

Environment Services Training Group

LOCAL AUTHORITY CONFERENCE

2024

Dublin Urban Rivers LIFE (DURL) Project

ESTG Annual Conference 2024

Mullingar Park Hotel

15th October 2024

DURL Project Co-Ordinator Lorraine Beirne



An Roinn Comhshaoil,
Aeráide agus Cumarsáide
Department of the Environment,
Climate and Communications



An Roinn Tithíochta,
Rialtais Áitiúil agus Oidhreacht
Department of Housing,
Local Government and Heritage



LOCAL AUTHORITY
Climate Action
Training Programme



Local Authority
Waters
Programme
vibrant communities | catchment assessment | healthy waters

CCMA
Cumann Lucht Bainistíochta Contae agus Cathrach
County and City Management Association

epa
Environmental Protection Agency
An Ghníomhaireacht um Chaomhú Comhshaoil

Dublin Urban Rivers LIFE (DURL) PROJECT

Background

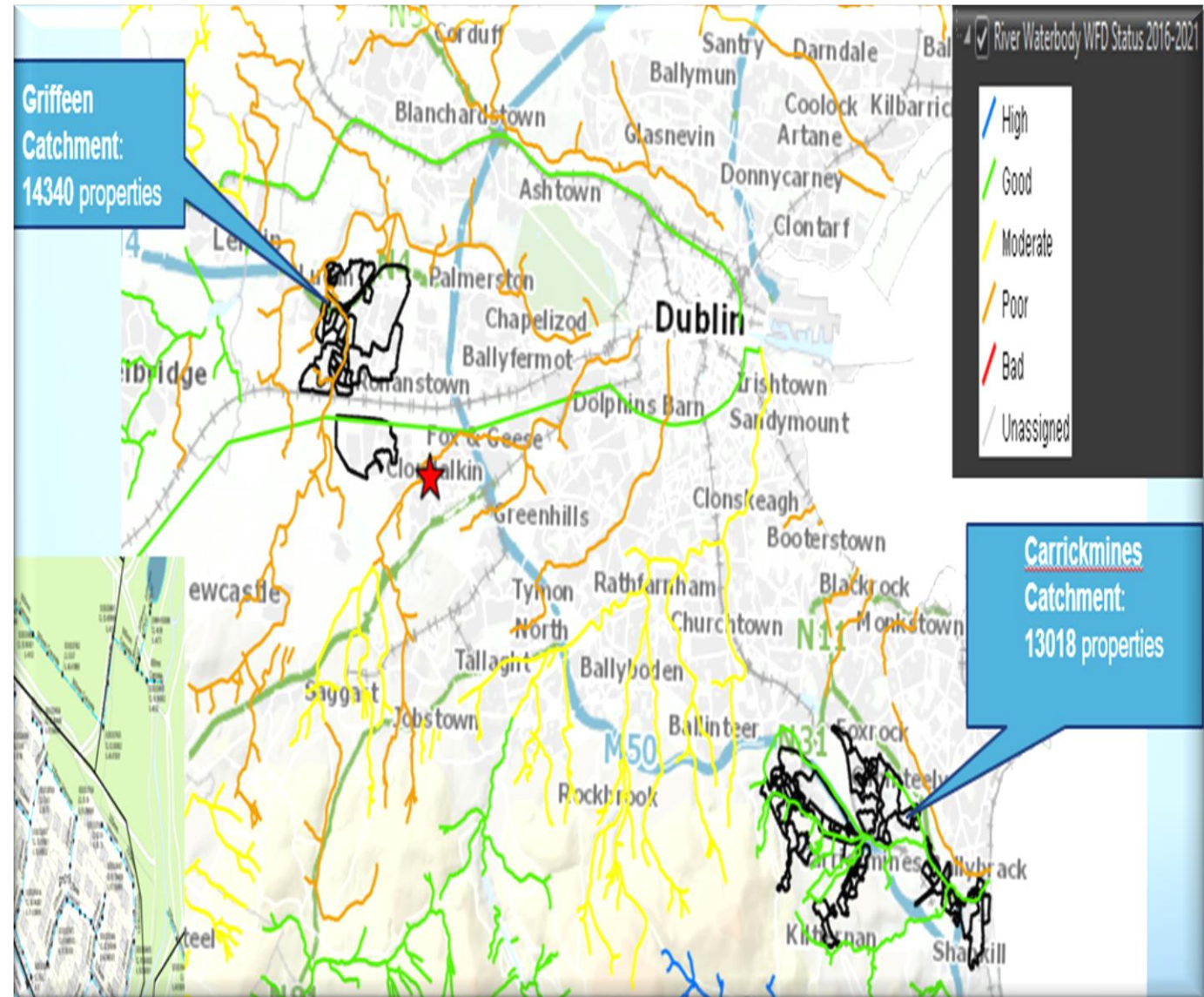
Public Engagement and Awareness

Computer Mapping System to Improve Detection Rates

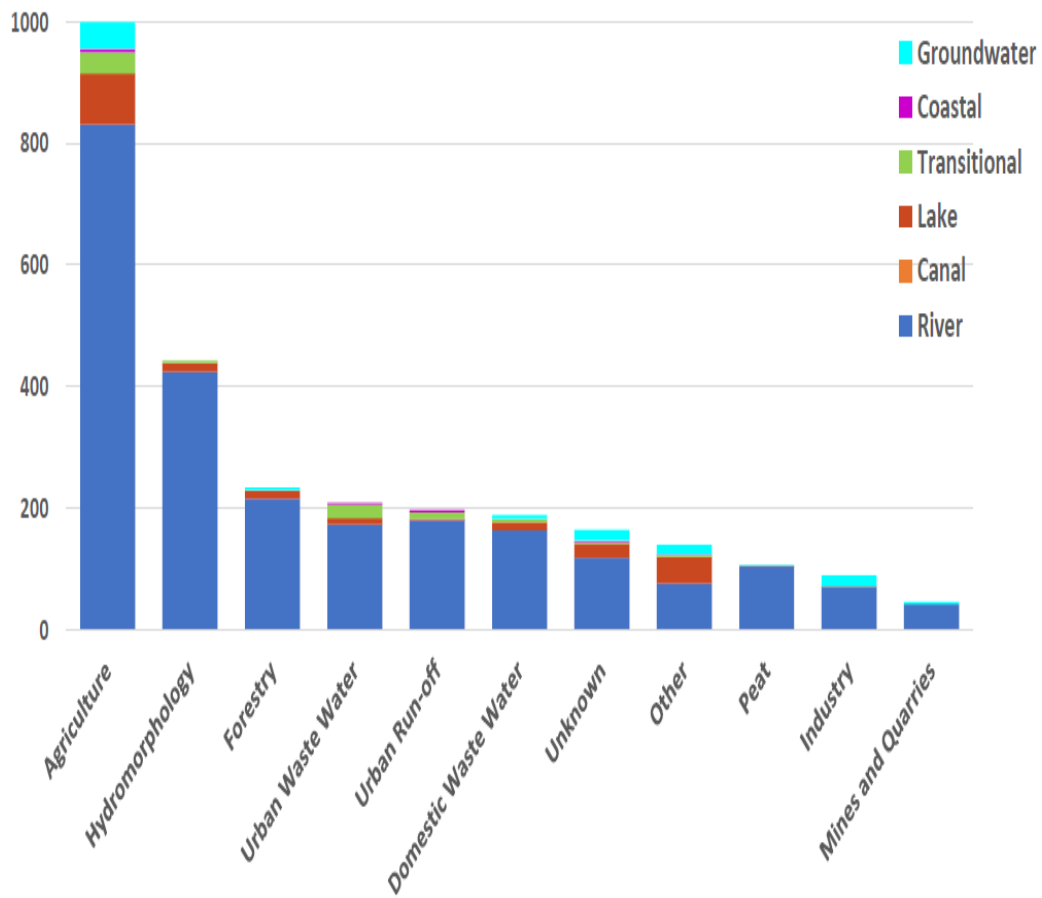
At Source Removal of 960 Misconnections

Build 5 ICWs

Decision Support Tool & ICW Builder Tool



Surface Water Quality Pressures



Misconnection Examples



A MISCONNECTION IS WHERE A FOUL (WASTEWATER) PIPE IS MISTAKENLY CONNECTED TO THE STORMWATER (RAINWATER) DRAINAGE PIPE

DURL MISCONNECTION ANIMATED VIDEO

Education & Awareness Events 2024

- ❑ World Waters Day Green Estate Demonstration
- ❑ Eco Week Workshops
- ❑ World Wetlands Day Social Media Campaign
- ❑ Climate Action Week Misconnection Demonstration
- ❑ Biodiversity Week Workshop
- ❑ Podcasts and Radio Interviews:
 - ❑ RTE Radio1: The Country Measure
 - ❑ Liffey Sound FM: Lucan Community Hour
- ❑ ESRI Ireland annual standout success award in 'Data Management and Collection Category' & shortlisted:
 - ❑ LAMA Awards, and
 - ❑ Sustainable Water Achievement – Green Awards
- ❑ Park User Surveys (330 people)
- ❑ Tours of ICWs and Community Planting Days
- ❑ DURL Project Animated Video (x 7 languages)
 - ❑ 3 min video details misconnections & ICWs
 - ❑ 1 min social media version on misconnections

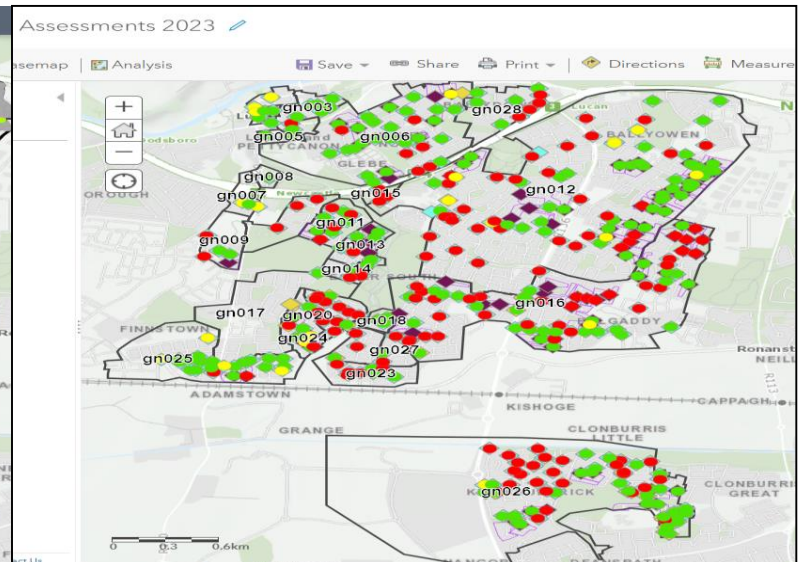
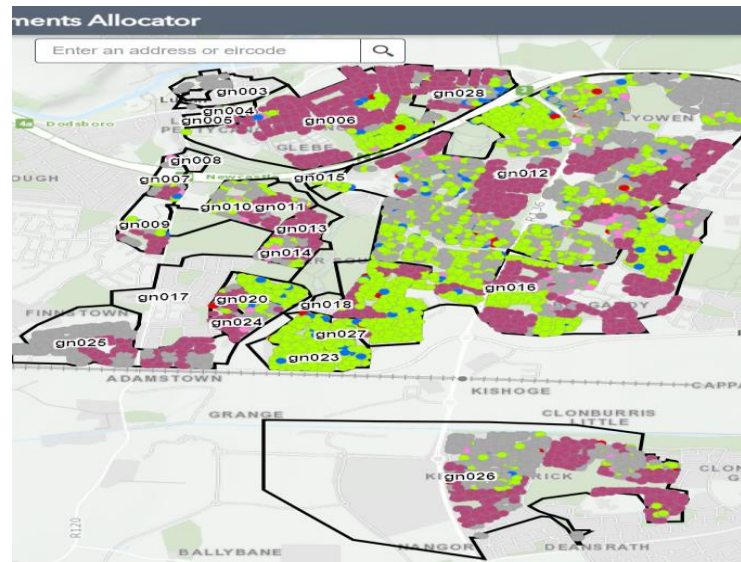
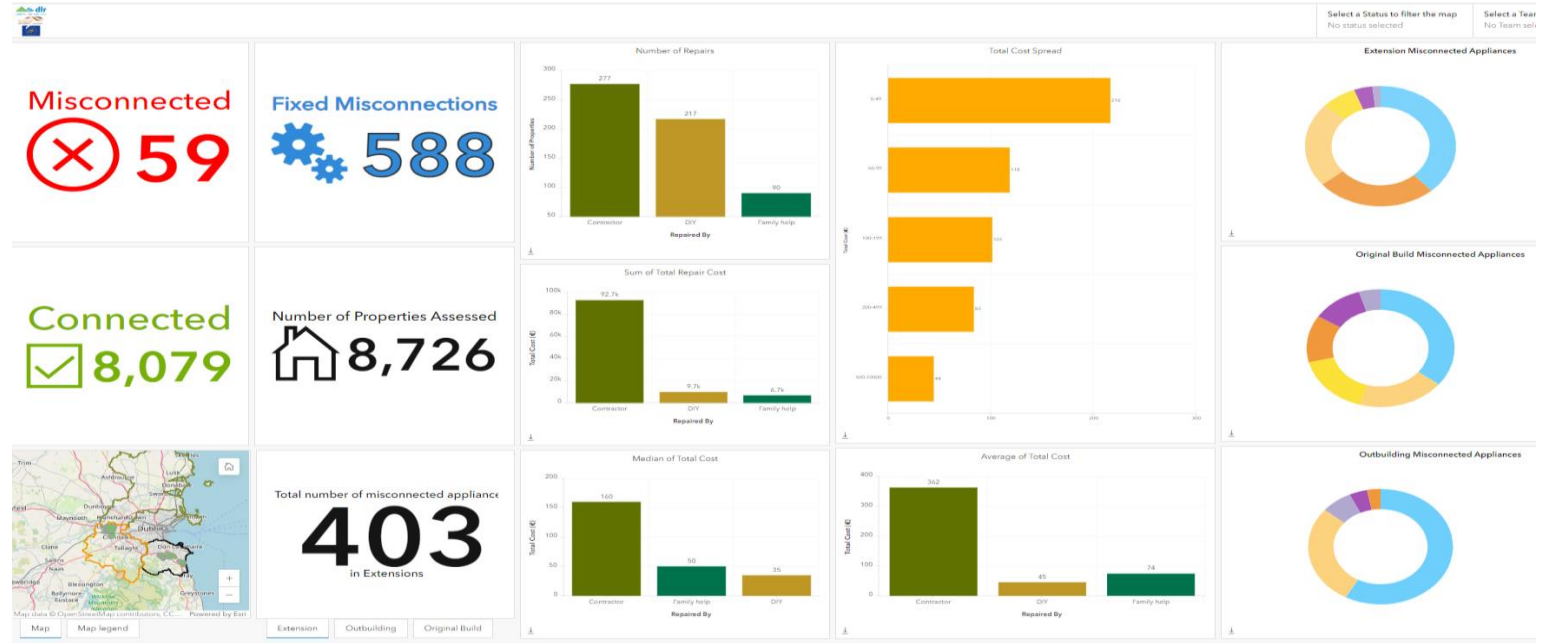
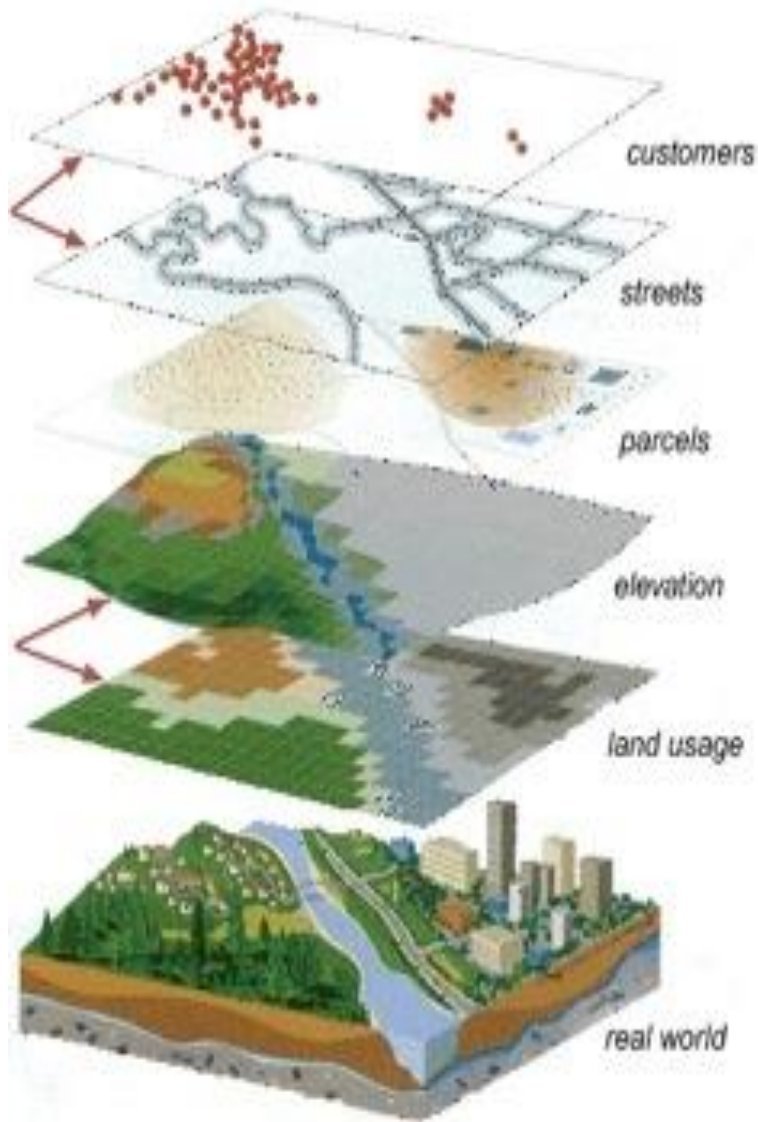




DURL Project
Water Quality in Urban Rivers Conference
28th May 2024
&
ICWs Site Visit 29th May 2024

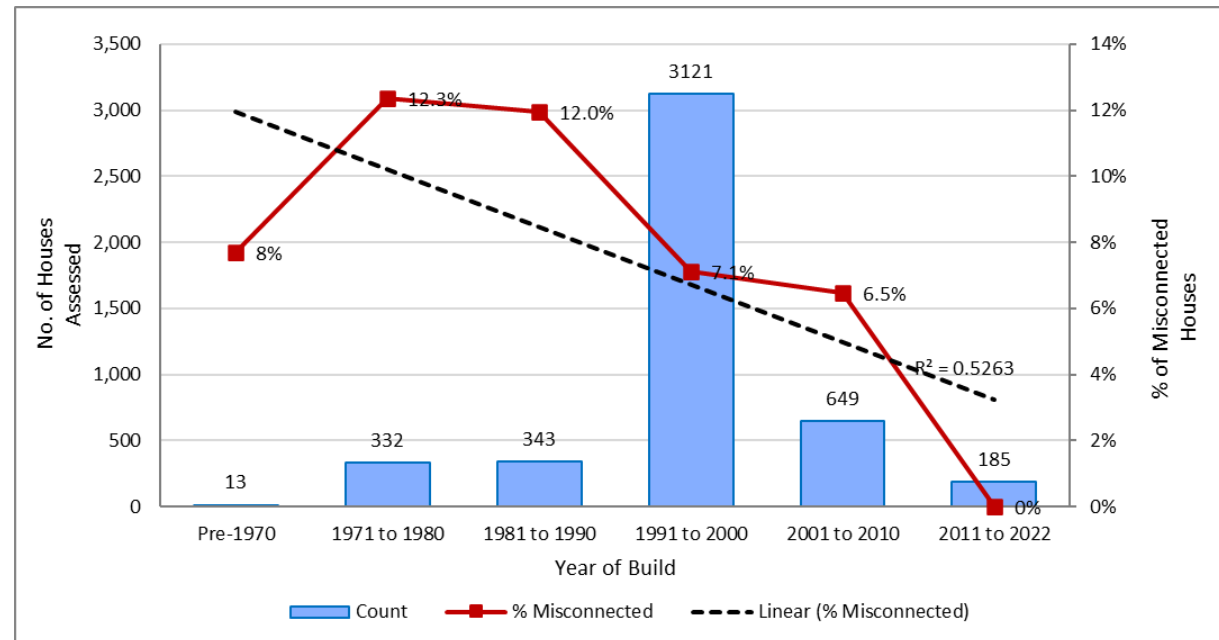
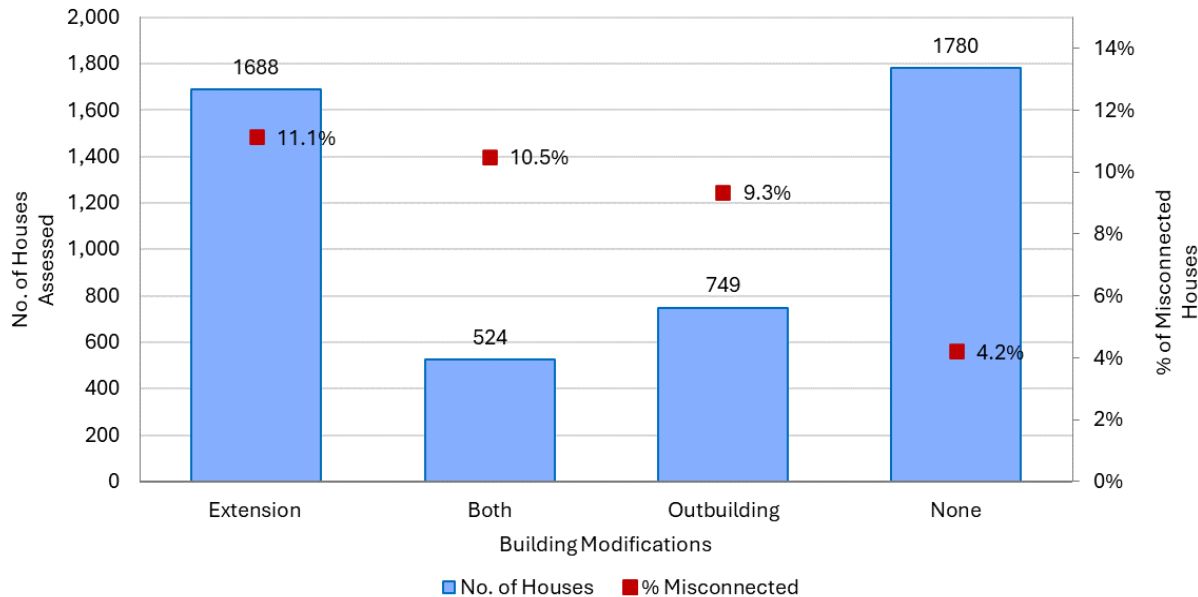


Computer Mapping System to improve detection rates



Computer Mapping System to improve detection rates

- High-Risk Approach:
 - 41% Of Houses On Average
 - Larger, Older, Detached Or Semi-detached



MISCONNECTION ASSESSMENTS

- ❑ Emphasis on Improvement of Local River & Repairs at Homeowner Cost – Polluter Pays
- ❑ 99.5% Access To Houses – The Public Want To Participate
- ❑ 17,000 Stormwater Drainage Checks Performed
- ❑ Completed >8,730 Misconnection Assessments From May 2021
- ❑ Weighted Average No. of Visits is 2.45, Resulting in 21,380 Contacts With Householder
- ❑ >650 Misconnected Houses Identified– 90% Repaired With Remaining Under Repair



Carrickmines Stream



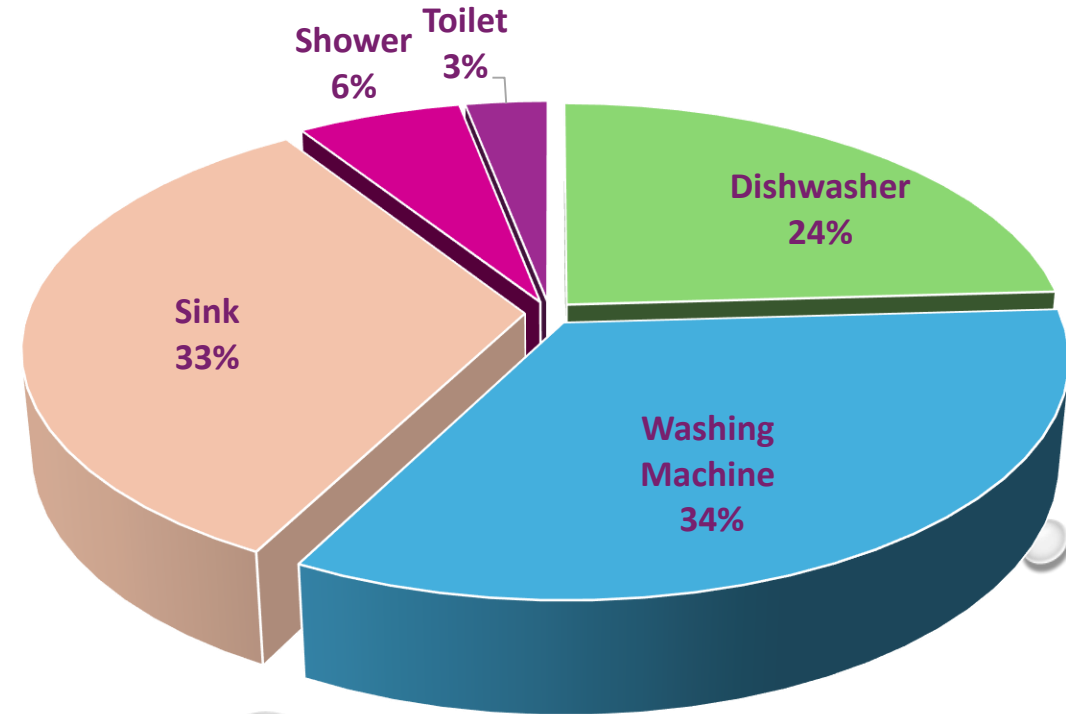
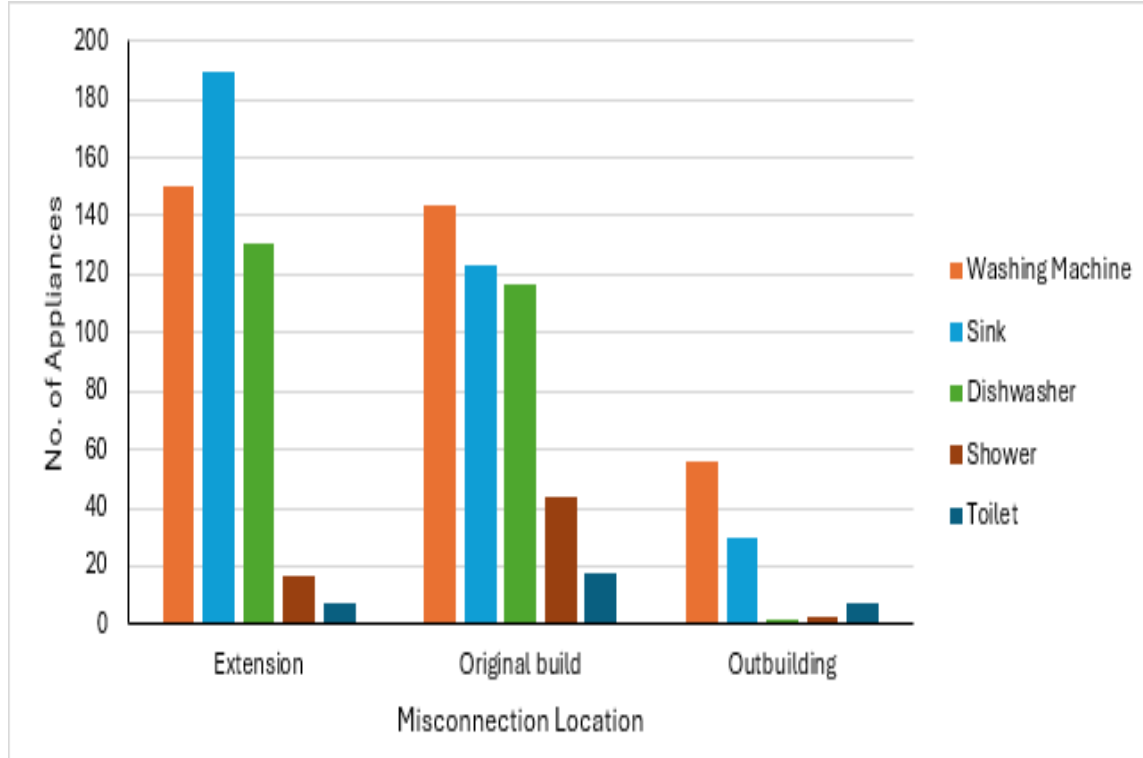
River Griffeen

Misconnected Appliances

- There is an average of 1.6 misconnections per property
- >1,050 Misconnected Appliances Found

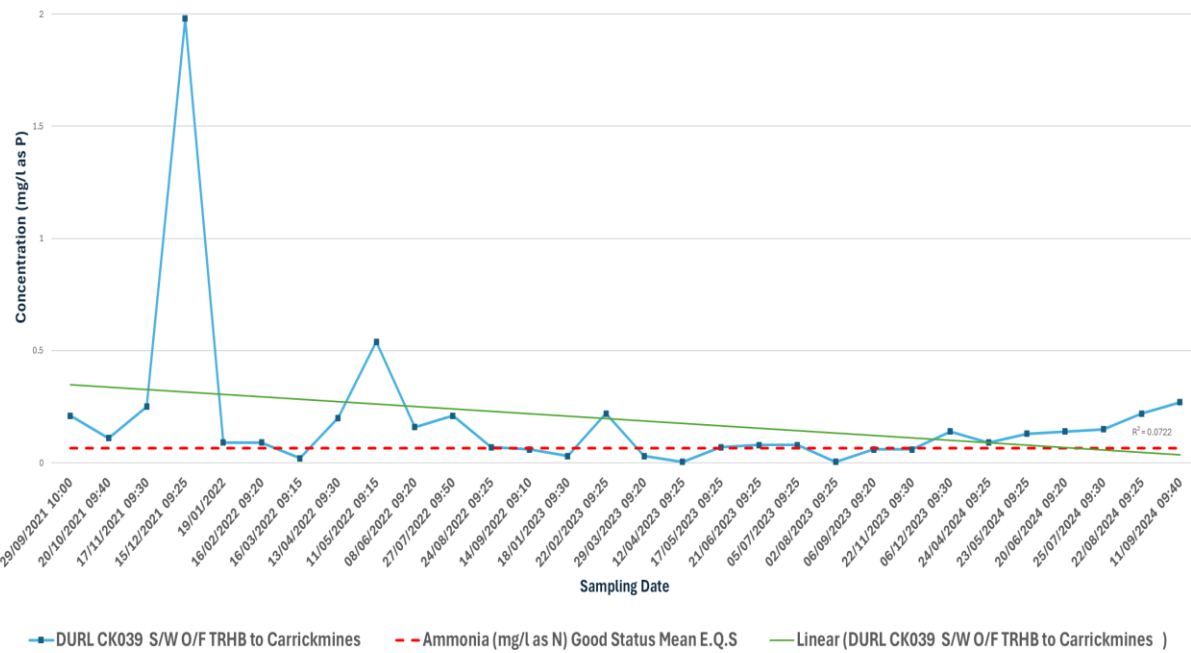
92% of Misconnections Comprise of:

- Washing Machines
- Sinks
- Dishwashers

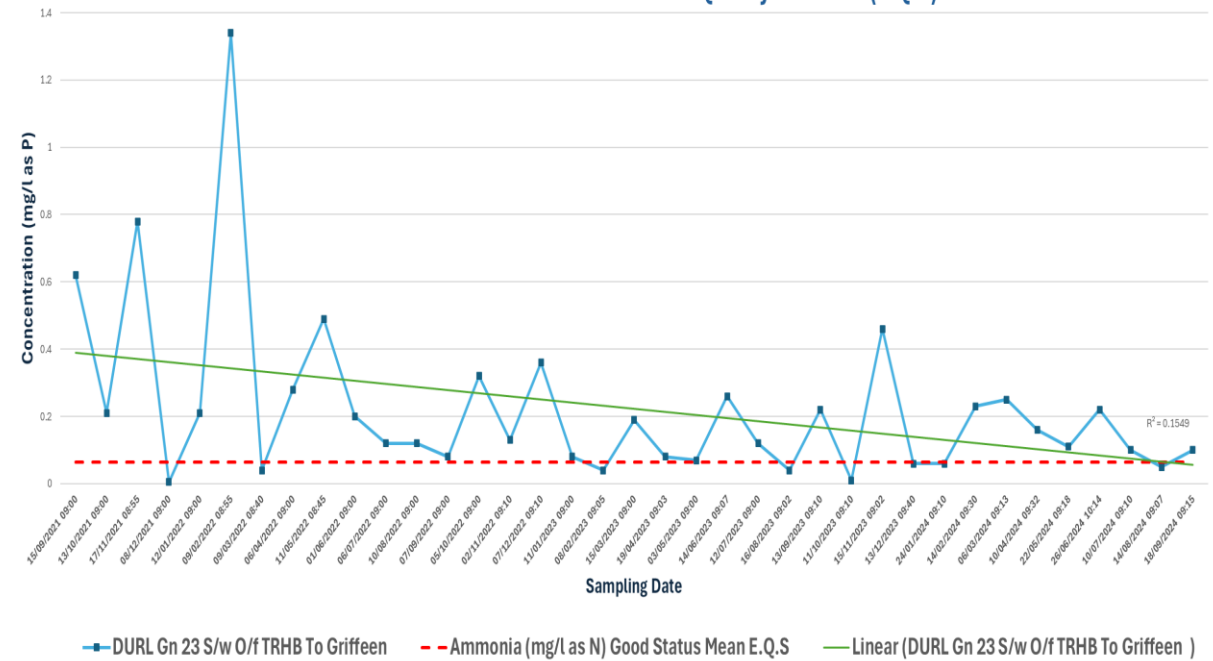


Water Quality Results

Carrickmines Stream and Shanganagh River Ammonia Concentration at Ck039 and the Good Water Status Environmental Quality Standard (E.Q.S)

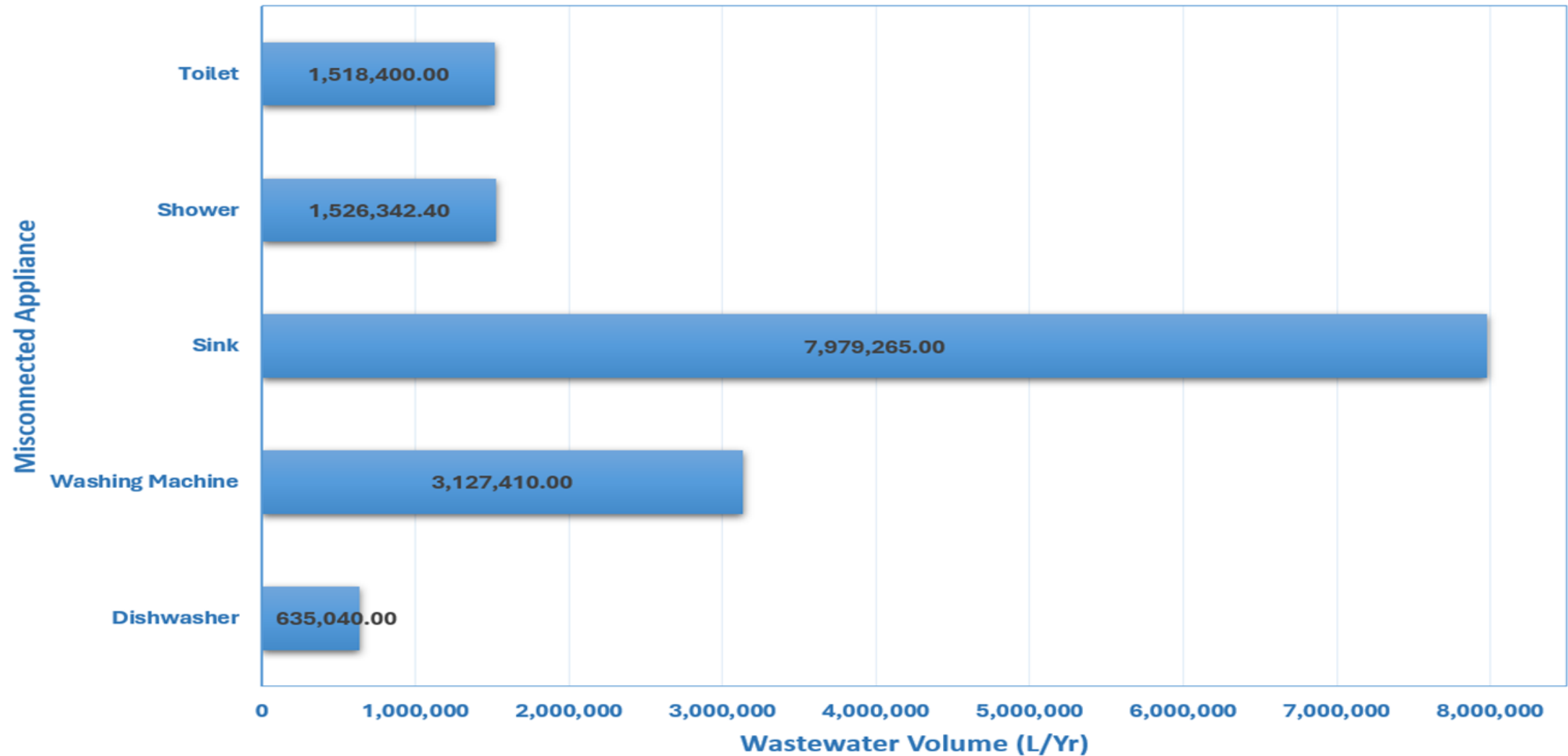


River Griffeen Ammonia Concentration at Gn023 and the Good Water Status Environmental Quality Standard (E.Q.S)



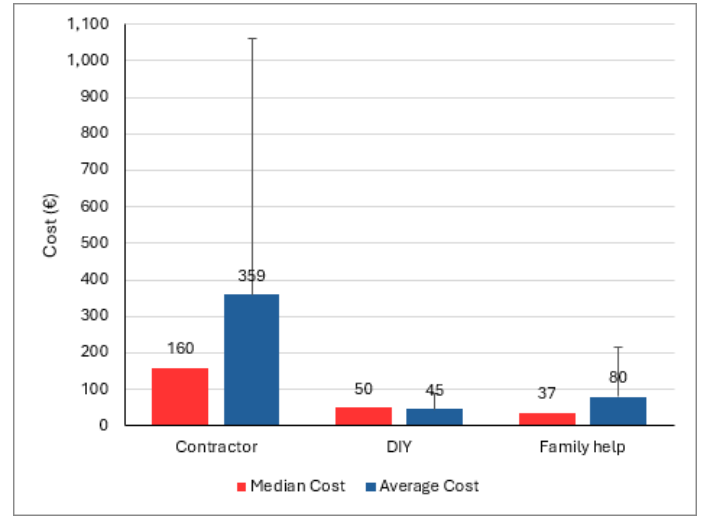
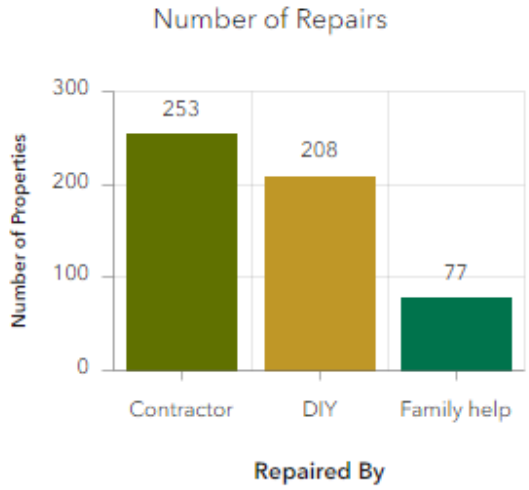
MISCONNECTED WASTEWATER VOLUME

14.8M Litres Wastewater From Misconnected Appliances



CORRECTED MISCONNECTIONS





Misconnection Repair Cost



Cost Of Misconnection Repairs

Family Help €30



Cost Of Misconnection Repairs

Family Help €50

BEFORE



AFTER



Cost Of Misconnection Repairs

Contractor €80

BEFORE



AFTER



Cost Of Misconnection Repairs

Contractor No Charge €0

BEFORE



AFTER



Griffeen Valley Park Integrated Constructed Wetland



Community Planting Days



Dodder Valley Park Integrated Constructed Wetland

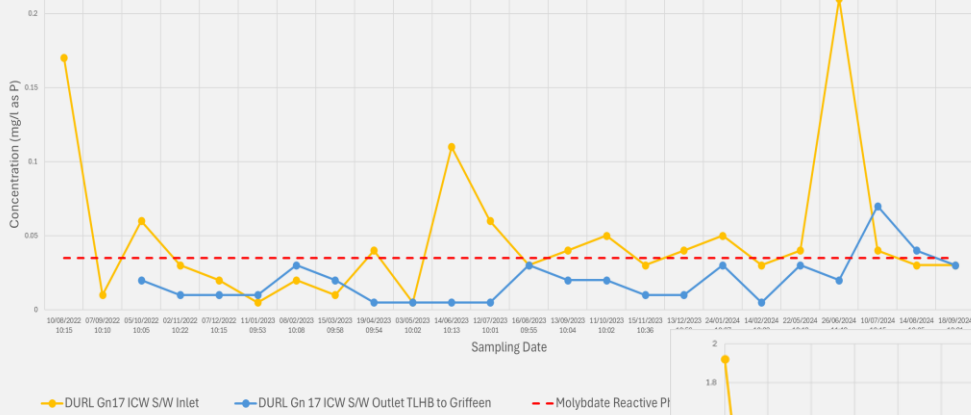


Community Planting Day

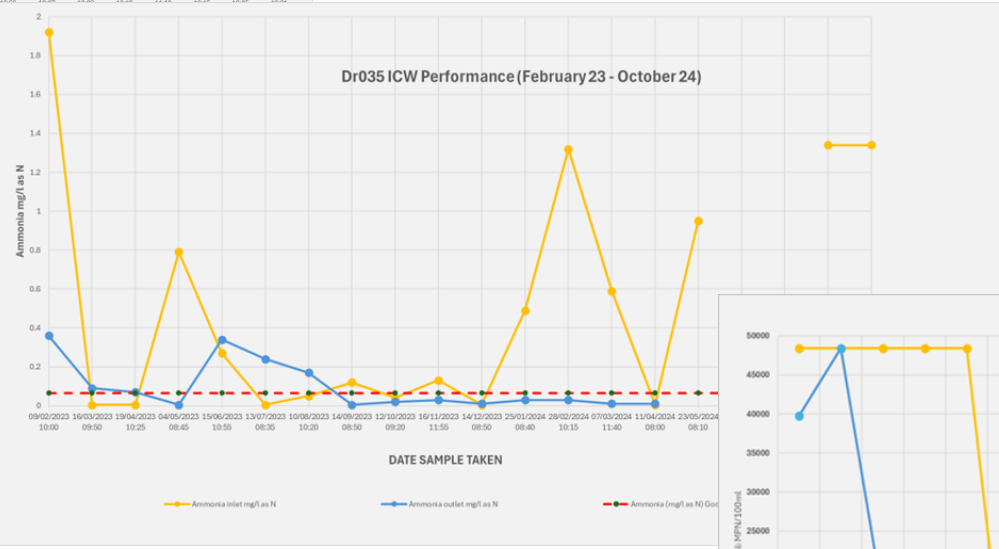


Integrated Constructed Wetlands Build in 2022

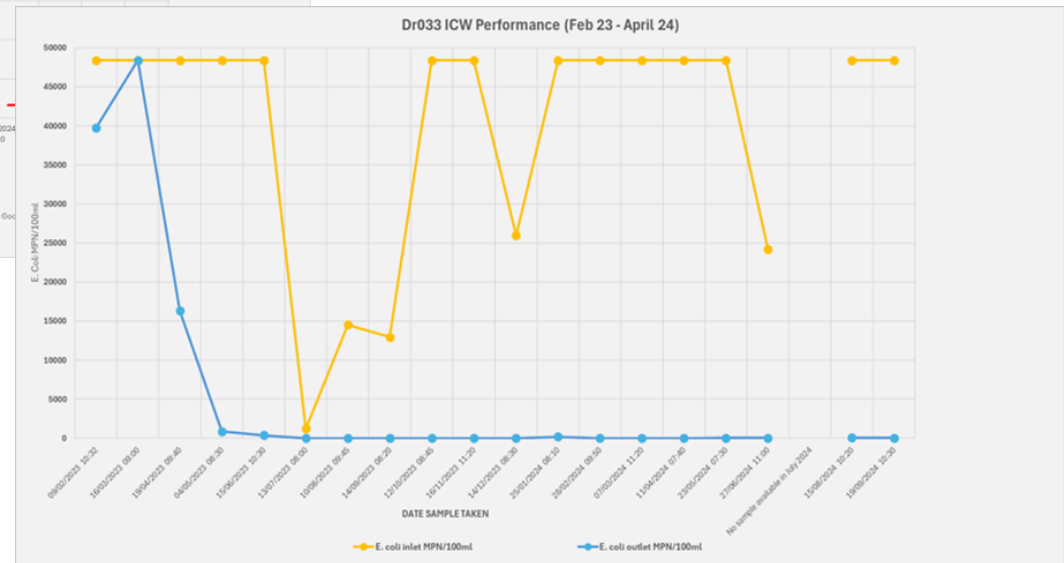
Gn 17 ICW Performance (October 2022 - October 2024) MRP Concentration



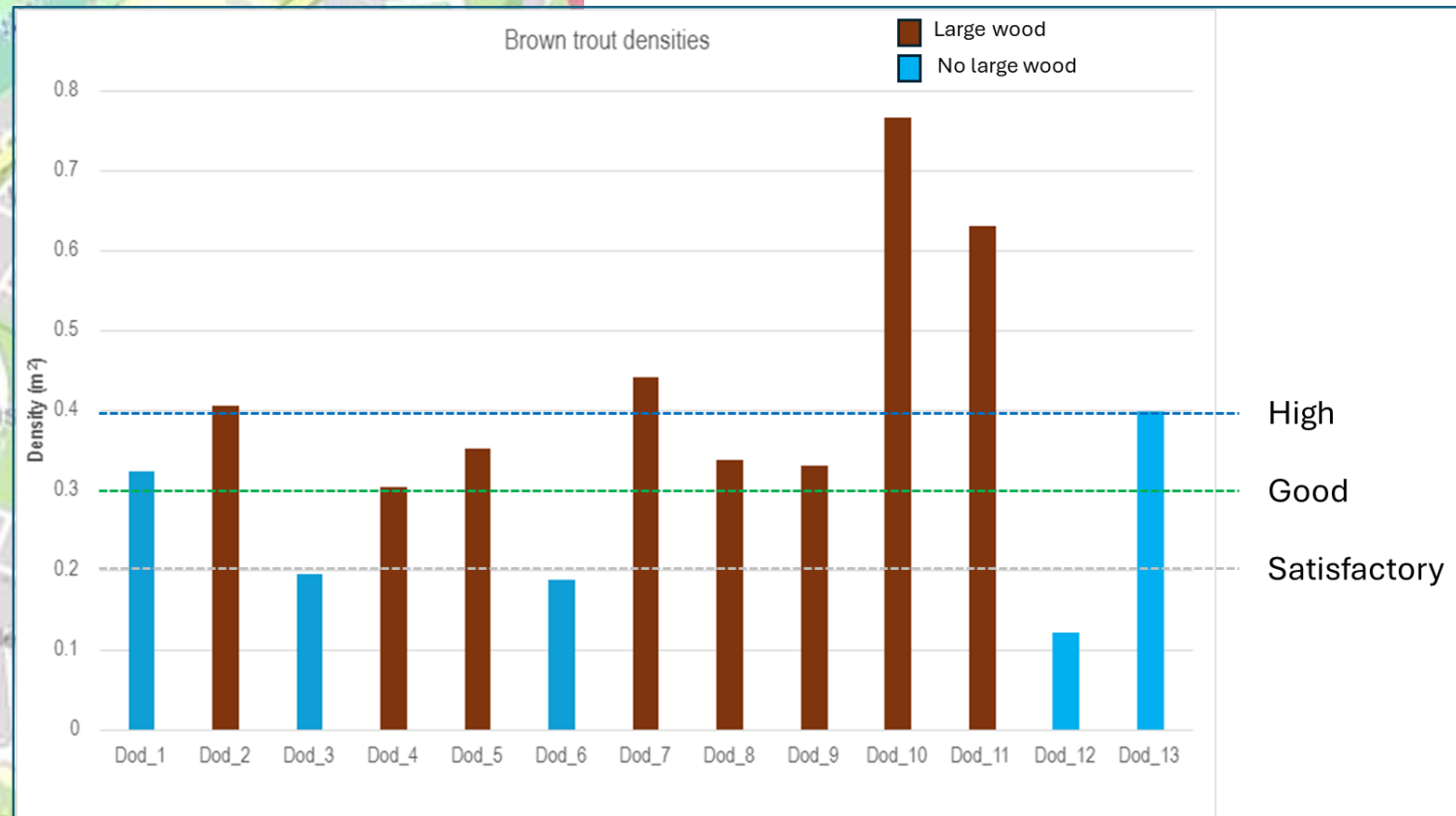
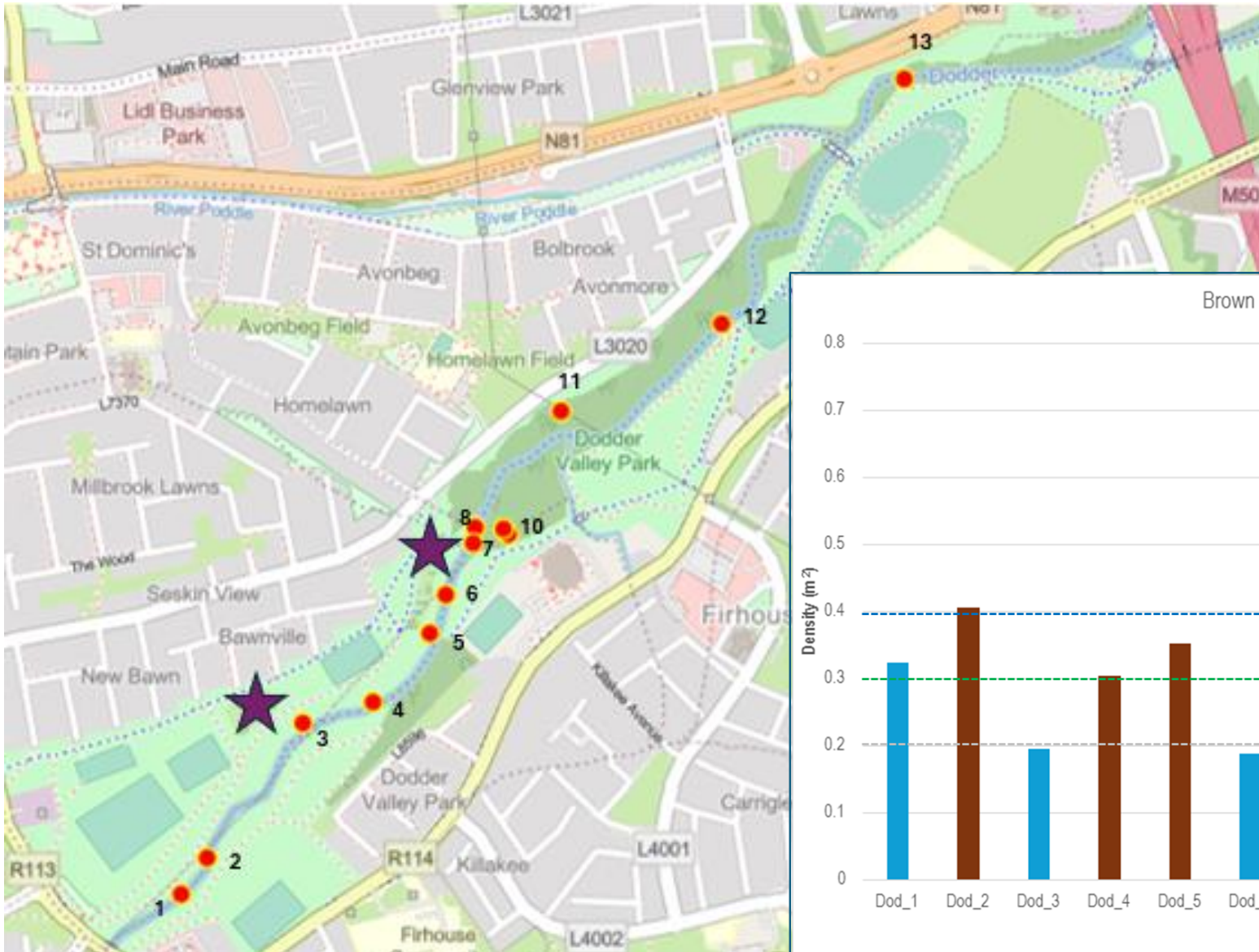
Dr035 ICW Performance (February 23 - October 24)



Dr033 ICW Performance (Feb 23 - April 24)



Dodder Valley Park Integrated Constructed Wetland



RIVER PODDLE ICW – SDCC & OPW

Tymon Park ICW as part of the Poddle Flood Alleviation Scheme – OPW collaboration

- Planning approved with conditions 1/06/2023
- *‘Taking into account the ecological and water quality enhancement measures including the creation of new habitats for species and the integrated constructed wetland, and the mitigation measures which will address the main adverse impact namely loss of trees and woodland, I conclude that the proposed development would not adversely impact on the biodiversity of the area.’*



TRIMBLESTON STREAM ICW - DLRCC



- Flashy stream with urban pressures impacting bathing waters
 - Merrion Strand
 - Sandymount Strand
- N11 stormwater runoff
- Utilising existing stormwater attenuation
- Store and treat portion of first flush



Decision Support Tool (DST) & ICW Builder Tool

Dublin Urban Rivers LIFE Project

Comhairle Contae
Átha Cliath Theas
South Dublin County Council

Comhairle Contae County Council



Funded by EU LIFE Programme

This website will enable users to begin their own **domestic misconnection assessment** project. It has been developed during the course of the Dublin Urban Rivers LIFE Project. This website is best viewed on a desktop.

Goals

- Help managers decide on options to improve water quality in urban areas
- Provide best practice guidance for Door to Door Assessment work
- Deliver a logical approach to enable user specific requirements
- Identify costs and benefits of improving the function and value of urban rivers

Content

Door to Door Assessments Decision Tool →	Explore the decision tree for door to door work	ICW Builder →	Explore the steps in building an ICW
Water Quality →	Determine effect of misconnections on receiving water quality	ICW Costs Breakdown →	Explore the ICW cost estimates
GIS Set Up →	Learn how to set up a door to door assessments project	ICW Costs Estimator Tool →	Download and investigate site specific cost estimates
Socio Economic Analysis →	Explore the socio economic database		

ICW Builder ▾
Socio-Economic
Documents

Step By Step

Use the bar to navigate through the 10 steps and download the guidance documents.

Overview
Step 1
Step 2
Step 3
Step 4
Step 5
Step 6
Step 7
Step 8
Step 9
Step 10

10. Door To Door Assessment operations (letter templates, SOP)

a. Letter templates

- i. Introductory Letter
- ii. Card Drop 1 Card Drop 2 Card Drop 3
- iii. Misconnection Notice
- iv. Enforcement 1 Notice 1 Enforcement 1 Notice 2 Enforcement 1 Notice 3
- v. Enforcement 2 Notice 1 Enforcement 2 Notice 2 Enforcement 2 Notice 3

b. Flow Chart of Process

d. Risk Assessment

[Link to All Documents](#)

Decision Support Tool (DST) & ICW Builder Tool

ICW Builder ▾
Documents

ICW Builder

Stage B - Site Specific

Tick off each requirement as the project progresses

Confirm drainage layouts and levels on-site. Ensure falls to discharge back into pipework/watercourse

Consider surrounding land use/suitability to area e.g. sport pitches, park runs, how community are using land currently. Has to be in keeping with landscape and be safe.

Identify possible locations for spoil on site. Although paying some landscaping costs, better for the environment and saving about 200euro a load on spoil removal (approximately 10m3/per load).

Calculate cost estimates - if possible use spoil on site as it reduces cost

Carry out site survey - topographical survey. This will enable more accurate information on space available, better design, better spoil estimate and hence cost estimates.


Consider if tree removal may be an issue. In our experience, this is often a contentious issue with the public and councillors and may lead to bad will towards the project and difficulties in planning.

Consider potential issues if realigning footpaths - cost associated with path diversions and public sentiment

DR033

DR033

Dodder Valley Park DR035 ICW - Smaller ICW with less residual flow. Complicating Factors: The simplest of our ICWs, very few complicating factors. Size was kept on the smaller side to ensure the ICW does not dry out in summer months, as residual flow from existing pipeline is low at this location.



Treatment Area m²

Total Cost (€) Q3 2021

Cost per m² (€) Q3 2021

Cost of Preliminaries (€) Q3 2021

Cost of PSCS/PSDP (€) Q3 2021

Cost of Design (€) Q3 2021

Maintenance Checks/Reports (€) Q3 2021

Cost of As Builts and Safety Files (€) Q3 2021

Home Insert Share Page Layout Formulas Data Review View Help Draw					
X ✓ fx 195000					
A	B	C	D	E	
	Total Cost Q3 2021 (costs rounded off)	Total Cost Present Day, adjusting for Inflation	Treatment area (m2)	Cost per m2 Q3 2021	adjusting Inflation
Griffeen	€ 195,000.00	€ 241,800.00	2643	€ 73.78	€
DR035	€ 156,000.00	€ 192,200.00	1700	€ 91.18	€
DR033	€ 156,000.00	€ 192,200.00	705	€ 219.86	€
All	€ 505,000.00	€ 626,200.00	5048	€ 100.04	€
Enter ICW Area (m2)		1700			
Complicating Factors	Choose from the dropdown	Uplift Factor	Notes		
Small ICW with Treatment area less than 1000m2, (economies of scale)	No	0.2	Adding 20% if an ICW has a treatment area of under 1000m2		
Is ICW on a steep slope (greater than 1:5)	No	0.4	Adding 40% if working on a slope		
Is depth of new drainage and ICW required greater than 2m	No	0.3	Adding 30% if new drainage and chambers need to be deep		
Are large earthworks of surrounding areas required	No	0.25	Adding 25% if large earthworks required (landscaping mounds and distance to move soil)		
Are existing services an issue	No	0.15	Adding 15% if existing service need network provider supervision or diversion etc		



Thank You

Email: durl@southdublincoco.ie

Website:

www.dublinurbanriverlife.ie

With the contribution of the EU LIFE Fund