	Squishy	Splash!	Splash!
Danger!	Danger!	Danger!	Noisy!	Noisy!	Dull	Dull	Dreary
Dreary	Nothing!	Nothing!	Nothing!	BORING	Could be better	Could be better	Could be better
Tree	Tree	Tree	Tree	Meadow	Wildlife!	Wildlife!	Pollinators
Rushes	Rushes	Rushes	Meadow	Meadow	Wildlife!	Wildlife!	Pollinators
Space for kids	Space for kids	Space for teens	Space for girls	Space for all	Lovely as it is	Space for all	Just perfect
Space for kids	Space for kids	Space for teens	Space for boys	Space for all	Lovely as it is	Lovely as it is	Just perfect
Sunny Spot	Path	Path	THERE IS A STORY HERE	THERE IS A STORY HERE	THERE IS A STORY HERE	DRY	DRY
Sunny Spot	Path	Path	THERE IS A STORY HERE	THERE IS A STORY HERE	THERE IS A STORY HERE	DRY	DRY

Water butt	Water butt	Water butt	Water butt	Water butt	Water butt	Water butt	Water butt
Orchard	Orchard	Orchard	Orchard	Orchard	Orchard	Orchard	Orchard
Veg beds	Veg beds	Veg beds	Veg beds	Veg beds	Veg beds	Veg beds	Veg beds
Idea!	Idea!	Idea!	Idea!	Idea!	Idea!	Idea!	Idea!
Idea!	Idea!	Idea!	Idea!	Idea!	Idea!	Idea!	Idea!
Tree	Tree	Tree	Tree	Meadow	Tree	Tree	Tree
Meadow	Meadow	Meadow	Meadow	Meadow	Meadow	Meadow	Meadow
Space for kids	Space for kids	Space for teens	Space for girls	Space for all	Fix Me!	Space for all	Fix Me!
Space for kids	Space for kids	Space for teens	Space for boys	Space for all	Fix Me!	Fix Me!	Fix Me!
Riparian Buffer	Riparian Buffer	Riparian Buffer	Riparian Buffer	Water Sculpture	Water Sculpture	Water Sculpture	Water Sculpture
Stepping Stones	Stepping Stones	Stepping Stones	Seat	Seat	Seat	Seat	Seat

Ripple

Making Connections between Water and Climate Change in our Towns

HOUSEHOLD QUESTIONNAIRE

This questionnaire is circulated to all residents in Greenhills Estate in Ballina.

We would love if you could take 10 minutes to complete it and we'll arrange to collect it in two weeks time.

What is the Ripple Project?

Ripple is interested in understanding how communities in towns across Ireland can be better supported to take action on climate change, with a focus in this project on water and green spaces in residential areas. Ripple is one of 15 projects funded by Creative Ireland's Climate Action Call. It is jointly lead by researchers in the UCD Centre for Irish Towns and Ballina Greenest Town and supported by the Greenhills Residents Association and biodiversity group. Participation is voluntary and the information collected is anonymous.

For more information about the Ripple project, see page 5 of this questionnaire. Please sign the consent form on Page 6 if you are happy to participate.

Thank you for taking part!

VOTE FOR YOUR TOP 5 FAVOURITE IDEAS

Ripple

1. WELCOME WILLOW
Where: Entrance to Greenhills Estate
What: A willow sculpture that celebrates biodiversity and nature. Possibly a bee or a butterfly.
VOTE

2. TREE-LINED STREET
Where: Along the entrance road into Greenhills Estate
What: Remove tree stumps and replant with suitable native trees. Consider fruit or nut trees and replanted grass verges.
VOTE

3: CHILD FRIENDLY WATER PLAY GARDEN
Where: The Small Green
What: A child-centred play space featuring water and colour as echoed in the lovely drawings made by local children on our Ripple pop up workshop hub.
VOTE

4: ECO BUS STOP
Where: adjacent to the pull in area where the school bus picks up children
What: A willow or green roofed bus stop to provide some shelter for kids waiting for the school bus.
VOTE

5: MIDDLE MEADOW
Where: Large Green
What: A native wildflower meadow with paths mowed through it. Might also include a willow butterfly or growing willow hedges.
VOTE

6: HERBY RAIN GARDEN
Where: Large Green
What: A rain garden planted up with lots of herbs for neighbours to easily access and enjoy.
VOTE

7: RIPPLE MURAL WALL & GARDEN
Where: Faded mural and adjacent grassy area
What: A new community mural telling the story of water, biodiversity and water in Greenhills, under-planted with bulbs & flowers
VOTE

8: ANYONE FOR VEG?
Where: Grassy area in front of the Tennis Courts
What: Raised vegetable beds to improve soil, drainage and provide food in front of the tennis courts.
VOTE

9: HEDGEHOG HIGHWAY
Where: The laneways connecting north and south of the estate and down to the river.
What: A biodiverse route of protected paths, with hedgehog boxes, insect hotels, signs and planting.
VOTE

10: GREEN LANES
Where: Identified places in the Greenhills Laneways
What: Bioswales and rain gardens dispersed throughout the laneways.
VOTE

11: RIVER BANK TREES
Where: Along the bank of the Brusna river
What: Native tree planting including Weeping Willow, Fruit Trees, Strawberry Trees as a riparian buffer along the river.
VOTE

12: MEADOW BANK
Where: The steep bank in the Caltra/Big Park
What: No mow policy, and native wildflower planting all along the steep hill
VOTE

13. GREENHILLS WATER TRAIL
Where: Throughout Greenhills
What: A signposted trail throughout Greenhills, connecting all the actions by the Residents Association, Biodiversity Group and Ripple. This could link to the Mural Wall.
VOTE

14. RAINWATER COLLECTION CHAMPIONS
Where: Individual houses in Greenhills
What: Rainwater butts connected to roof downpipes to relieve the drainage system & provide water to residents for their personal use.
VOTE

15. LIGHT MY WAY
Where: The River paths and Ball Courts
What: Solar and/or hydro powered lighting to the river paths and ball courts
VOTE

16: PARADISE GARDEN
Where: The west end green space by the river, close to the bridge
What: A community garden including a bog garden, vegetable garden, mini-orchard, picnic spot and composting area. A watery haven for people and nature.
VOTE

Limited impact on water resilience
Moderate impact on water resilience
Positive impact on water resilience
Very positive impact on water resilience

Making Connections between Water and Climate Change in our Towns

INFO SHEET 4: BIO-SWALES

What is a bio-swale ?
A bio-swale is a ditch with vegetation and a porous bottom. The top layer consists of enhanced soil with plants. Below that layer is a layer of gravel, and/or materials with large empty spaces allowing rainwater to drain off. An infiltration pipe is placed below the second layer.

How does it work?
Surface water run off is directed to the bio-swale. In event of heavy rainfall, overflows are added that are connected to the main drains. The bio-swale acts as an above ground drainage system. They can be planted with grasses or with a mix of plants and flowers, to increase biodiversity and can be long connecting green corridors.

What conditions is it suited for?
Bio-swales are most suited for public green areas or roadside verges. They need to be designed to connect with below ground drainage systems. Maintenance is also required, depending on the species of plant cover – grassed bio-swales require mowing for example.

Show us some examples?
.

Making Connections between Water and Climate Change in our Towns

INFO SHEET 8: WATER AS DELIGHT

How can water be used for public enjoyment?
Water can be fun to interact with for people of all ages and abilities. It can also be restful and enjoyable as part of a sensory garden or public space.

How does it work?
This is up to you! You may like to imagine how water movement can be channelled to make sound, to reflect sunlight, to make rainbows, to refill watering cans, to paddle in or step across, or imagine how to make a place just to sit and enjoy water, or to rest and chat.

Show us some examples?

 Ripple   1 ● (red)   2 ● (yellow)   3 ● (green)   4 ● (blue)   5 ● (orange)
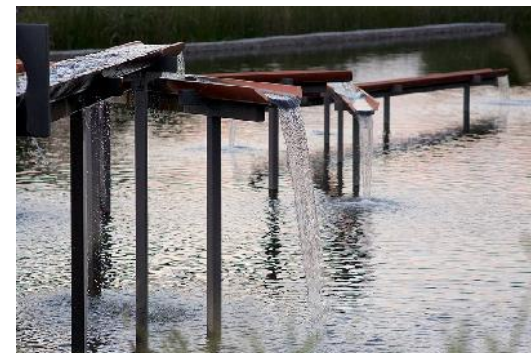
IDEA	IMAGE	COMMENTS	VOTES	IDEA	IMAGE	COMMENTS	VOTES
1. WELCOME WILLOW Where: Entrance to Greenhills Estate What: A willow sculpture that celebrates biodiversity and nature. Possibly a bee or a butterfly.				**9. HEDGEHOG HIGHWAY** Where: The laneways connecting north and south of the estate and down to the river. What: A biodiverse route of protected paths, with hedgehog boxes, insect hotels, signs and planting.			
2. TREE-LINED STREET Where: Along the entrance road into Greenhills Estate What: Remove tree stumps and replant with suitable native trees. Consider fruit or nut trees and replanted grass verges.				**10: GREEN LANES** Where: Identified places in the Greenhills Laneways What: Bioswales and rain gardens dispersed throughout the laneways.			
3: CHILD FRIENDLY WATER PLAY GARDEN Where: The Small Green What: A child-centred play space featuring water and colour as echoed in the lovely drawings made by local children on our Ripple pop up workshop hub.				**11: RIVER BANK TREES** Where: Along the bank of the Brusna river What: Native tree planting including Weeping Willow, Fruit Trees, Strawberry Trees as a riparian buffer along the river.			
4: ECO BUS STOP Where: adjacent to the pull in area where the school bus picks up children What: A willow or green roofed bus stop to provide some shelter for kids waiting for the school bus.				**12. MEADOW BANK** Where: The steep bank in the Caltra/Big Park What: No mow policy, and native wildflower planting all along the steep hill			
5: MIDDLE MEADOW Where: Large Green What: A native wildflower meadow with paths mowed through it. Might also include a willow butterfly or growing willow hedges.				**13. GREENHILLS WATER TRAIL** Where: Throughout Greenhills What: A signposted trail through-out Greenhills, connecting all the actions by the Residents Association, Biodiversity Group and Ripple. This could link to the Mural Wall.			
6: HERBY RAIN GARDEN Where: Large Green What: A rain garden planted up with lots of herbs for neigh-bours to easily access and enjoy.				**14. RAINWATER COLLECTION CHAMPIONS** Where: Individual houses in Greenhills What: Rainwater butts connected to roof downpipes to relieve the drainage system & provide water to residents for their personal use.			
7: RIPPLE MURAL WALL & GARDEN Where: Faded mural and adjacent grassy area What: A new community mural telling the story of water, biodiversity and water in Greenhills, under-planted with bulbs & flowers				**15. LIGHT MY WAY** Where: The River paths and Ball Courts What: Solar and/or hydro powered lighting to the river paths and ball courts			
8: ANYONE FOR VEG? Where: Grassy area in front of the Tennis Courts What: Raised vegetable beds to improve soil, drainage and provide food in front of the tennis courts.				**16: PARADISE GARDEN** Where: The west end green space by the river, close to the bridge What: A community garden including a bog garden, vegeta-ble garden, mini-orchard, picnic spot and composting area. A watery haven for people and nature.			

6. Project Evaluation: Household Questionnaire Results & Ripple Effect Mapping
The project and process was evaluated using two methods – Household Questionnaires, and a bespoke Ripple Effect Mapping exercise.

i)   Household Questionnaires
At the outset of the project we issued a Questionnaire to all 205 households in Greenhills estate to understand how concerned residents were with climate change, how empowered they felt to take action, and to understand their relationship with water. The survey revealed that 88% of residents save water at home, that the majority are concerned about climate change, and that 58% felt empowered to take action. In general residents had a positive attitude to rain, and enjoy engaging with water in their neighbourhood.

At the end of the project we issued a second Questionnaire to all households. This showed that over 80% felt more empowered to take action since being involved with the Ripple project. 88% were more informed about climate change after participating in the project. And 81% of respondents plan to take action or make behavioural change after their involvement with the project. The creative aspect was very important to them – with over 80% saying that it made them feel more engaged with the project.

Results from the Ripple Household Questionnaire

Do you worry about Climate Change?
- Yes a lot
- Sometimes
- A little
- Not at all

(35%, 29%, 11%, 23%)

Do you feel your own actions matter in relation to climate change?
- Yes they do!
- Sometimes
- A little
- No not at all

(17%, 17%, 11%, 52%)

In recent yeears have you noticed the following?
- It rains more frequently
- It rains more heavily
- River levels are less predictable
- It rains for longer
- We've had longer dry spells
- I haven't noticed any change

(24%, 24%, 24%, 15%, 6%, 6%)

Do you try to conserve water at home?
- Yes
- No

(88%, 12%)

Do you feel empowered to take action in regard to climate change?
- Yes we do!
- Sometimes
- A little
- Not at all

(19%, 11%, 29%, 29%)

Have you ever experienced a flood or a drought in Greenhills?
- Yes
- No

(27%, 73%)

Have you ever experienced a Boil Water Notice in Greenhills?
- Yes
- No

(44%, 66%)

Do you like the rain?
- I don't mind it
- Yes I love it!
- No I hate it
- I like it sometimes

(50%, 22%, 16%, 11%)

How do you enjoy water in your area?
- I water my garden
- I swim in the sea
- I swim in the river
- I jump in puddles
- I use water to wash my car
- I don't really enjoy water in my area

(16%, 20%, 35%, 13%, 13%, 3%)

Results from the closing Household Questionnaire

Since participating in the Ripple project I am more informed about climate change
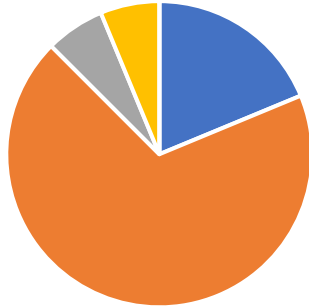
■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Q.3 The creative aspect of the project made me feel more engaged with climate action'
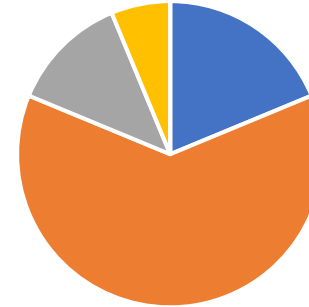
■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Q.2 I feel more empowered to take action related to climate change after attending and/or participation in the Ripple Project
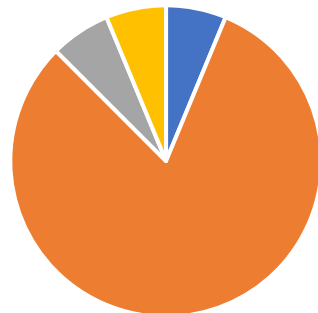
■ Strongly Agree ■ Agree ■ Neutral ■ Disagree ■ Strongly Disagree

Q.4 Do you plan on taking action or making changes to your behaviour or lifestyle after participating in this project'
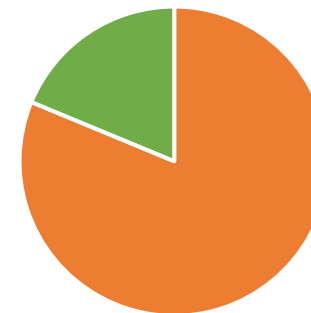
■ Yes ■ No ■ Unsure

Q.5 If you answered yes to Question 4 what area do you plan on taking action.
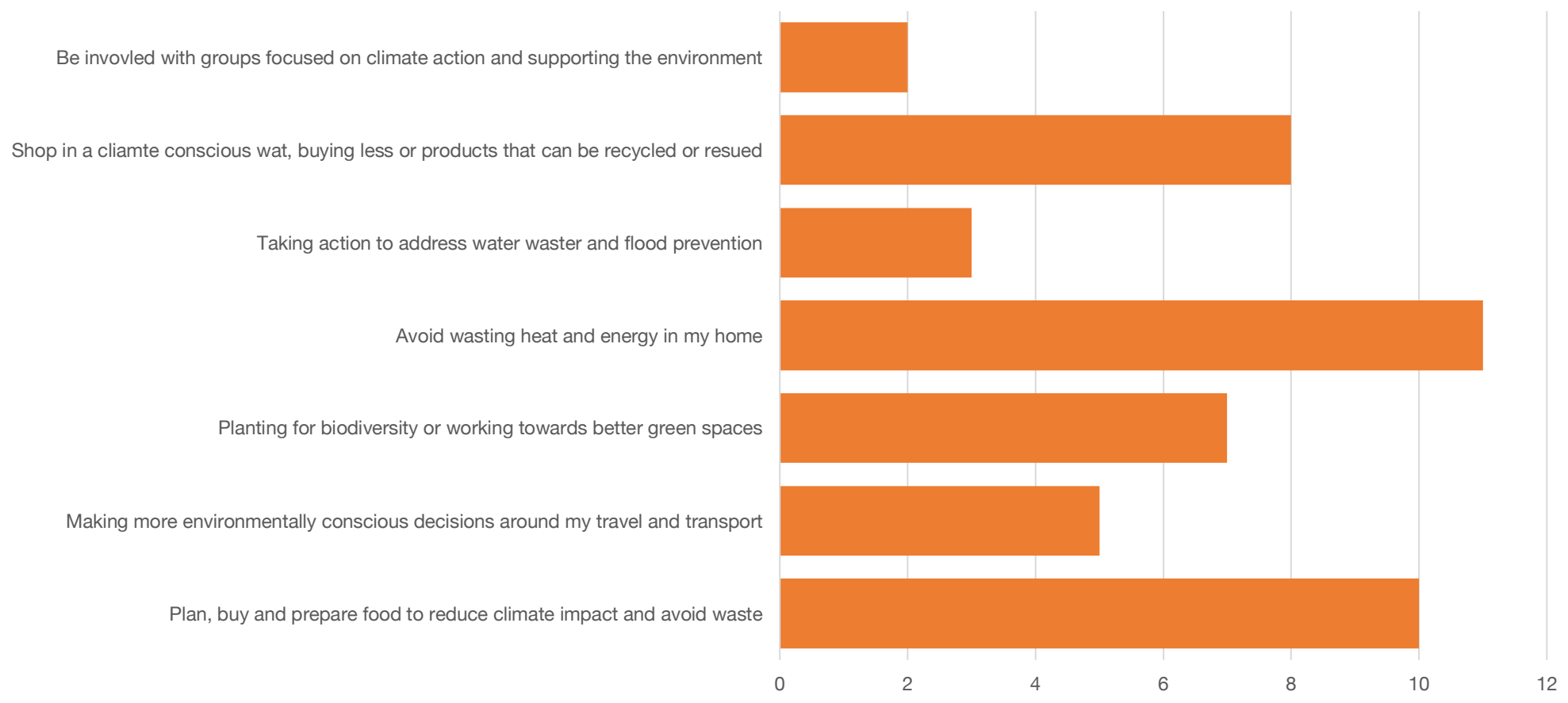
"The Water Survey was great, as certain creatures are only found in water of a certain quality. Pollution or temperature change could damage fragile eco-systems"

"Being shown all the projects and ideas at the start showed us that so much can done for climate change"

i)   Ripple Effect Mapping

The final workshop held in November included 'making' exercises in parallel with an evaluation exercise. We designed a bespoke Ripple Effect Mapping exercise aimed to evaluate a) the achievements of the project; b) how we engaged with participants in the project and c) the impact of the project from and beyond the immediate project, to see how it might "Ripple" out to affect broader change.

Participants were delighted to see the project culminate in a tangible outcome – The Paradise Garden. This allowed them to see the realization of their ambitions for their neighbourhood, and their direct involvement in the design process was seen as empowering. They saw that their actions, energy and commitment could achieve tangible goals.

They reported on the value of the hands-on water-related workshops, which were an enjoyable, engaging and inter-generational way to learn about water, river biodiversity and resource management. They made a direct connection between their own actions to protect their environment and the health and biodiversity of their local waterways.

Residents appreciated the different modes of communication about the project; they appreciated regular updates to every household, and via the information area at the tennis courts. They felt 'listened to' and reported that the voting exercise was a very helpful way to ensure that all voices – both positive and critical – were taken into account in the co-design process.

Participants reported new connections made during the project, but also importantly, continuing on beyond the immediate project and neighbourhood. They see the Paradise Garden as a beginning to be built on, more than a conclusion. They have 15 other ideas to develop and residents are talking about their plans for the garden; other communities in Ballina are interested about implementing a similar approach: and good relationships have been developed between the community and Mayo County Council, the Karen Community Garden and St Muredach's School among others.

As one respondent noted *"All you need is a dream, and you can achieve anything".*
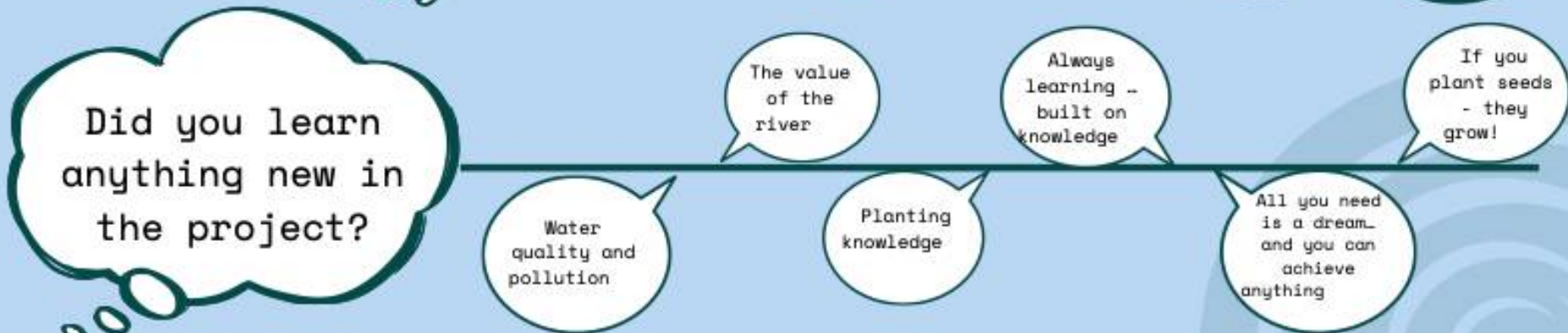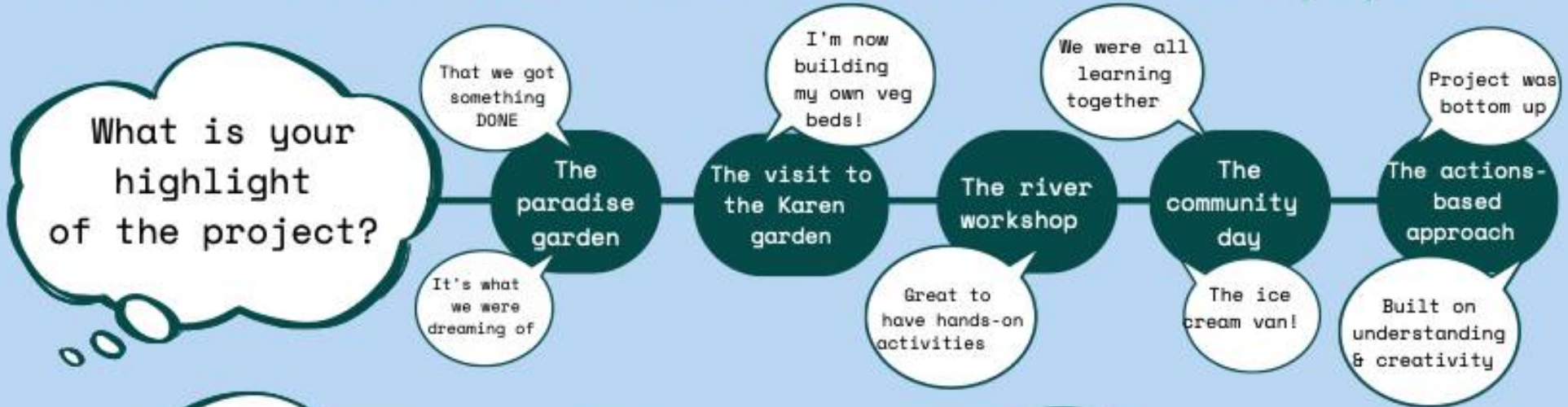
How did we ENGAGE with you?

Non-participatory methods

Participatory methods

A unidirectional flow of information from programme to stakeholder.

A process by which stakeholders are asked for information about their opinions.

Stakeholders are involved in discussions & can influence decisions, but not directly responsible for decision-making.

Stakeholders are fully involved in the project outcomes and are included in the decision-making processes.

Stakeholders are facilitated to lead on decision-making processes and have ownership of project outcomes.

Inform

- Residents felt communication was excellent
- Face-to-face meetings were prefered by those at the workshop
- ...but newsletters & posters helped reach wider community
- One resident noted they weren't sure of the aim at first but letter drops informed
- Door-to-door updates were useful for those that couldn't attend
- WhatsApp/Facebook for biodiversity group & residents assoc helped to get the message out

Consult

- Questionnaires asked residents for feedback
- Residents felt able to share information in mapping activites
- Participants felt listened to in workshop discussions
- People were listened to from the very beginning
- Residents felt happy to come and ask questions
- Residents could share their opinions in multiple ways: face to face and anonymously

Involve

- Gathered ideas through meetings
- Used brainstorming to collect everyone's ideas
- Residents were involved in the location choice as well as design ideas
- ... this helped to avoid division in the estate over where the idea would be implemented
- Local knowledge, stories & photos were shared to help inform design
- The design ultimately reflected the input from residents

Collaborate

- Residents felt their comments & concerns were taken into account
- Designs were revised to reflect residents concerns...
- ...regarding children & ponds i.e. the pond became a bog garden
- Some expressed disappointment that the eco-bus shelter was not taken forward
- But noted that they were happy with what was created...
- ...and the process had generated lots of ideas for future projects

Empower

- Everyone had a vote on design ideas = democratic
- "10/10 the process worked, loved the workshops & the final design"
- Everyone had a vote, the one with the most votes was delivered.
- Voting for the design choice worked. People could also veto ideas they really didn't like
- Residents have begun to plant up the veg beds and tree nursery
- Workshop participants will facilitate others to use and maintain the garden

What is the IMPACT of the project?

7. Key Images
Storymapping Workshop February 2022

Co-Design Workshops I, II and III – March, May and July 2022

Ripple at Greenhills Community Day – August 2022

Making & Evaluation Workshop – November 2022

8. Relevant Findings

1. **Building on strengths works better than a focus on weaknesses.** The ethos of Ripple was to build on existing strengths within the community and to focus these towards a tangible and achievable goal that could demonstrate the value and potential of harnessing creativity to support communities to take action on climate change, together. Essential to this was a tangible outcome that demonstrated and rewarded the trust, energy and input of the residents.

2. **Building trust takes time.** The team recognized from the outset that the process of getting to know and build a relationship of trust with a community is a process that takes time. With only 1 year to complete this project, it was seen as very important to maintain a 'quiet' approach, with a focus on working directly in Greenhills, with very little outward communication during the project. This was intentional and important to demonstrate respect for the trust the community placed in the project team. While sharing learning from projects is important to achieve wide-spread change in relation to climate challenges, at the same time it is noted that in project where respect and trust are vital to protect, that space and time are needed to work closely, quietly. Creative Ireland's understanding of the value of 'quiet work' in the Ripple project is appreciated. Longer timeframes may be helpful for similar projects in future calls.

3. **Keeping everyone informed with clear communication is vital.** We found that regular, clear, transparent and inclusive communication was vital. Residents wanted to know about the project aims and objectives, and even if they did not want to be directly involved in workshops, they still appreciated being updated on the progress of the project. We used clear language and ran all communications through a team check for clarity. Our Ethics process helped to ensure best practice was in place for all Information and Consent procedures, as well as data sharing and GDPR processes.

4. **Preconceived solutions are not necessarily those that are desirable to those who live in a place.** We learned not to assume what ideas and solutions communities may desire. Residents had previous experience of failed projects and anti-social behaviour, which they had worked hard to address over many years. They were therefore extremely and understandably anxious to not undermine this work. They understood deeply what worked and what did not, in their community. Listening and respecting these concerns and this local knowledge was essential to developing ideas that residents were more comfortable to explore.

5. **People have a deep understanding of the place where they live.** The Storymapping exercise revealed the deep knowledge of residents about their neighbourhood. Living in a place allows an intimate understanding of how it changes over time, across the year, the seasons, and the day, routines, customs, names, shortcuts, histories, events, use by humans and other species. Residents could tell us about flora and fauna that they saw. This knowledge is different to that which outside experts might document. Communities are also happy to learn more about the place where they live.

Engagement with the water workshop, and the citizen data collection of soil and water samples were noted as highlights in the evaluation process.

6. **Diverse opinions and perspectives co-exist within communities and need to be respected.** Communities do not always think and act with one voice. Not everyone has the same experience, perspective or opinion. Accepting and respecting this diversity of perspectives is important, to nurture and build inclusive places. For example, while there was widespread support for an eco-bus shelter for school children in the central green area, there was a small but strong objection to it, due to previous experience of anti-social behaviour. Both opinions were important to gather, and it was clear that implementing that solution would have been divisive, become more focused on weakness rather than strengths, and contrary to the project objectives. Seeking out all opinions was important to ensure that the right project was developed for implementation.

7. **Procurement is complex and slow.** Implementing the agreed project on site was challenging within the project timeframe. To comply with procurement protocols, and in a very difficult market for construction, was challenging. We were lucky to work with excellent contractors who gave their all to the project, but more time to allow for this stage would have been optimal.

8. **Tangible outcomes are important.** There is a lot of experience of consultation processes and public engagement projects in which time of volunteers is directed towards findings, but without physical benefits accruing to the community. Delivering the Paradise Garden demonstrated, in the clearest way possible, that communities can be empowered to make meaningful change in response the climate emergency. Communities can see that when they give their time and energy, they can achieve a long-term benefit that they can enjoy and build upon. This agency is key to a broader roll out of potential similar projects. As one resident noted, "every neighbourhood should have a similar project like this".

9.Conclusion

The Ripple project achieved its aims to make connections between water and climate change in a community in Ballina. Through a co-design and co-creation process, residents in Greenhills Estate in Ballina Co. Mayo, engaged in a process of storymapping, co-design, making and evaluation across 2022. Through the process, the residents co-designed 16 potential solutions, and selected one, the Paradise Garden for implementation. The Paradise Garden was constructed during October to December 2022. A formal launch of the garden will take place in Spring/Summer 2022 and the community look forward to enjoying this new amenity and developing the garden over the coming years.

Ripple demonstrates the potential to harness interdisciplinary skills, across architecture, engineering, landscape design, and art practice, to engage and empower local communities to collectively reimagine, learn about, and enhance their local green spaces to be climate resilient, beautiful and inclusive.

The team involved in Ripple feel privileged to have worked with residents of Greenhills estate during 2022. We would like to thank the residents of Greenhills for their time, energy and generosity in engaging with the project. Our partners in Mayo County Council were key to the success of the project, and the support of St Muredach's School and the Karen Community Garden greatly enhanced the project throughout the year.

Thanks finally to Creative Ireland, and all the other teams who participated in the Climate Action Call. We look forward to seeing how the lessons learned in this project can be scaled up and out, to ripple across other similar communities and neighbourhoods, to affect lasting positive change, co-designing and creating climate resilient green and blue spaces in our towns and communities across the country.

The Ripple Team, Orla, Sarah, Philip, Rebecca, Mark, Kevin and Ríonach.

Appendix I: Ripple Ecocode

Ripple Eco-Code

Guiding Approach and Principles
- All team members, project partners and operations will embrace and demonstrate the principles of sustainability.
- Incorporate principles of reduce, reuse, and recycle into all events, work practices, communications, and outcomes throughout the project, with the project team and with all participants, stakeholders and invited partners.
- Raise awareness of climate change impacts and adaptation through all project operations including events.

Water
- Follow water conservation best practice in all workplaces and practices.
- Raise awareness of the importance of water conservation throughout the project.
- Communicate and demonstrate the value of river health in workshops, events, and communications throughout the project.
- Promote co-design strategies that demonstrate good water conservation practices.
- Use simple measurement techniques to demonstrate river health, water flows, rainfall attenuation, and ways to slow the flow.
- Avoid provision of single use plastic bottled water at events.
- Promote use of reusable water bottles and provide drinking water supply at all events.

Purchasing
- Prioritize purchase of reused / recycled / upcycled products.
- priorities purchase of products that can be disassembled / reused / recycled locally.
- prioritize local catering services that use local produce, unprocessed foods and only cardboard packaging.
- prioritize local service providers for all procured services and products.

Transport
- prioritize and promote public transport, cycling and walking.
- Minimize use of private cars.
- Use car sharing schemes where public transport and cycling are not practicable.
- prioritize video conferencing in lieu of physical meetings where practicable.

Office environments
- Use existing hardware (mobile phones, tablets) where practical.
- Promote paperless office systems.
- prioritize purchasing decisions based on low / zero packaging.
- Separate and clean all waste and recycle.
- Follow energy efficiency measures and best practice in all workplaces

Making
- prioritize use of found / reused / recycled / upcycled materials from the local area.
- Avoid use of any toxic, non-recyclable or single use materials.
- Leave No Trace after all events.
- Design for disassembly and reuse.
- Ensure all products are distributed for reuse at the conclusion of the project.

Biodiversity
- All workshops and events to promote biodiversity and not harm any sensitive areas.
- All infrastructure/installations to have a positive impact on biodiversity.
- prioritize organic and native species in any planting installations associated with the project.

Ripple Ecocode is an adaptation of the EU INTERREG Coastal Communities Adapting Together (CCAT) project's eco-code developed by Dr Philip Crowe. It is an evolving template that can be adapted for specific projects and practices.

Appendix II – Greenhills 3D model

Appendix III – Storymap

Appendix IV – Ideas Map

Appendix V – Data Sampling with Residents

Sampling of water from the Brusna River, Soil Sampling, and Soil Moisture Content Sampling
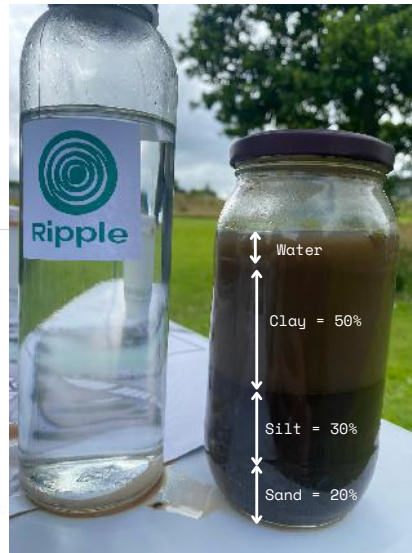
Ripple

Soil Analysis

A soil sample from the caltra was taken at the July workshop.

We added water to the jam jar and gave it a good shake. After an hour, the different layers of the soil had settled out: clay, silt and sand. We then measured the size of each layer to find out the soil texture. This will help us to pick the right plants that will thrive in the paradise garden.

The test showed the soil texture is clay.

Water

Clay = 50%

Silt = 30%

Sand = 20%
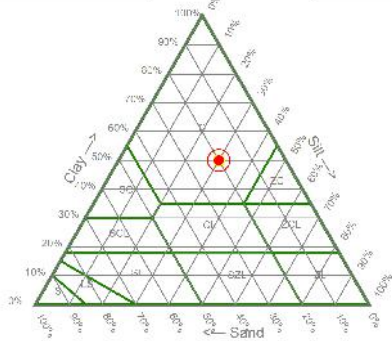
Clay soils drain quite slowly, so can be soggy, but they are rich in nutrients.

We saw this when we used the soil moisture probe too. The moisture in the soil at the caltra was between 55 - 70% wet.

Thank you to everyone who helped us to carry out these tests in the workshop.

Ripple

RIVER

Water Quality

Two samples were taken from the river at the workshop in July.

The samples were analysed at UCD to check how the water quality compared with national and European standards. Tests were done to check whether the water was acidic or neutral (pH), to see if the water was murky or discoloured and to see if it contained nutrients like nitrogen or phosphorous.

The pH was 7.9 ...which is within the regulatory limits.

Safe range

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

Acidic   Alkaline
        Neutral
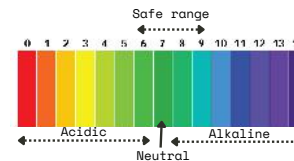
The water had a slight brown colour, but very few solids.

Colour is measured on the Platinum-Cobalt scale which ranges from 0 to 500. The river samples collected measured at 50 mg/L Pt-Co. Electrical conductivity tells us how many dissolved solids are present. The value recorded (0.47 mS/cm) was in the middle of the range expected for freshwater. The turbidity, which tells us how 'cloudy' the water is was only 1.4 NTU which suggests the water is fairly clear.

There were very few nutrients in the water: many of the measurements were close to zero, so they met or exceeded quality standards set by the Environmental Protection Agency. Nitrogen and phosphorous can end up in rivers from agricultural runoff or from discharges from wastewater treatment plants, particularly during storms. A large amount of nutrients in the river can be harmful to fish and other aquatic life. There was generally a good or high water quality status, with no unsatisfactory values for ammonium (less than 0.02 mg/L), phosphate (less than 0.025 mg/L) and nitrates, which varied between between 1 - 5 mg/L.

Water Samples:

250   100   50   25   10

N.B. all of the values reported are taken from two samples collected on one day in July. Values are likely to vary day-to-day throughout the year, and repeated sampling would be needed to build up a more accurate picture. Whilst the water quality appears to be good, it does not meet drinking water standards.