



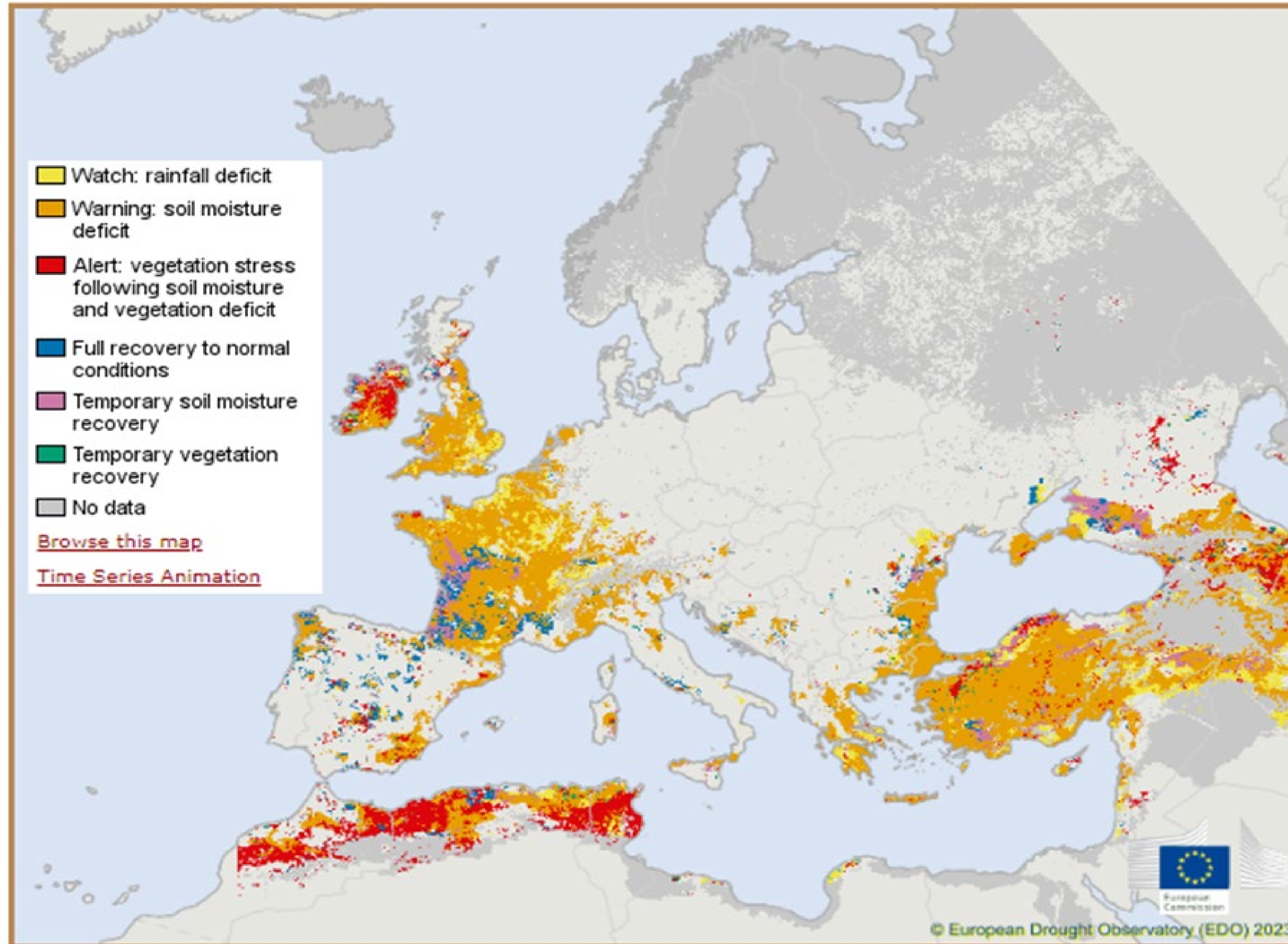
**An Roinn Tithíochta,  
Pleanála agus Rialtais Áitiúil**  
Department of Housing,  
Planning and Local Government

# Ireland's adaptation to climate change in relation to Water Scarcity and Drought and use of nature-based solutions

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# Data from the European Drought Observatory



Map from the European Drought Observatory showing Ireland with a high soil moisture deficit in Feb 2023 .

This will impact on ground water supplies where trans evaporation is high for this time of year.

IE has numerous small ground water drinking water scheme, that situations like this prove challenging



# National Water Resources Plan (NWRP)

The plan will set out how we can balance the amount of drinking water we can supply with the demand for water that is needed over the short, medium and long term.



# National Water Resources Plan (NWRP)



Drought Stage	Description
Normal	Normal range of monitoring actions.
Potential Drought	Actions required to prepare for drought following a prolonged period of dry weather.
Drought	Actions required to manage drought once conditions impact on customers and the environment.
Emergency (Severe Drought)	Actions required when drought conditions cause water demand to exceed the amount of water available for customers and the environment.
Post-Drought	Actions required to monitor and manage recovery of water supplies and to review Irish Water's response to drought.

Drought Stage	Trigger
Normal	SPI above -1.
Potential Drought	SPI of -1 or below
Drought	SPI of -1.5 or below
Emergency (Severe Drought)	SPI of -2 or below
Post-Drought	Recovery in supply position and easing of environmental stress



# Water Scarcity and Drought - Planning and Actions, IE



Water Scarcity ACTION PLAN		Regional Operations	Workflow	OPEM	OSS	OECM	Business Support	Communications	Digital Marketing Team
<b>ASSET OPERATIONS - CENTRAL ACTIONS</b>				End of week 2 April - start		Engage with PF to set up the			
<p><b>Preparedness</b> Normal SPI of above -1</p> <ul style="list-style-type: none"> <li>Ensure all communications and contacts are up to date with the OPEM team in Asset</li> <li>Ensure all staff are briefed and trained for a response to a drought issue</li> <li>Monitor all resource levels (river, lake, boreholes, impounded reservoirs, bank storage)</li> <li>Monitor production rates from each treatment works</li> <li>Monitor reservoir levels and demand flows to the distribution system</li> <li>Ensure all operations staff are fully aware of procedures when a potential drought is imminent through training or workshops.</li> <li>Have detailed documentation relating to abstraction orders.</li> <li>Maintain a register of contacts of Stakeholders, phone, email and standby/deputy contacts.</li> <li>Keep up to date long term weather forecasts.</li> <li>Ensure all Telemetry data is real time.</li> <li>Retain an up to date list of Tanker suppliers and bottled water suppliers, including framework procurement docs and costings.</li> <li>Prepare a water conservation plan for contingency for a DROUGHT category.</li> <li>Ensure availability of records of Water Supply Zones and detailed mapping of all distribution systems.</li> <li>Ensure there are accurate records for abstraction rates, production flows, volume storage in reservoirs and demand flow values.</li> <li>Before moving to a 'potential drought' category ensure the following</li> <li>Check the Drought Tracker doc.prepare and check the Drought Reporting tool.</li> <li>Prepare drafts of for the Drought Management Report, LA Summary Report, National Summary Report, Drought Management Table, DW Top 50 Sites Table.</li> </ul>	comms. -establish channells	ensure LA contacts are up to	maintain		Contact details available from	stand up drought tracker	Have up to date contacts for the national and regional	Liaise with web development company, media	
	hsqe/training	attendance at CMT training,	briefing reporting/tools					Communications mgmt team brief all employees on comms roles during a drought incident	Team meetings to discuss and update on roles and responsibilities. Digital marketing plan outlined across web and social media concerning all-inclusive conservation campaign relating to various categories of Drought
		cluster trending in relation to reactive cases coming in				DBO PLANTS NOTE			
	oversight of wsz resource management					Done on a day-to-day basis		Information on resources levels provided to the Communications Team	Ensure team added to all appropriate Asset Operations group emails so important information is received immediately
	as above	monitor of trending to possibilities of issues				Done on a day-to-day basis		N/a	
	as above					Done on a day-to-day basis		N/a	Monitor reservoir levels in order to decide if and when drought management scale is needed
	associated data preparedness	business as usual of data preparation on a minute to minute basis						Draft communciations to prepare for a potential drought- press releases, briefing notes, updates to external stakeholders such as elected reps, community groups, schools, key customers etc. Draft updates for web and social media channels and marketing materials	Begin promoting conservation awareness across Irish Water website and social media channels. Begin researching and drafting web and social media content in preparation for decreasing reservoir levels and outages. Liaise with teams across the business on a number of educational pieces to be included on water.ie
		attendance at workshops				Info to be provided from IW to DBO Contractors			
	Asset Planning - collate all abstraction orders.							Stats to be provided to Comms team for briefing notes and all comms material	Ensure appropriate Information is provided to digital marketing team and a member of the team attends all update meetings
	As above					With DBO Lead and recorded on LMC Meeting Minutes		Ensure media, elected reps, stakeholder groups contact details are up to date. Ensure internal deputy contacts are up to date.	Ensure Out-Of-Hours register is up to date and all comms contacts are easily accessible
				Weather master.				Information to be provided to the Communications Team	Information to be provided to digital marketing team
							Make available list of contractors / suppliers to provide the necessary support services for drought		N/a
	Develop plan on a page for WSZ supplying large populations (Pressure Management, F&F, Non-Dom Use, Excessive Usage, Conservation Order, ....)								N/a
	AI - GIS	Alignment of data for SharePoint tracker and use of GIS.					Alignment of data (WSZ, population, X,Y) for SharePoint tracker and use of GIS.	Maps should be provided to the Communications teams for issue with external communications and on our website and social media channels.	Ensure all maps are provided by the Communications team to publish on website and social media channels. Ensure maps are appropriate for distribution on web and social media chanel
						Recorded in monthly status reports provided to IW by DBO Contractors		N/a	
			Establish a drought tracker			Launch the drought tracker.	N/a		
			Finalise drought management reporting templates.			Automate reporting requirements.	Share information with Communications Teams	Ensure up-to-date communications are provided	



# Water Scarcity (Drought) Status Definitions & Triggers for Localised Schemes



## Reporting Tool

<b>Potential Drought</b>	<ul style="list-style-type: none"> <li>- Any supply that is showing stress in relation to source levels and reservoir or bank storage levels.</li> <li>- Any scheme with demand increases above normal.</li> </ul> <p>Note: This should relate to dry and high temperature conditions excluding general plant breakdowns which are not associated with weather.</p> <ul style="list-style-type: none"> <li>- Any scheme proposing source IFI Interventions</li> <li>- Any scheme that has historically been effected by water shortages due to dry weather and high temperatures.</li> </ul>
<b>Drought</b>	<ul style="list-style-type: none"> <li>- Any scheme or WTP where night and/or day time restrictions are in place</li> <li>- Any scheme where tankering is in place or IBCs in place</li> <li>- Any scheme serving bottled water to consumers</li> <li>- Any WTP that has to be shut down because of low source levels at intervals during 24 hour operation</li> <li>- Any scheme where source IFI Interventions are agreed and are in place.</li> </ul>
<b>Severe Drought</b>	<ul style="list-style-type: none"> <li>- Any scheme or WTP which has experienced the conditions of 'Drought' for more than 4 days.</li> <li>- Any scheme or WTP that has to be shut down indefinitely because of source and demand issues.</li> <li>- Any scheme that has full tankering import of its water supply to its reservoir for more than 2 days.</li> </ul>

AO Master Tracker - Whiddy Island WTP

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Edit

Save

Close

Paste

Copy

Cut

Delete Item

Current View: Water Supply

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Water Supply
Power Supply
NIMT
Resources
A & I Data
Abstractions

LA	Cork
Plant Name	Whiddy Island WTP
Water Scarcity Issue*	Water Scarcity Emergency
Water Scarcity RAG	Red
IW Contact	Niall O'Riordan
Is there a Conservation Notice in Place?*	Is there Customer Restrictions in Place?*
Yes	Yes
Source/Treatment intervention in Place?*	Network Intervention in Place?*
No	No
Water Cons. Note Issued	WS Restriction Start
WS Cons. Note Lifted	WS Restriction Lifted



# Water Scarcity : Stressed Sites 2022

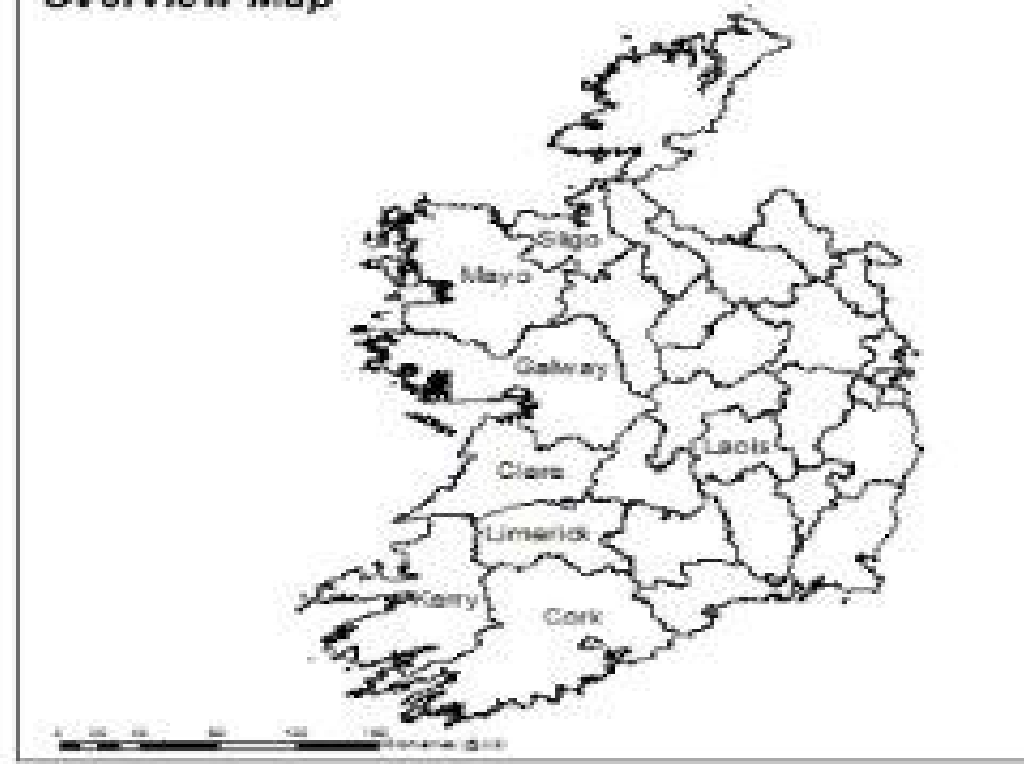


## Legend

- Abstraction Point
- Water Treatment Plant



## Overview Map



<b>Map Information</b>	<b>Map Style</b>	<b>Map Layers</b>	<b>Map Tools</b>
<ul style="list-style-type: none"> <li>Map Title</li> <li>Map Author</li> <li>Map Date</li> <li>Map Version</li> <li>Map Scale</li> <li>Map Projection</li> <li>Map Data Source</li> <li>Map License</li> <li>Map Contact</li> </ul>	<ul style="list-style-type: none"> <li>Map Style</li> <li>Map Theme</li> <li>Map Color</li> <li>Map Font</li> <li>Map Symbols</li> <li>Map Labels</li> <li>Map Background</li> <li>Map Borders</li> <li>Map Grid</li> <li>Map Legend</li> <li>Map Scale Bar</li> <li>Map North Arrow</li> </ul>	<ul style="list-style-type: none"> <li>Map Layers</li> <li>Map Visibility</li> <li>Map Order</li> <li>Map Refresh</li> <li>Map Reset</li> <li>Map Zoom</li> <li>Map Pan</li> <li>Map Rotate</li> <li>Map Measure</li> <li>Map Print</li> <li>Map Export</li> <li>Map Share</li> </ul>	<ul style="list-style-type: none"> <li>Map Tools</li> <li>Map Search</li> <li>Map Filter</li> <li>Map Layer</li> <li>Map Legend</li> <li>Map Scale Bar</li> <li>Map North Arrow</li> <li>Map Print</li> <li>Map Export</li> <li>Map Share</li> </ul>



Ordnance Survey Ireland 2018

UISCE  
DRY - IRISH  
WATER

Print Date: 3/6/2023

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Printed by: glurner



# Climate Adaption – Use of nature-based solutions



- Use of nature-based solutions to minimise the risk on sensitive area
- Devise and implement new policies
- Learn from the lessons of others around slowing the flow
- Transferring the learnings from the nature-based solutions back into the rural landscape.
- These climate adaption measures should all contribute to a reduction in water scarcity instances



Image: Fran Igoe, LAWPRO



# Need for NBS Guidance?



Initial webinar in 2020 with approximately 500 attendees -

Feedback from the attendees - Nature based SuDS would significantly benefit water, climate adaptation, biodiversity, and human well-being objectives.

81% of respondents to poll believed that Nature based SuDS were not being adequately implemented in Ireland.

Scoping study to determine the components and parameters of a National SuDS Implementation strategy.

To publish a Nature-based Solutions Interim Guidance document



Image: South Dublin County Council, Chris Galvin





Rialtas na hÉireann  
Government of Ireland

# Water Sensitive Urban Design Delivering Nature-based Solutions to the Management of Rainwater Surface Water Runoff in Urban Areas

Scoping Study Report

Prepared by the Department of Housing, Local Government and Heritage  
[gov.ie/housing](http://gov.ie/housing)



Rialtas na hÉireann  
Government of Ireland

# Nature-based Solutions to the Management of Rainwater and Surface Water Runoff in Urban Areas

Water Sensitive Urban Design  
Interim Guidance Document

Prepared by the Department of Housing, Local Government and Heritage  
[gov.ie/housing](http://gov.ie/housing)



Surface water and rainwater  
runoff in urban areas –  
guidance doc



Image: researchgate.net



# Information Webinars



- Launch of **Interim Guidance Document** - Nov 2021 Approx. 500 attendees
- Project Managers in Urban and Rural public funded schemes – March 2022. Approx. 300 attendees
- **Active Travel** teams – May 2022. Approx. 230 attendees
- CPD presentation for **Department Planners** – May 2022 –approx. 20 attendees
- **Engineers Ireland Webinar series** – May 2023 – 4 webinars with over 1200 registered for each webinar. 1<sup>st</sup> webinar attended by over 1500 people



Image: Front of St Peter and Pauls Church, Clonmel, Fran Igoe



# NBS – looking to other countries – best practice – climate adaption measure



Image: Flowstobay.org



Image by Jason Taylor, Sidney



Image: Urban Design London



# DMURS Advice Note 5: Road and Street drainage using Nature-based Solutions



## Advice Note 5 Road and Street Drainage using Nature Based Solutions

Design Manual for  
Urban Roads and Streets



Rialtas na hÉireann  
Government of Ireland



Published in August 2023



# Rainwater Management Planning

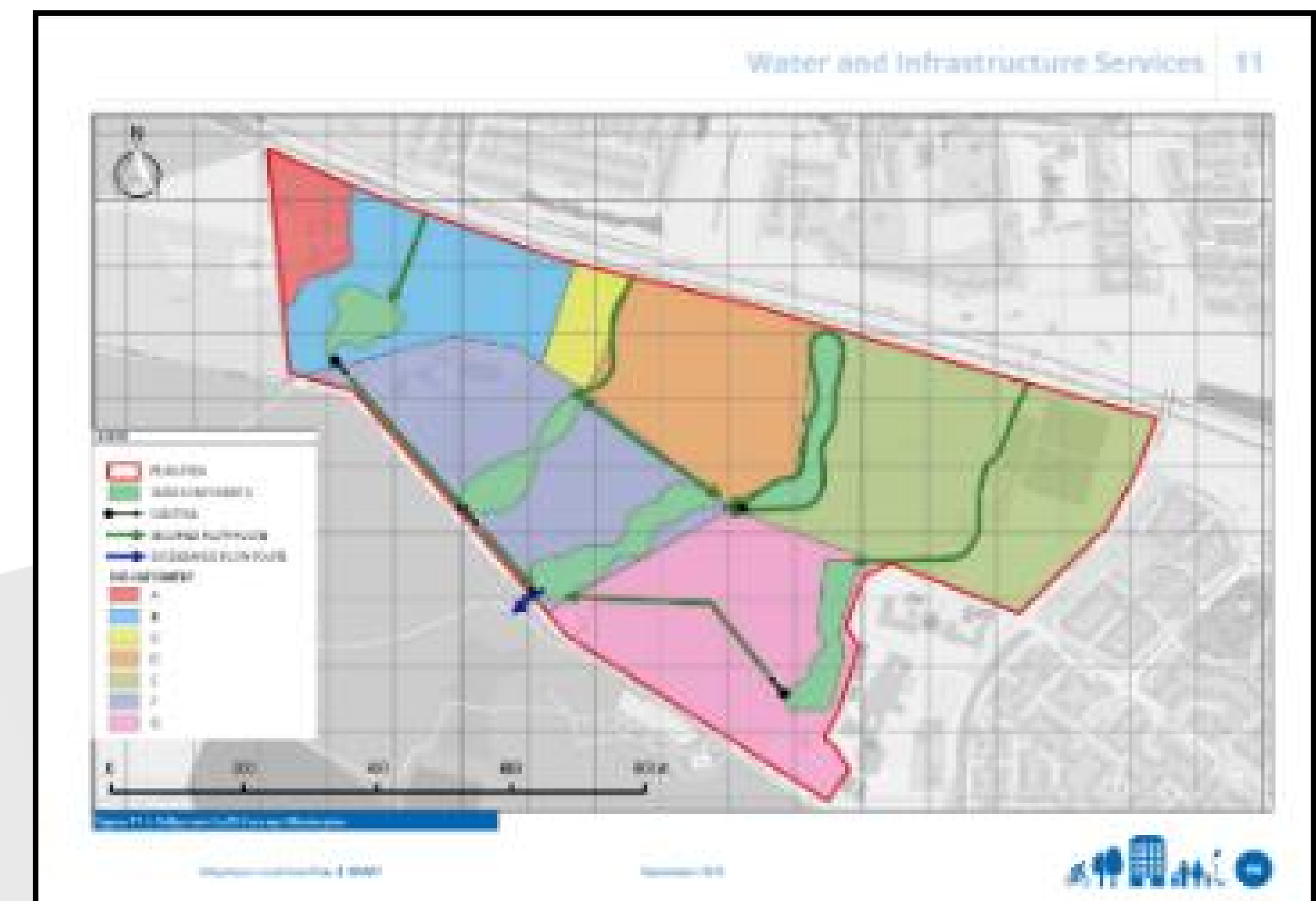
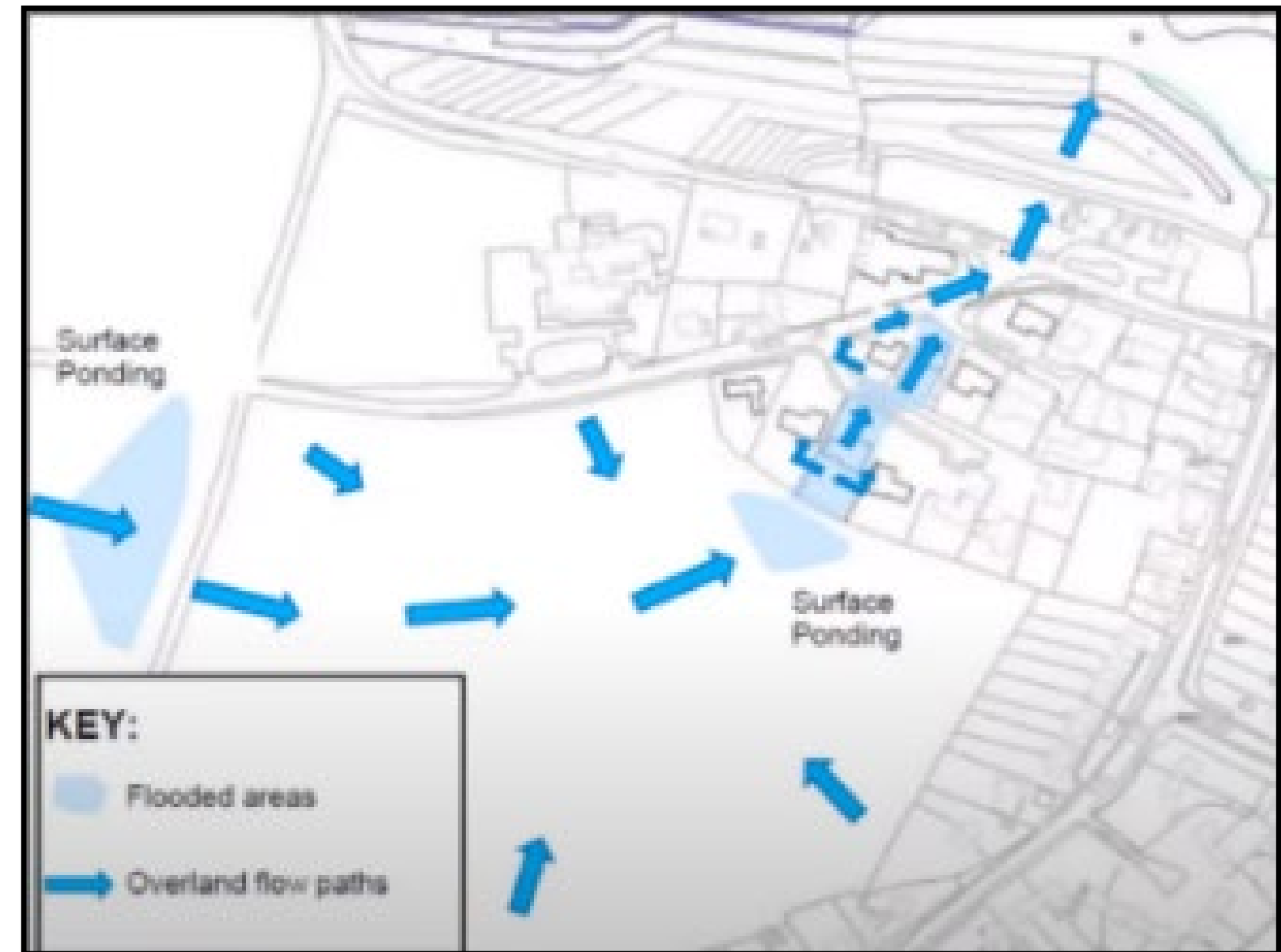
Integration of water sensitive urban design concepts including development of **Rainwater Management Plans** as part of settlement plans / Local Area Plans)

**Follow water across the development landscape.**

Will become more important from Climate Change perspective (pluvial flooding, cloud bursts etc).

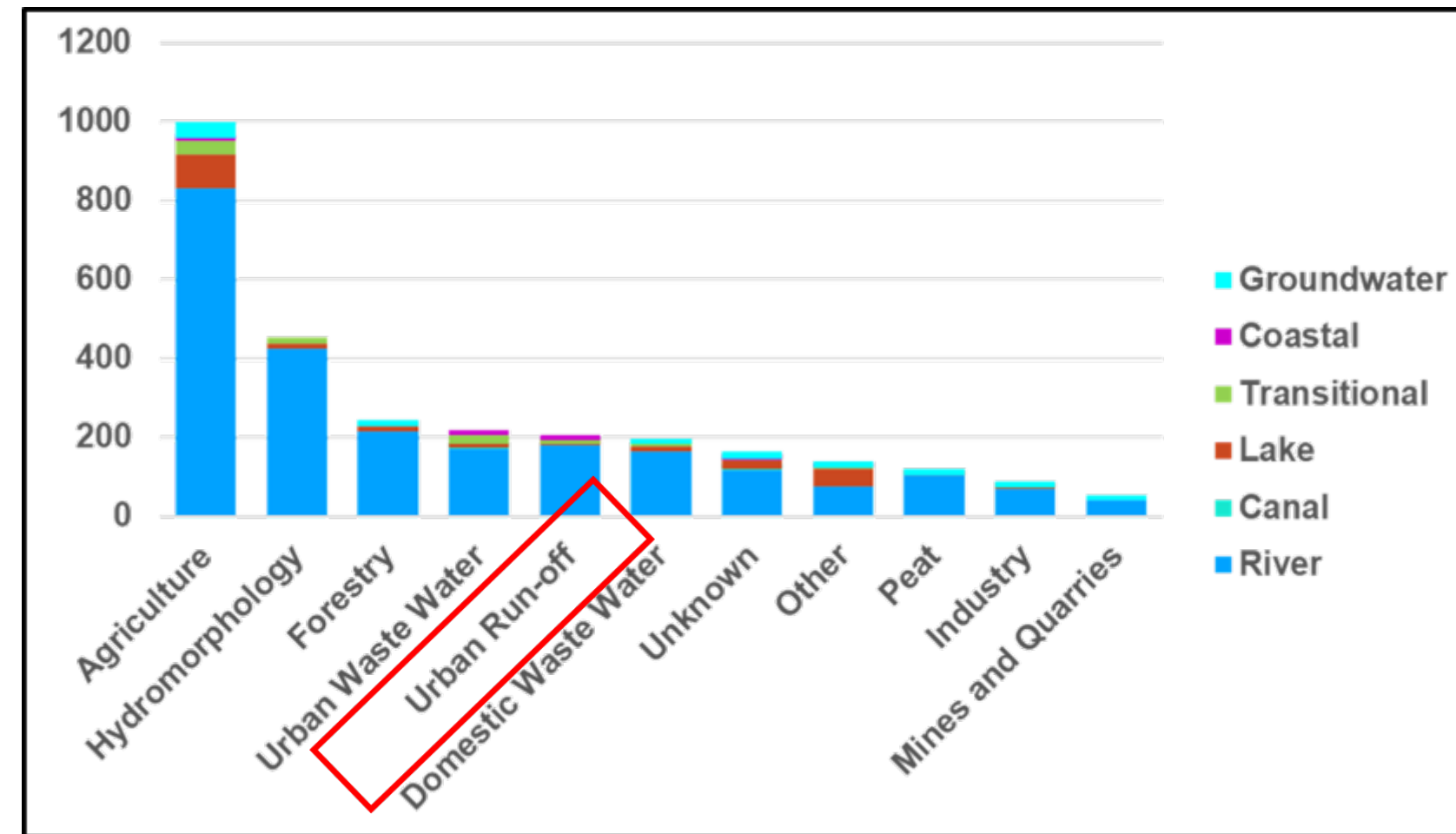
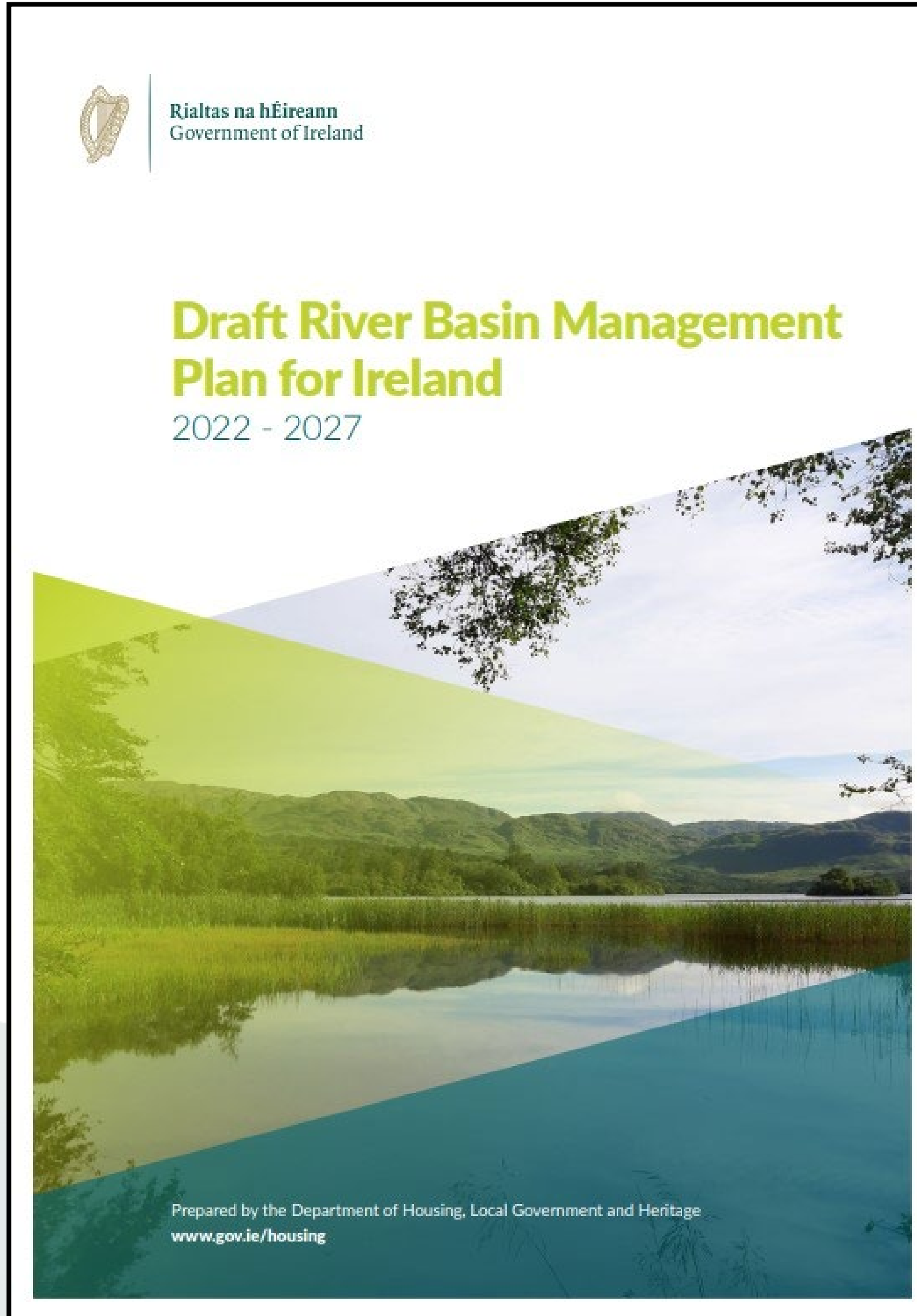
Guide location, type, scale and integration of nature-based solutions

*Working with **Cork\***, **Wexford**, **Offaly**, **Kildare**, **Fingal** CoCos on development of template*





# National Implementation Strategy for Nature-based Solutions



Measure in the RBMP  
2022-2027

National Implementation  
Strategy Project commencing  
in 2023



Image by Jason Taylor, Sydney



# Water European Innovation Partnerships Initiative



Image by Donal Daly



Images by Donal Daly

- In December 2022 the Department of Agriculture, Food and the Marine, in collaboration with the Department of Housing, Local Government & Heritage, issued a call under the European Innovation Partnerships Initiative seeking proposals for the development and implementation of one single EIP with national coverage, targeting water protection and restoration actions on lands under agricultural management within River Basin Management Plan Areas for Action.
- The new Agri-Climate Rural Environment Scheme (ACRES) aims to contribute significantly to achieving improved biodiversity, climate, air and water quality outcomes. These will be achieved through two approaches under the scheme:
- ACRES has capacity to support up to 50,000 farmers in implementing measures.





# Future and Conclusion



- Further work in the Water Scarcity area – localised situations most critical for Ireland
- Promotion of Nature-based solutions in Ireland through planning and guidance
- Aim that National Implementation Policy will provide a road map for the regulator requirement for inclusion of nature-based solutions in all projects where possible.



Photo: Graney River, Waters of LIFE project

Thank you

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