A Review of Best Practices (National and International) in Public Participation in Environmental Management, with Policy Recommendations for the Protection and Restoration of Water Bodies

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Executive summary

The Republic of Ireland, like many other countries, is dealing with urgent environmental issues such as biodiversity loss, climate change, and water quality concerns, all of which are interrelated. Underscored by various international agreements, including the European Union Water Framework Directive and the Aarhus Convention, public participation as a comprehensive and inclusive strategy that actively engages the public in decision-making is required to address these interrelated challenges. Public Participation involves the public or individuals sharing their perspectives and offering suggestions throughout a decision-making process and has significant universally acknowledged benefits. Nonetheless, like many, if not all, other countries, the Republic of Ireland encounters challenges that impede effective Public Participation, with policy incoherence, inadequate resources, and a lack of clarity regarding roles and responsibilities among the factors that hinder its progress. The Republic of Ireland, however, stands at a juncture marked by the formulation of the 3rd River Basin Management Plans (RBMP) and the intended Catchment Community Fora by the Local Authority Waters Programme (LAWPRO), which requires effective PP for its success. This study employs a qualitative approach, incorporating case study reviews and stakeholder interviews, with the primary goal of drawing valuable insights from a variety of national and international case studies on Public Participation in environmental management. Emphasising on environmental education, user-friendly online platforms, funding availability, diversity, and inclusion, this study identifies several best practices that can be adopted within the context of the Republic of Ireland. Regular upskilling programs for environmental officers, embracing modern communication tools, augmenting human and financial resources for the LAWPRO, and implementation of mandatory assessment and feedback mechanisms are among a number of policy recommendations professed in this study. Lessons from the Environmental Water Advisory Group in New South Wales and the Water Board of Netherlands on how to utilise local expertise to drive actions towards resolving environmental challenges at catchment levels while contributing to broader water policy at the national level are also suggested. Additionally, the study recommends actively involving vulnerable and migrant communities and the youth in environmental decision-making. By considering the various recommendations in this study, the Republic of Ireland has the potential to create an environment that encourages meaningful Public Participation and engagement, strengthens collaboration among stakeholders, and promotes informed decision-making and implementation practices in environmental matters.

1. Introduction

There is a growing realisation that global environmental challenges, such as biodiversity loss, climate change, and water quality and availability, cannot be addressed in isolation due to their interwoven connection (Reed et al., 2018). In recent decades, the significance of Public Participation (PP) in addressing these global environmental challenges has gained prominence as a practical approach to fostering trust, promoting shared learning, reducing conflicts, and providing support for those affected by these challenges and plan of action to address them (Hügel & Davies, 2020; Reed et al., 2018). This is particularly evident within the water sector, where specific PP provisions are encouraged as an inclusive and democratic decision-making process, incorporated into various regulations such as the Aarhus Convention, Maastricht Recommendations, the Sustainable Development Goals (SDGs) and the European Union Water Framework Directive (WFD) Article 14 Directive 2000/60/EC (Hough et al., 2022). PP under WFD is defined as involving the public in decision-making, fostering an understanding of environmental problems, and promoting acceptance and commitment to proposed plans (European Commission, 2003). In the context of water catchments, PP encompasses public perspectives, sentiments, and actions regarding water quality and broader catchment issues (Koski et al., 2019). In the context of this study, PP is succinctly referred to as the process of enabling individuals or the public to share their perspectives and offer suggestions throughout an environmental decision-making process and the extent to which these perspectives and suggestion impacts decisions put forth. European Union (EU) Member States under the tenets of WFD are to actively engage all interested parties and provide consultation opportunities for access to background information used in developing River Basin Management Plans (RBMPs). Article 14 of the Directive further outlines approaches to stakeholder engagement and public consultative process[1] (European Union, 2020; Wright & Fritsch, 2011). Although the Common Implementation Strategy (CIS) and associated guidance documents for achieving RBMPs under the WFD strongly advocate for PP, it legally remains non-binding with the legal requirements outlined in Article 14 of the WFD primarily focused on information provision and consultation rather than active participation (Albrecht, 2016). This is because the complex technical demands of the Directive do not align seamlessly with the principles of active PP, potentially reinforcing traditional expert-led consultative approaches (Jager et al., 2016). As a result, the evolution of PP among many EU states remains uneven, with countries like Austria, France, and Germany experiencing improved PP whilst others lag (CPP, 2011; EEA, 2014; Jager et al., 2016; Koski et al., 2019). The Republic of Ireland (RoI) has only managed to marginally increase PP due to recent broader reforms in water resource management under its 2nd RBMP compared to other countries like France, and the Netherlands, where RBMP is more entrenched (Antwi et al., 2021; Jager et al., 2016). Nonetheless, research points to PP as essential in meeting WFD objectives towards 'good ecological status' in Europe and addressing the limitations on transparency, inclusivity, and accountability in water resource management

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- [1]Establishing a timetable and work program for RBMP production (commencing at least 3 years before the plan starts).
- Providing an overview of significant water management issues in the river basin (commencing at least 2 years before the plan starts).
- Drafting the RBMP (commencing at least 1 year before the plan starts).

and governance (OECD, 2015; Pellegrini et al., 2019). Bresnihan & Hesse (2019), in a Desk Study on Public Engagement in Water Governance, argue that not only does PP facilitate transparency and accountability, leading to well-informed decision-making and monitoring and evaluating management practices, but it also ensures the credibility of decision-making processes and supports that the interests of underrepresented groups are recognised. Despite such benefits, efforts towards achieving an ideal PP in water governance and management face several challenges as PP varies by situation. These challenges include limited policy incoherence, a dearth of human and financial resources, undefined roles and responsibilities within the water sector, and a limited understanding of what constitutes effective PP in decision-making (Antwi et al., 2021; Cinnéide et al., 2020).

1.1 Public Participation In the Republic of Ireland: An Overview

The 2020 OECD Better Life Index placed the RoI as the 6th lowest in terms of civic engagement regulation and active engagement in policymaking processes, on a score of 1.3, lower than the OECD average of 2.1 on a scale between 0 and 4 (OECD, 2020). However, in recent years, efforts have been made towards mainstreaming public engagement and participation, particularly in decision making. The adoption of the RBMP set out measures required to meet WFD objectives by offering a comprehensive, integrated and coordinated guide to water quality objectives and programme of measures under three planning cycles: 2009-2015 (phase one), 2016-2021 (phase two) and 2022-2027 (phase three). Although the RoI delayed implementing its 2nd RBMP, the establishment of the Local Authority Waters Programme (LAWPRO) to lead public engagement and consultation on draft RBMPs and the creation of the Catchments Unit within the Environmental Protection Agency (EPA) and its online portal, catchments.ie., help provide the public with access to water quality data, maps, and community stories on water resources. More so, the establishment of An Fóram Uisce as a statutory body with the mandate of informing national policy development and implementation based on stakeholders perspectives, is another example of efforts towards improving stakeholders perspective in decision making processes in the country. A guide on planning, implementation and review of engagement processes has also been launched recently through a joint collaboration between the Department of Rural and Community Development (DRCD), Community Work Ireland and Pobal[2] with the support of the Irish Local Development Network (ILDN) along with Local Authorities and Public Participation Networks (PPNs) to enhance the capacity of Local Community Development Committees (LCDCs) (Government of Ireland, 2023a). The Department of Public Expenditure, National Development Planning Delivery and Reform through a citizen-official joint working group and consultation processes has recently outlined measures on how to improve data access and citizen science, barriers to services, public participation, communication and governance processes in the RoI as part of the fourth Open Government National Action Plan 2023-2025 (Government of Ireland, 2023b). These organisations and bodies work across different scales with their roles and responsibilities transcending across regional to national and local levels, towards improving PP in water and environmental decision making in RoI (Table 1).

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[2]Pobal https://www.pobal.ie/

Table 1: Existing structures that support PP on water/environmental management in the RoI

Scale	Actions towards PP in Environmental Decision-Making
RoI National Level	The **Citizen Assembly** is a tool for environmental policy-making with randomly selected but representative individuals meeting to discuss issues related to the environment. In 2017, the Citizen Assembly of 99 members reviewed various contributions toward a climate change policy direction for the country (Koski et al., 2019). The most recent Citizens' Assembly on Biodiversity Loss in RoI made 159 recommendations to halt the loss of biodiversity and this included 14 recommendations pertaining to freshwater resources and their management (Citizens' Assembly, 2023). As part of the Water Services Act 2017, **An Fóram Uisce-the Water Forum** was established to facilitate stakeholder engagement in water policy. The Forum is the only statutory body established to provide stakeholder input into water policy development (An Fóram Uisce, 2022). With 25 members representing sectors such as agriculture, business, forestry, education, community and voluntary, environmental NGOs, angling, recreation, rural water sector, rivers trusts, tourism, trade unions and Irish Water Consumers a wide variety of perspectives are enabled to contribute to policy. The Forum make recommendations to the Department, Uisce Eireann, Commission for Regulation of Utilities, Water Policy Advisory Committee on matters concerning the management of Ireland's water resources, the interests of customers, rural water services, water conservation and future proofing (The Water Forum, 2022). **The Public Participation Networks** (PPN) were set up as a structure to bring together Community and Voluntary, Environmental and Social Inclusion groups in each local authority area together. PPN membership is open to all volunteer-led/not-for-profit groups and their representatives of these group participate in local governance through the Strategic Policy Committees in Local Government and do contribute to the development and implementation of Local Community Economic & Development Plans. These initiatives and organisations demonstrate attempts at enhancing local-level engagement and promotion of public participation (PPN, 2021).
Regional Structures	To enhance the capacity of **Local Community Development Committees** (LCDCs) in engaging with the public on planning and decision making, a Guide For Inclusive Community Engagement in Local Planning and Decision Making was published since October 2023 through collaboration with the Department of Community and Rural Development, Community Work Ireland and Irish Local Development Network (Government of Ireland, 2023a). The guide is of relevance to local authorities, public sectors and community groups/organisation in forging inclusive local decision making and service provision. It outlines nine principles to ensure that there is meaningful and effective community level consultation and engagement processes. The **Local Authority Waters Programme** (LAWPRO) is a Local Authority shared service with 60 specialist staff based within 13 different local authority centres nationwide. They coordinate the implementation of the RBMP through Regional Management Committees and cooperation between local authorities and relevant agencies through Regional Operational Committees. Their communities team

Local structures	supports stakeholders and communities to get involved in caring for local waterbodies. They carry out detailed catchment science assessments across 190 Priority Action Areas (PAAs) and work with the Agricultural Advisory Support Services (ASSAP) to implement actions to deliver water quality outcomes (Cinnéide et al., 2020; LAWPRO, 2019). Within the framework of ASSAP) LAWPRO also works with Teagasc and dairy industry stakeholders to provide advice and support to farmers operating in catchment regions with a high risk of environmental impact and on Nitrates Directive (ASSAP, 2019) LAWPRO work with **Rivers Trusts** Ireland to support the development of Rivers Trusts and catchment groups. At present, there are approximately 65 member Rivers Trusts across Britain, Northern Ireland and the ROI with a wealth of data and expertise and who have the reputation of being "doers" in protecting river catchments, conserving and managing local rivers through wider collaboration with stakeholder groups such as farmers, land owners, and businesses[3]. The Department of Housing, Local Government and Heritage (DHLGH) through the River Restoration Pilot support these Trusts to deliver programmes such as the River Guardians Awareness programme and implement measures for water quality. A review of this programme is currently underway. River Trusts concentrate on delivering practical improvements for their rivers and get involved in education, flora, fauna, fisheries, biodiversity, habitat, access, pollution and any other issues that impact their river catchment, such as climate change, litter and underlying social problems leading to environmental decline (EPA Catchments Unit, 2019). **Group Water Schemes** (GWS) are community-based initiatives designed to provide a safe and sustainable drinking water supply to rural areas that may not have access to a public water system. GWS typically begin as community initiatives, where residents in a rural area come together to address their water needs collectively. Recognising the importance of catchment and source protection to the delivery of a safe and wholesome drinking water supply, the GWS sector has been centrally involved, along with individual group water schemes in progressing several pilot projects and a mapping project aimed at preventing or reducing the contamination of raw water sources. They attract operational subsidy payment and capital funding towards specific measures under the Rural Water Programme the DHLHG (NFGWS, 2019). Initiatives aimed at protecting drinking water sources are implemented by certain schemes as part of the NFGWS source protection plan (See Box 1).

There has also been a steady rise in the number of initiatives and research aimed at improving PP in the environmental/water sector decision-making process, including citizen science initiatives that involve community members and scientific and non-professional scientists in joint scientific investigations usually at catchment level (Bresnihan & Hesse, 2019; Government of Ireland, 2023b; Hough et al., 2022; Roche et al., 2021; Rolston et al., 2016). Engaging citizens in scientific initiatives allows for the collection of data from locations that otherwise could be inaccessible or expensive to collect such data from and also connects citizens with their catchment (Weiner et al., 2022). The 2007 Heritage Council-founded National Biodiversity Data Centre supports several citizen science programs in RoI and maintains a nationwide gateway for species observations (Roche et al., 2021). There are other initiatives of note including the Green Schools programme which

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[3] The Rivers Trust. https://theriverstrust.org/

is a student-led programme funded by many government agencies and local administrations and is freely available in 93% of Irish schools to promote environmental awareness among students (DCCAE, 2019; OECD, 2021). The Blue Dot Catchments Programme and Communities Caring for Water Conference, Blue Flag Award for Beaches and Marinas and other programs like the GLOBE program, Tidy Towns Awards, Young Scientist Awards, and Young Environmentalist Awards all contribute to citizen-led involvement in sustainable development and climate action. The Teagasc Signpost Series also offers educational awareness on sustainable agriculture and the environment. The Irish primary school Social, Environmental and Scientific Education (SESE) curriculum attempts to foster exploration, understanding, and skill development in natural, human, and cultural dimensions of the local and wider environment (O'Malley & Pierce, 2023). Although, not straightforward to navigate, the open-access, searchable environmental research database by the EPA (erc.epa.ie/smartsimple) allows public access to environmental information and databases. The EPA's catchments.ie publishes scientific narratives on water resources and stories across various catchments (EPA Catchments Unit, 2019). Some catchment communities have also developed 'visions' for their catchments based on the RIPPLE (**R**ivers **I**nvolving **P**eople, **P**laces and **L**eading by **E**xample) process[4] to recall their memories of the river environment, create a shared vision for the river and discuss who need to be involved in making the vision a reality and efforts need to achieve the vision (Catchment News, 2018). The Maigue Rivers Trust and Inishowen Rivers Trust (Box 1) raise awareness, create and implement projects, and encourage participation in physical instream works in respective catchments. The iCatch Hub Network[5] for instance formed in 2020 by The Maigue and Inishowen Rivers Trusts with funding from LAWPRO have its members meeting online on a monthly basis for expert talks, training, and peer-to-peer support on river trusts, river organisations, and catchment groups that want to enhance their water environment. These efforts and initiatives also help tackle issues that affect water quality at the local level, foster care for local water resources, and provide a way for communities, different groups, and agencies to work together to build relationships.

BOX 1

- **The Inishowen Rivers Trust**

  The Inishowen Rivers Trust (IRT), a grassroots organisation established in 2016 in north Donegal seeks 'to conserve, protect, rehabilitate and improve the rivers and natural waterbodies of the Inishowen Municipal District, including adjacent estuarine and coastal areas, for the advancement of environmental protection or improvement for the benefit of the public (Cinnéide et al., 2020). IRT aims to advance the education of the public, institutions, voluntary organisations, business, local authority, or representative bodies in the understanding of rivers, river corridors and river catchments, including their fauna, flora, biodiversity, economic or social activity, and river catchment management and also the need for, and benefits of, conservation, protection, rehabilitation and improvement of aquatic environments. Through funding by various government departments like the Department of Agriculture, Food and the Marine, EU LEADER Programme, Office of Public Works (OPW), LAWPRO and Donegal County Council, IRT runs a number of projects and initiatives including River Restoration, as a process of repairing and restoring rivers to the their natural state for

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[4] The RIPPLE Catchment Planning Process was designed by Ballinderry Rivers Trust, County Tyrone, as part of the RIPPLE Project (2006-12), in partnership with the Rural Community Network for Northern Ireland and WWF-NI. https://www.sourcetotap.eu/wp-content/uploads/2022/07/How-to-Guide-1-RIPPLE-Methodology.pdf

[5] The iCatch. Network. https://www.youtube.com/channel/UCmHdXfVsQKcMYkNEKxzIKgA

the benefit of both community and wildlife. In addition, IRT runs the Invasive Alien Plants project to map the distribution of Invasive plants and species across Inishowen and particularly those found on riverbanks where they can cause bank erosion and Eco Carn project[6] aimed at carrying out an Audit and developing a Biodiversity Action Plan for Carndonagh. Upon request, IRT school educators can also visit various schools to offer an hour's talk and hands-on activities or field visits as a means of letting students/children know how rivers work and the animals that live in their local rivers.

- **Maigue River Trust**
  The Maigue Rivers Trust (MRT) which was established in 2016 has 11 directors drawn from sectors which represent a range of social, economic and environmental interests, and covers an area of over 1000 square kilometres stretching from near Charleville in North Cork to the Shannon Estuary taking in almost a third of county Limerick along with areas of Co. Tipperary and Cork[7]. MRT works with local communities to ensure that the rivers and lakes of the Maigue catchment can achieve their full potential both environmentally and recreationally. MRT encourage community participation by developing networks of interest groups that can advise the trust on action plans to enhance water quality across the catchment. It also provides volunteer opportunities for the public to be part of biodiversity protection and assessment. In 2022, MRT secured funding from LAWPRO's Community Development Water Fund and Limerick City and County Council - Kilmallock & Cappmore Municipal Fund allocation - to start giant hogweed control measures on the Morningstar River between Elton and Ballyvolane (Maigue Rivers Trust, 2022).

- **Group Water Schemes (GWS)**
  GWS (See Table 1) under the auspices of the National Federation of Group Water Schemes (NFGWS), runs a number of projects particular to their location. The Stranooden GWS[8], for instance re-evaluated its strategies to tackle pesticide contamination in response to a high number of pesticide exceedances. It also engages primary schools under its "Let it Bloom" campaign to encourage pupils to plant at home[9].

The activities and collaborative efforts undertaken by these community-based groups promotes awareness, fosters public participation, and facilitates active involvement in decision-making processes that have a direct impact on their catchment.

Nonetheless, in the context of the 2nd RBMP, the progress of PP has fallen short of expectations from both the public and institutions like An Fóram Uisce (Antwi et al., 2021; Bresnihan & Hesse, 2019). Perhaps, this may be due to the excessive focus on policy formulations compared to effective implementation actions. Ideally, the existing institutions involved in PP in RoI at different scales are anticipated to collaborate seamlessly, whereas the likes of LAWPRO, GWS, and Rivers Trust are to engage at local levels and feed their output into national levels towards influencing policy decisions. However, the extent to which their feedback is taken and fed into national policies, and the extent to which these institutions reflect on their responsibilities, their work done, and how they could been done differently to promote effective participation remains largely unknown or recognised. The level of information flow and feedback sharing between these institutions is undefined. While the significance of data and information in the catchment-based approach to water governance is underscored by Hesse et al., (2023),

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[6] ECO Carn. https://inishowenriverstrust.com/eco-carn/
[7] The Maigue Rivers Trust https://maigueriverstrust.ie/
[8] Stranooden GWS strategies to end pesticide contamination. https://nfgws.ie/stranooden-strategies-to-end-pesticide-contamination/
[9] Stranooden GWS strategies to end pesticide contamination. https://nfgws.ie/stranooden-strategies-to-end-pesticide-contamination/

policy decisions often neglect data from local scales. This is attributed to issues such as data contradictions and a lack of recognition, revealing a prevailing disconnect between catchment-based data and environmental governance approaches in RoI. A study by Antwi et al., (2021) further points out limited public awareness and resources, fragmented governance structures, power imbalances, and issues related to trust and conflict among actors within the water sector in the RoI as some factors impacting effective PP. In 2022, the challenges with PP were acknowledged in the draft of the 3rd RBMP by the Department of Housing, Local Government and Heritage (DHLGH, 2022b). The draft RBMP calls for a more streamlined governance structure with clear actions, targeted measures, and meaningful PP, including education and outreach programmes, capacity building, and increased funding (DHLGH, 2022b). The Water Forum, in its submission on the draft RBMP for the 3rd cycle, also called for a radical improvement in PP, including a new national approach to PP (The Water Forum, 2022).

1.2 Research Approach

Considering the complex nature of water governance and the involvement of several stakeholders in managing and controlling the resources in the Republic of Ireland, a qualitative research approach was deemed suitable for data collection and analysis in this study. The overarching objective of the study was to derive valuable insight from a variety of national and international case studies on Public Participation (PP) in environmental management and formulate a practical participatory policy output that applies to the specific context of the RoI. The intended outcome is to enhance awareness, strengthen capabilities, and support policy measures and actions to achieve water quality outcomes and associated benefits for biodiversity and climate through improved PP.

Stakeholder interviews

To achieve the research objective a wide range of stakeholders from various environmental organisations/groups, including government institutions were identified (Table 2). The interview process specifically involved 20 stakeholders from within the RoI (referred to as national stakeholders) and 10 international participants from Europe, Australia, and Africa (referred to as International stakeholders) who knew about, participated in, managed, and made decisions relating to PP, water resources and the environment. The entire process was conducted through Zoom teleconferencing and Microsoft Teams from June 2023 to October 2023, with a number of research questions (See Appendix 1).

Table 2: Interviewed list of Stakeholders

National stakeholder Institution	Reference Code	Number of interviewees	Country
An Taisce	ST_TAISCE_1 ST_TAISCE_2	2	RoI
Coast Watch	NG_CW	1	RoI
Department of Housing, Local Government and Heritage	DF_DHLGH	1	RoI
Dublin City University	AI_DCU_WB	1	RoI
Dundalk Institute of Technology	AI_DKIT_CREDIT	1	RoI
GLOBE Ireland	NG_GI	1	RoI
Heritage Council	ST_HC	1	RoI

The Local Authority Waters Programme	LP_LAWPRO 1 LP_LAWPRO 2 LP_LAWPRO 3	3	RoI
National Federation of Group Water Schemes	NFGWS_WS_1 NFGWS_WS_2	2	RoI
Public Participation Network	CH_PPN	1	RoI
Stranooden Source Protection Pilot Project	SP_SSPP_01	2	RoI
Voice Ireland	NG_VI	1	RoI
River Trust	RT_01	1	RoI
Tidy Towns	TT_01 TT_02	2	RoI
International stakeholder Institution		Number of interviewees	Country
Nature Conservation Council, Australia	MG_NCC_AU	1	Australia
Ozfish, New South Wales, Australia	CC_OZ_AU	1	Australia
African Water and Sanitation Association	E_AFWA	1	Côte d'Ivoire
Omgevingsmanager Eems-Dollard		1	Netherlands
Technical University of Delft	H_TUD_NL	1	Netherlands
Province Groningen	BM_GP_NL	1	Netherlands
Deltares	AB_DELTARES_NL_01 JO_DELTARES_NL_02	2	Netherlands
South African Institute for Water Research	C_IWR_SA	1	South Africa
Centre for Sustainability Transitions, Stellenbosch University	MO_CFST_SA	1	South Africa

Case Study
Following the code of best practice in literature/case study review by Collins et al. (2015), a scoping review was used to identify and summarise the evidence of PP from various countries (see sections 3.1 and 3.2) using up-to-date research publications, government policies and institutional reports, and information from various environmental organisations. Additionally, the case study review focused on two themes of the Aarhus convention - access to environmental information and PP in environmental decision-making. Consideration was also given to international regulations and directives, like the 2022 Environmental Performance Index (EPI, 2022), the Water Framework Directive (200/60/EU), and EU Environmental Implementation Reports. Information derived from these cases helped in informing the various policy recommendations made in this study. Insights from the case study in addition to stakeholders perspectives from the interview, in turn, informed recommendations in this study.

1.3 Research Impact
The output of this study provides insights into enhancing public participation in environmental management and the protection and restoration of water bodies in the Republic of Ireland. It offers suggestions on improving communication and capacity-building opportunities for the public to participate actively in water governance and management at local and regional levels. The interviews with local and international stakeholders and the review of best practices also help to map strategies on how the

various institutions supporting PP can work together, utilising their knowledge and expertise to build synergies. Recommendations from the study also have an impact on the role of LAWPRO in particular in enhancing its catchment-based plan of actions and engagement initiatives.

1.4 Structure

The first section of this report introduces the scope of the study, the research approach, its impact, and an overview of PP in RoI. Chapter 2 highlights stakeholder perspectives on PP and presents an overview of the International Association for Public Participation (IAP2) spectrum system as a unit of analysis. A scoping review and synthesis of Best practices in Public Participation for Water Bodies Management is presented in Chapter 3. Chapter 4 of the study presents a proposed new approach to PP using an Integrated Participatory Model (IPM). It also provides valuable perspectives on how various institutions can collaborate toward achieving set environmental goals and objectives. Finally, Chapter 5 presents key policy recommendations for effective public participation in the Republic of Ireland.

2. Stakeholder Perspective on Public Participation

The interviewed stakeholders[10] in this study shared a number of perspectives on what constitutes PP, its challenges, and prospects in promoting environmental decision-making. They shared in common the key benefits of PP (Fig. 1) but differed largely on key barriers and challenges to effective PP. The differences in perspective reinforce assertions made in various studies, revealing that the diverse interactions between public bodies, citizens, communities, and stakeholder groups have an impact on the precise definition, manifestation, and outcomes of PP within policy frameworks (Bresnihan & Hesse, 2019; Graversgaard et al., 2016).

Defining PP

According to the national stakeholders (NSH), PP is primarily individuals from different backgrounds and demographics participating in decision-making processes. The process involves soliciting feedback and opinions from the public at local and national levels and allowing them to influence environmental discussions and decisions while also encouraging inclusivity. PP also entails strengthening community capacity, improving awareness, and facilitating involvement to foster partnership-based approaches to environmental projects and policies.

One NSH is quoted as saying *"It really means engaging society and really educating citizens around the impact they can make - true citizen science, and really showcasing how impactful that it can be".*

Another NSH also refers to PP as *"It's getting out into the rural communities and leaving the door open for everybody who has an interest be as a farmer, or a local*

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[10] International stakeholders (ISH) are from outside the Republic of Ireland. National stakeholders (NSH) are interviewees from the Republic of Ireland

> *dweller? If somebody is a in community group, they're enticed to come along and voice their opinions on whatever the topic is of the evening"*

According to the statements from both stakeholders, successful participation integrates the mind, the spirit, and the hands, where individuals understand, are motivated and actively contribute to local solutions. From the international stakeholders (ISH) perspective, PP succinctly involves the public in policy decision-making processes, especially in environmental management and resource services. It seeks to integrate stakeholders, enabling them to effectively contribute to policymaking and resource management in roles that may differ but are meaningful. PP allows individuals to engage in discussions, express their opinions, and influence outcomes.

> An ISH asserts that PP *"Is a very fraught and troubled process; it has not been an easy process. In western New South Wales, it is critical that the government and agencies' decision makers include the public in this decision when it comes to the river, especially because the rivers are very important to the community. They're very important culturally as well".*
>
> To another ISH, *"Is first of all to listen to the stakeholders and the general public; involve them in making decisions that impact them and make them aware of them periodically."*

The national stakeholders' perspective on PP largely focused on broader public involvement. They emphasised the importance of involving different stakeholders, getting feedback, and including the public in decision-making processes. While this perspective relates to the generic understanding of PP, the international perspective offers a more nuanced view, taking into account the gap that exists between constitutional mandates on PP and actual realities on the ground, further pointing to the various intricacies with PP especially when managing the environment and water resources. This perspective also cuts across what constitutes challenges and key barriers to effective PP.

Benefits of PP

The national and international stakeholders highlighted a number of key benefits associated with conducting effective PP (Fig 1). These benefits are consistent with documented advantages and benefits of PP in literature (Berry et al., 2019; Guo & Bai, 2019; Uittenbroek et al., 2019). These benefits when realised can bridge diverse social classes, enhance policy implementation by fortifying the legitimacy of decision-making processes, and, as a result, reduce conflicts resulting from inadequate representation and lack of inclusivity (Koski et al., 2019).
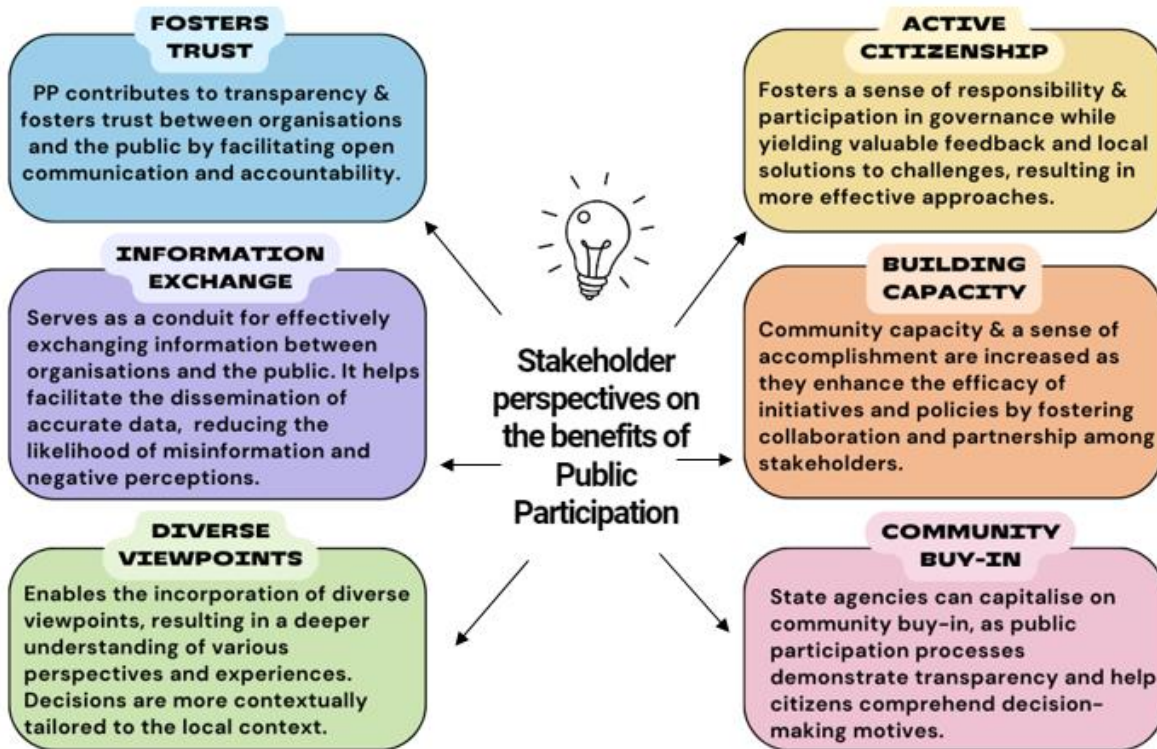
Figure 1: Stakeholder perspectives on the benefits of PP. Authors construct, 2024

Challenges to PP

Institutional coordination

When responsible bodies and institutions tasked with ensuring or facilitating PP collaborate transparently and harmoniously, the public is more likely to participate actively, as they perceive a genuine commitment to their input and concerns about local issues; nevertheless, both ISH and NSH admitted to institutional fragmentation as one challenge to having active participation rather than a public unwillingness to participate in water/environmental issues. Without cooperation and collaboration, any national strategy towards effective PP may be undermined. Resources may also be wasted because institutions do not share knowledge, experiences, or best practices. In addition, without effective collaboration, institutions may also use different standards, methodologies, and practices to promote PP, which may confuse the public and stakeholders because they may encounter different expectations and processes when engaging with different institutions. In the RoI there are various structures existing to enhance PP across different scales but most of them work largely in silos and do not collaborate with each other. This was affirmed by NSH who cited examples of how limited engagement and coordination affected their work in the past or are still remotely impacting their works.

NSH- "This is a kind of a point I've made like at the time the ASSAP program was introduced…there's good people working on ASSAP. There's good people working in LAWPRO, but at the time that programme was introduced, it was pretty much introduced without any consultation with the local authorities that had been working on water quality for the previous 20 years"

> *NSH- "From a water management perspective, we have to think differently, and I know we are with the catchments, but we still in terms of the governance there's still as you say the County Council's, and there's the lack of joined-up thinking and there's the silos and all the different things"*

Timing for PP

According to the NHS, the timing of PP is a crucial factor that significantly impacts engagement in RoI. Identifying appropriate timing for participation that is compatible with the availability and preferences of the community poses an ongoing difficulty. For example, periods of high activity in particular sectors, such as agriculture, might impede individuals' ability to engage in certain activities. The phenomenon of public fatigue and mistrust also emerged as a consequence of recurrent participation processes that fail to produce substantial outcomes. This influences the turnout or the number of people who choose to be part of participation processes, which overall also affects the entire approach to effective PP, considering that people who choose to participate are often volunteers and without any incentives.

> *NSH- "People are volunteers, and you have to look after them. So if that's bringing a flask of tea sometimes, or biscuits or whatever, you got to do that, you got to understand that their [sic] volunteers, they're doing it, they can stop doing it, whatever they want".*

Value on PP

The significance attributed to PP differs across organisations, communities and individuals. This impacts the degree to which PP is perceived and prioritised, which some NSH alluded to as a bane. To the ISH, the tension between strict adherence to policy requirements and the spirit of active PP envisioned by the Constitution of a particular country also makes participation difficult; as usually, PP is regarded as a trivial formality as opposed to a meaningful requirement needed for the success of environmental projects and initiatives. More so, the ISH admitted to the absence of diverse representation as a problem of PP, as frequently the same individuals or groups participate repeatedly, resulting in a lack of diversity of opinions and limited value placed on calls for PP.

> *NSH- "I think, in Ireland, we don't see the value in public participation as much as in other places. So we always have to make a case for that".*
>
> Another NSH also stated that *"Public participation is expensive and time-consuming. And it really depends on the decision, its complexity, and the parameters."*

PP facilitators

Although the facilitation of efficient PP requires the acquisition of particular skills, which in some instances is not possessed by either community members or officials tasked to undertake public participation, a common perspective shared by NSH revealed that the skill sets of persons that undertake participation remains questionable. In addition, the critical role of facilitators is to ensure all concerns/views of the public are heard, documented, and acted on and to create an environment where all participants feel their perspectives are respected and considered.

> *NSH- "Sometimes, participation is carried out by professionals and there's a barrier when the voices of the people contradict the knowledge the professionals have because they are not always ready to adopt the other choices".*
>
> *NSH- "I think what's really important is to acknowledge that this is difficult and that there are different kinds of creating a space where people can ask a question and not feel silly. So what we do is try to run those meetings in a facilitative and very kind way, creating a space where people can ask those questions."*

According to an ISH, when public opinions contradict expert knowledge, it can lead to conflicts. Complex water-related issues can involve influential vested interests and advocates, making it difficult to reach a consensus or reconcile competing priorities. Overall, inadequate investment in facilitators and facilitation mechanisms worsens the situation, as poorly managed PP processes discourages continued participation.

Communication and feedback mechanism

The NSH and ISH also alluded to the need to reach the public through multiple communication channels, such as social media, traditional newspapers, and other publications, and through in-person contact. More so, by making information available on many platforms, the public can get access to and participate in the decision-making process either physically or virtually. Engaging with people frequently, being available, and exhibiting a commitment to addressing their issues through these channels - according to NSH - has the capacity to create trust and confidence. Keeping records of meetings and conversations can foster trust among the public. This may be accomplished by writing down questions, concerns, and feedback. This promotes openness and accountability and guarantees that any unresolved issues or follow-ups are handled. From both the NSH and ISH perspectives, getting feedback from public meetings and actively incorporating their input into decision-making processes demonstrates a willingness to adjust and improve engagement activities consistently. However, there exists the Network for Ireland's Environmental Compliance and Enforcement (NIECE)[11] whose duties include, among others, the enforcement of environmental laws, engagement, and promotion with institutions like the EPA and local authorities being members. Nonetheless, NSH admitted to a lax feedback mechanism and enforcement measures for measuring the effectiveness of PP at the national and local levels, which invariably impedes PP and confidence-building efforts.

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[11] NIECE Network. https://irishriverproject.com/2022/02/10/network-for-irelands-environmental-compliance-and-enforcement-niece-network/.

Technology and digital tools
The use of digital technologies to promote citizen engagement, including e-participation and digital participation, since the COVID-19 pandemic has been on the rise due to related restrictions on physical gatherings. Among Rivers Trusts, it was revealed that WhatsApp and Facebook platforms provide easy access for communication and discussion of various issues regarding the operational areas of various Trusts. These platforms also increase the participation of young people who hitherto would not join any physical meetings. While other stakeholders affirmed its importance in facilitating communication, concerns on how over-reliance on digital tools and technology can also disenfranchise people who are not tech-savvy were raised. Although the NSH generally did not dismiss the significance of technology and digital tools in improving PP and reaching local communities, they emphasised the significance of face-to-face interactions, listening, and groundwork. Overall, the benefits of a balanced approach that combines digital and traditional methods to ensure inclusivity and information accessibility were favoured among the stakeholders.

Diversity and inclusion
All the stakeholders affirmed that communities are made up of a composition of people with different backgrounds of physical, mental, educational, social, and economic origins; however, the task of ensuring proper representation and inclusion of all these groups in participation initiatives remains a daunting task for organisations and groups that undertake PP. Given that the RoI is having an influx of different nationalities coming in to the country, diversity and inclusion considerations requires attention (CSO, 2023). The NSH admitted to no specific national initiatives aimed at encouraging women or ethnic minorities to participate in environmental issues. It was, however, revealed that the Heritage Council has a growing interest in the inclusion of under-represented groups, such as Irish Travellers in their events, with a dedicated officer now working on promoting diversity and inclusion. Other NSH argued that inclusiveness is a factor in their communication and engagement regardless of one's ability, background and location with efforts being made to include migrants and new residents in various community initiatives. Beyond ensuring diversity and inclusion in PP, attempts to forge collaboration with the public are also being pursued to integrate into relevant environmental objectives at the national level; with An Taisce, for instance, using a structured committee-based approach to engage the public on several sectors, such as business, agriculture, and the environment. The newly developed guide to community engagement in local planning and decision-making to enhance the capacity of LCDCs also ensures that there are meaningful and effective community-level consultation and engagement processes (Government of Ireland, 2023a). Various Rivers Trusts in Ireland use a cross-jurisdiction approach in promoting collaborations across Ireland, Northern Ireland, and Great Britain, and also collaborate with the National Parks and Wildlife Service (NPWS), Higher Education Institutions (HEI), and corporate companies towards PP in water quality actions in the RoI. Citizen Science programmes are also used to influence participation and contribute to policy development and the protection of water sources.

Human and financial resources
The availability of human and financial resources to support PP and the sustainability and consistency of these resources as indicated by NSH varies across regions and organisations. According to NSH operational expenses, insurance coverage and facilitation fees sometimes remain high, especially for smaller community groups. As a result, there

are limitations on the levels of engagement and actions that can be taken to get the public involved in various activities. In addition, numerous community-led initiatives heavily rely on the efforts of volunteers due to limited funds to hire permanent staff needed to ensure continuity and sustainability of various catchment-based actions. Among PPNs, limited staff/members with expert knowledge on environmental issues, particularly climate change, water, and biodiversity, was revealed as a challenge as also highlighted in recent literature (DRCD, 2022a). The complexity of the LAWPRO Community Water Development Fund (CWDF) application also adds to stakeholders burden.

> *NSH- "Funding would be a big one. A lot of, particularly say the smaller towns and villages, would have very little funding. For a town the size of Monaghan; considering the size of it, we have very little funding, so we have to be creative. And we have to make the most of what we can physically do ourselves. In order to have, say, meetings and events and so on, all of that costs money, insurance, and there are lots of hidden costs. So funding is a drawback, as well as time, which is an issue for a lot of people".*

The inability to hire permanent and qualified staff or enough funds to undertake PP initiatives according to stakeholders also impacts the time period given to collective public feedback, thereby leading to consultation which is a quick fix rather than taking a longer but more sustainable route in ensuring that all perspectives and concerns of the public are considered with time.

> *NSH- "Public participation is expensive and time-consuming. And it really depends on the decision, the complexity of the decision and the parameters."*

To ensure that there is adequate support for effective PP, all stakeholders recommended an increase in budgetary allocation for PP in projects and programmes. Specifically, NSH asserts to funding to hire qualified staff to lead participatory actions. More so, collaboration with local authorities, agencies, and organisations with direct community access is also recommended as a way to ensure that PP is entrenched in all local community initiatives. Empowering these local authorities, agencies, and organisations to be actively involved in the development of projects and initiatives was raised by all stakeholders as a way of ensuring that community concerns are addressed and promote effective PP.

2.1 PP under the IAP2 spectrum

In viewing PP under the lens of the International Association for Public Participation (IAP2) spectrum system as a unit of analysis (Fig 2), it becomes evident that more efforts are required to enhance PP in the RoI. The spectrum as adopted in this study is a more inclusive and adaptable alternative to Arnstein's ladder for classifying PP (IAPP, 2018). The spectrum implicitly acknowledges the need for context-dependent varieties of PP and provides a standardised framework for evaluating various PP methods across the board (Akerboom & Craig, 2022). The five stages of the IAP2 spectrum range from the government solely informing the public about decision-making to the later stages of collaboration and

empowerment (IAPP, 2018). Notably, empowerment involves delegating final decision-making authority to the general populace. However, it is essential to recognise that the appropriateness of specific PP modalities should be context-dependent. That empowerment may not be appropriate in all situations, as acknowledged in the literature (Akerboom & Craig, 2022). This spectrum is also of great value as it recognises that increased degrees of community involvement results in advantages such as improved conflict resolution, critical thinking, innovation, and problem-solving abilities.

Increasing impact on the decision

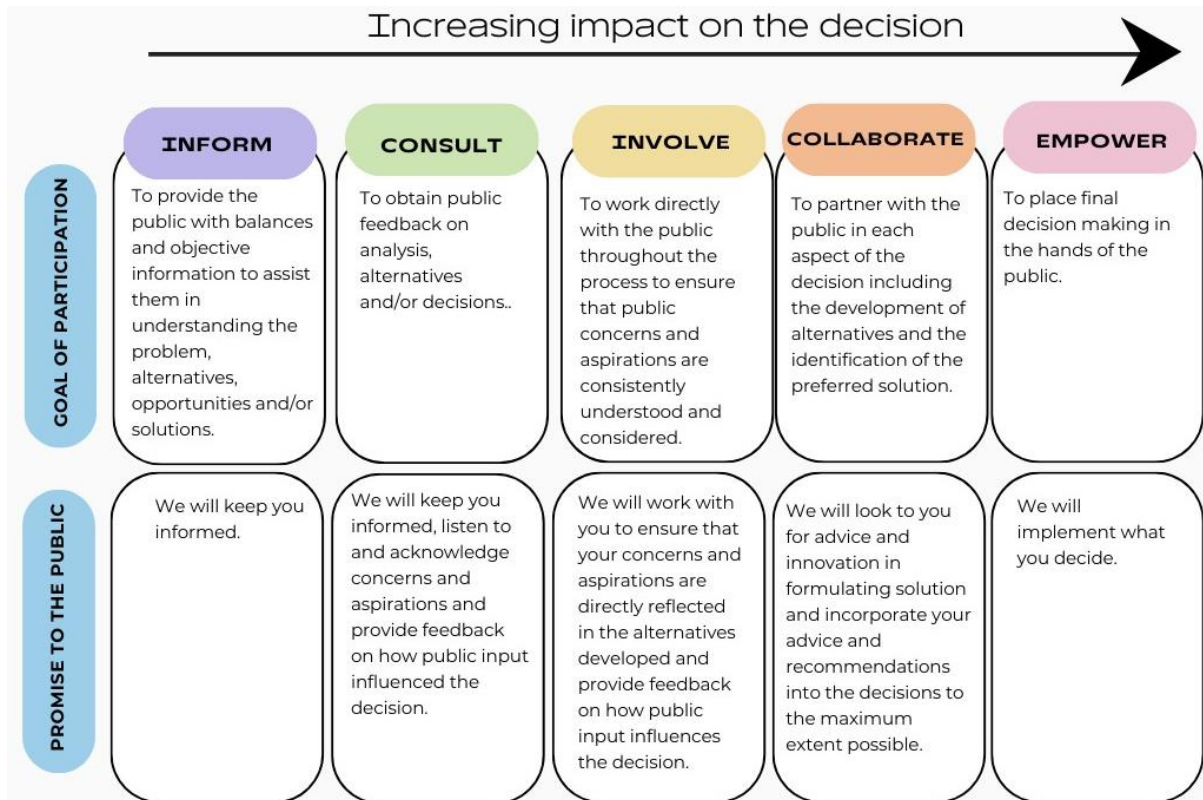|	INFORM	CONSULT	INVOLVE	COLLABORATE	EMPOWER
GOAL OF PARTICIPATION	To provide the public with balances and objective information to assist them in understanding the problem, alternatives, opportunities and/or solutions.	To obtain public feedback on analysis, alternatives and/or decisions..	To work directly with the public throughout the process to ensure that public concerns and aspirations are consistently understood and considered.	To partner with the public in each aspect of the decision including the development of alternatives and the identification of the preferred solution.	To place final decision making in the hands of the public.
PROMISE TO THE PUBLIC	We will keep you informed.	We will keep you informed, listen to and acknowledge concerns and aspirations and provide feedback on how public input influenced the decision.	We will work with you to ensure that your concerns and aspirations are directly reflected in the alternatives developed and provide feedback on how public input influences the decision.	We will look to you for advice and innovation in formulating solution and incorporate your advice and recommendations into the decisions to the maximum extent possible.	We will implement what you decide.

Figure 2: International Association for Public Participation (IAP2) spectrum. Source: IAPP (2018)

Although, traces of IAP2 can be discerned in various initiatives aimed at promoting PP, particularly by LAWPRO and River Trusts (IAPP, 2018; LAWPRO, 2022); however, its full integration into the fabric of meaningful PP in the RoI is still a work in progress. Based on various initiatives and efforts from national to local levels and from the NSH perspective, it is evident that PP in the RoI predominantly revolves more around consultation and information dissemination, focusing on informing rather than empowering, collaborating, and active community-based engagement. Methods deployed in consulting and informing are premised on the exhibition of plans, focus group engagements, consultative meetings, education campaigns and website stories (DHPLG, 2019; The Water Forum, 2022). While these methods play a role in ensuring effective engagement, they fall short of fully realising the potential of PP to improve environmental outcomes, which is a challenge in the RoI and other countries pursuing effective PP under WFD (Albrecht, 2016).

      From the stakeholder interviews conducted, the assumption that the public will inherently be drawn to participate in issues that affect them was noticed, but more often than not without due diligence in ensuring that the public is well informed and conditioned to participate, they may not be able to take part in any discussion that may have impact in

them. Consequently, there are disparities between policy intentions and practical execution at local levels, leading to PP shortfalls, more so, the assertions by NSH may be informed by how PP is perceived in broader literature and implementation actions (Boyden, 2015; Bresnihan & Hesse, 2019; DHLGH, 2022a). More so, a well-defined and structured environmental education programme integrated into the school curriculum, rather than being supplementary, is largely missing from the Irish school system (O'Malley & Pierce, 2023). This gap hinders the informed and empowered development of young people who should be well-connected with their environment in order to make meaningful contributions to environmental decision-making. Existing literature has not drawn the line on what constitutes public engagement and public participation within the Irish context. While public engagement and participation are used interchangeably, public engagement does not always mean that the public has a direct role in making decisions while public participation allows for the public to be part of all actions and events that occur throughout the lifecycle of an initiative or decision-making process through informing, engaging, and collection of public input (Reed et al., 2008, 2018). Allowing the public to be involved from initiation to completion, monitoring and evaluation is further considered a foundational aspect of democracy (ClientEarth, 2022; Koski et al., 2019; UNECE, 2014). With water management outcomes experienced more directly at the local level, gathering responses from communities and (local) stakeholders to reduce or eliminate challenges through PP has become necessary in ensuring effective decision-making and capitalising on local knowledge at catchment levels for the process. This is also particularly crucial in ensuring a sustainable water future for RoI and as a critical part of environmental decision making including climate change, water governance, and management and in helping to inform the best approaches for establishing and supporting Catchment Community Fora (CCF) as envisioned by the Local Authority Waters Programme (LAWPRO).

3. Public Participation in environmental decision-making processes- A scoping review of the literature

The scoping review of case studies in this section is based on the foundational pillars of the Aarhus Convention (UNECE, 2014). Emphasis is placed on two pillars of the convention - public participation in environmental decision-making and access to environmental information. Each of the pillars plays a crucial role in accessing PP and its integration into environmental decision-making processes (Hough et al., 2022). The pillars also serve as a lens under which various international cases are reviewed to identify best practices that can be adopted to enhance PP in Ireland. The selection criteria for the case studies were also based on the implementation of key Directives such as the WFD (2000/60/EC), the Environmental Quality Standards Directive (2008/105/EC, amended by Directive 2013/39/EU), and the Floods Directive (2007/60/EC) as indicated by European Commission (2021h). Additionally, the review considers the 2022 Environmental Performance Index (EPI, 2022) and recent Implementation Reports (European Commission, 2021b). This review highlights examples of both top-down and bottom-up approaches taken by various countries towards effective PP. It demonstrates examples of where awareness campaigns and co-creation were utilised as bottom-up strategies in building capacity. In addition, direct government interventions as top-down strategies to influence access to information and PP in environmental decision-making are highlighted. Environmental education is used to raise public awareness and encourage citizens to become active participants in

environmental decision-making. Combining these approaches fosters comprehensive engagement and participation, leveraging diverse perspectives for transparent, inclusive, and sustainable environmental decision-making processes.

3.2 Public participation in environmental decision making

The review across different countries on public participation in environmental decision-making is presented in table 3 below. It highlights the actions taken and lessons that the RoI can derive from these countries.

Table 3: Public participation in environmental decision-making

Country	Actions Towards PP in Environmental Decision-Making
Australia	A key component of a recently introduced Charter for PP in *Australia* aims to foster meaningful and impactful pathways for public engagement in decision-making and policy formulation pertaining to environmental issues (Easton, 2018). The charter provides extensive materials, techniques, and case studies to facilitate and augment significant PP. These resources are designed to assist and increase the quality and effectiveness of PP efforts. It provides, among others, a framework for developing PP policies. The charter encourages, enables, and integrates citizen engagement into policy design and development, thereby enhancing public trust in government decision-making processes and service delivery outcomes (Easton, 2018). The South Australian government, in 2013, also launched the **Better Together programme** to improve stakeholder engagement and to create efficiencies through better planning and sharing of stakeholder feedback among agencies, thus avoiding duplicating consultation with the same audience. The programme also includes a comprehensive review of measures to promote inclusivity in decision-making, reduce bottlenecks, and improve accountability among public bodies (South Australian Government, 2019). Under the **Early Years Learning Framework** and the **Framework for School Age Care**, educational institutions in *Australia* are encouraged to emphasise the inclusion of environmental protection in teaching and learning. New South Wales has an environmental policy on PP and sustainability as one of the three required cross-curriculum goals for all public schools from kindergarten to primary school (OECD, 2019a). The South Australia Environmental Agency also encourages schools and students to actively participate in environmental initiatives. Similarly, the Victoria Department of Environment, Land, Water, and Planning funds students and young people in same direction. Thus, through various funding and support, young people are getting more involved in PP and environmental issues.
Denmark	Denmark is recognised for its exceptional dedication to fostering PP in environmental affairs with public campaigns to enhance public knowledge on environmental concerns (EU, 2017). There is also emphasis on **environmental education** in schools with the Environmental Protection Agency (EPA) providing instructional resources for students, delivered by trained teachers. These educational resources have been customised to cater to students throughout all stages of primary school, up to grade 9 (ages 15-16). According to the OECD (2019b), the curriculum for students in primary school (6-9 years) primarily focuses on imparting knowledge on the natural environment. As the students' progress to grade 8 to 9 (10-14 years) they are exposed to increasingly complex ideas such as biodiversity and the intricate relationship between species habitats and human activities. In addition, there is a stronger collaboration between

	environmental groups in curating a digital educational platform referred to as Sustainable 2.0[12]. The platform offers educational materials on subjects such as the Sustainable Development Goals, renewable energy sources, sustainable cities, climate change, and consumption patterns. These resources aim to foster a comprehensive approach to environmental education and awareness.
Germany	In *Germany* the Federal Ministry for the Environment, Nature Conservation, and Nuclear Safety (BMU) fosters PP in national environmental decision-making. Guidelines provided by BMU aims at facilitating communication and informed decisions making though PP, such as in the preparation of ProgRess II (A report on the conservation of Resource Efficient Living). Using online discussion and five public seminars led to compiling twelve actionable recommendations as key outcomes of the ProgRess II report on improving PP in environmental issues (BMUV, 2015). Through active PP the youth in Germany also play a significant role in advancing public climate action, from which the 2018 youth-initiated Fridays for Future movement has raised public awareness about the climate crisis around the world. In addition, since 2015 Sustainability Action Days have been part of the European Sustainable Development Week, an initiative co-founded by Germany, France, and Austria that enables participants from across Europe to engage in sustainability efforts. (Federal Republic of Germany, 2016).
Netherlands	**The Centre for Public Participation** (CPP) is an integral element of the Dutch government in guiding and facilitating PP across multiple ministries for effective environmental assessment, in decision making, transparency, quality information (CPP, 2011). The experiences garnered by CPP over the years have been documented as a PP guideline used by several ministries in facilitating PP in plans and projects in the Netherlands. This approach has since been adopted by Macedonia in promoting PP (CPP, 2011). Several provinces and municipalities allocate budgetary provisions for initiatives and activities that promote the principles of PP. For example, the municipality of Amsterdam allots a participatory budget of over €500,000 for community environmental initiatives, allowing individuals to submit project proposals via a website accessible to the public. Projects with the highest score are evaluated for viability (Rincon, 2021). The **Hague Academy for Local Governance** offers a course to local practitioners on Citizen Participation and Inclusive Governance, which explores strategies to increase PP in local governance while emphasising the inclusion of diverse viewpoints, such as those of women, the youth, and people with disabilities. These initiatives empower individuals to undertake the need to be active participants in environmental issues and participate actively in projects and programmes that promote accountability, democracy and environmental sustainability (Rincon, 2021). The **Water board model** of Netherlands (see Text Box 2) demonstrates how citizens can actively participate in and impact regional government decisions on national water quality, flood control, and the governance and management of water resources, including investments and planning (Mostert, 2017). **Box 2: Water Boards of the Netherlands** Dutch Water Authorities comprises the 21 regional water authorities in the Netherlands. Each water authority has an elected General Board, the majority of whose members are elected by residents who are aged 18 or over and registered with a local authority. The elections are held every four years at the same time as the provincial council elections. The same requirements for casting their vote in the Water Authority elections apply to Dutch nationals

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[12] Concito/Klimaambassaden. http://sustainable.dk/folkeskole/

	and EU citizens (Ministry of Infrastructure and Water Management, 2015). In addition to the elected officers on the board, water boards also include representatives from various sectors, such as business, agriculture, and the environment. Together with these elected officials, they form a water board typically comprised of 18 to 30 members. Flood protection was the primary historical purpose behind the formation of Water Boards in the Netherlands. This unique model of local governance empowers stakeholders, including farm owners, landlords, industries, and households, to actively participate in flood prevention efforts and are supported by various legal and regulatory acts[13]. Operating independently from traditional administrative governing bodies, Water Boards assume responsibility for the continuous oversight and enhancement of water management in the Netherlands. They finance their operations by levying taxes, have the authority to impose administrative measures as penalties for violations, and maintain a governing structure consisting of an elected general administrative body, an executive board, and a chairperson. A clear division of responsibilities characterises the Dutch water boards organisational structure. The executive board is responsible for overseeing the strategic and operational aspects and planning and implementing the water board's functional tasks. These functional tasks are organised horizontally into sectoral departments, encompassing everything from policy development to permit, control, and maintenance. These departments further consist of smaller organisational units, each led by middle managers (Duijn et al., 2019). Representatives in the general assembly elect the executive board, typically comprising five to six individuals. The financing of the water boards is based on a fixed tax system, with different beneficiary groups contributing to cover 100% of the organisation's costs. The water boards maintain an executive body responsible for executing various tasks, which include administrative and technical staff. The size of this body can vary, ranging from approximately 20 members for smaller water boards to as many as 400 for larger ones. The primary duties of the executive board revolves around three core areas: tasked with flood control, a duty with a long-standing history, focus on water management, particularly with regards to quantitative aspects, and responsible for qualitative water management, addressing water quality concerns.
South Africa	The government of *South Africa* views PP as a fundamental mechanism for effective approaches to water and sanitation provision, with various municipalities tasked to conduct public meetings regarding water and sanitation and other developmental initiatives (Tyhotyholo & Ncube, 2023). Such meetings are to foster community engagement, contribute to ideas and gain insight into various plan of actions. This participatory approach enhances transparency, encourages collaboration and ensures that public perspectives shapes decisions for more inclusive and effective water services provisions. Existing water governance legislation and policies, including the South African Constitution, also regard PP as an important principle for upholding local democracy and making local decisions regarding government services such as water and sanitation (Luisi & Hämel, 2021). There are also numerous organisations and groups, promoting PP in water resources, biodiversity and the environment as a whole. For example, the South African National Biodiversity Institute (SANBI)[14] focuses on exploring and advocating for biodiversity preservation as a means of

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[13] Environment and Planning Act of the Netherlands. https://iplo.nl/regelgeving/omgevingswet/english-environment-and-planning-act/
[14] https://www.sanbi.org/

	feeding into environmental decision-making processes. The Environmental Monitoring Group (EMG)[15] also encourages environmentally responsible practices that foster a more harmonious relationship between people and the natural environment.
Sweden	Local engagements are also integral to *Swedish* environmental governance, fostering extensive collaboration between state institutions and the public and private sectors in promoting PP in environmental discussions and sustainable development (Yin, 2010). In 2012, the Swedish Government charged the Committee on Environmental Objectives with developing a long-term sustainable land use strategy and an integrated sustainable water policy. This culminated into a final report containing 24 milestone objectives covering climate, air quality, toxic substances, waste management, and biodiversity in 2014. These targets currently help local authorities, government agencies, and businesses to integrate PP into environmental initiatives through an in-depth evaluation and progress report submitted to parliament every 4 years and an annual follow-up reports (EEA, 2020). **'Utopian Stories'**, is a large citizen science project that invites schools to collaborate with climate scientists, literacy researchers, and educators as co-researchers (EU-Citizen Science, 2023). Together, they investigate behavioural changes and relate them to adaptation to climate change and future visions of a sustainable world. This project serves as a means of encourage young people to be active participants of environmental issues now and for the future.
UK	The *UK Research and Innovation* platform (UKRI) actively facilitates several commendable endeavours to promote PP. It fosters collaborative endeavours between researchers and communities in producing usable outputs that directly support environmental decision making (UKRI, 2022). The UKRI public engagement strategy sets out how barriers between research, innovation and society can be broken. In 2020, the **Climate Action Network** (PCAN) initiated the implementation of climate commissions in the city of Edinburgh and Belfast. The commission facilitates the translation of climate policies into meaningful understanding at community level while also allowing the public, public officers and researchers to work together, sharing scientific research and insights to promote equitable and well-informed discussions (UKRI, 2022).

3.3 Access to environmental information

Access to environmental information is a key Aarhus Convention provision that encourages public and private organisations to provide information to the public in adherence with national law as a means of improving public participation and engagement (UNECE, 2014). Table 4 highlights actions by a number of countries towards promoting access to environmental information.

Table 4: Access to Environmental Information

Case study	Actions towards Access to Environmental Information
Australia	In New South Wales (NSW) a targeted approach to environmental water management centres exists among five main catchments, viz: Murray Lower Darling, Macquarie Cudgegong, Lachlan Murrumbidgee, and Gwydir, each

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[15] https://www.emg.org.za/

	facilitated by **Environmental Water Advisory Groups** (EWAGs) to deliberate on water-related issues within these catchments (NSW Government, 2020). Overall, the EWAGs aim to bring together a range of knowledge and experience to advise on both planned and held environmental water and promote access to information while contributing to decision-making among others (Box 3). **Box 3: Environmental Water Advisory Groups** The Environmental Water Advisory Groups draw on the expertise and experience of community members to help inform their works. The advisory groups consist of water managers, recreational fishers, landholders, Aboriginal groups, independent scientists, local government representatives and a variety of partner agencies who meet regularly to discuss proposed or upcoming water events and future opportunities. The core objective of these Environmental Water Advisory Groups is to amalgamate diverse expertise and experience to provide advice on both proposed and ongoing environmental water initiatives. Annually, between June and July, these groups offer guidance on water plans based on environmental forecasts and scientific evidence concerning water management strategies under various climate scenarios (NSW Government, 2020). Their outputs help the Australian Government to ensure the delivery of Murray-Darling Basin Plan (Basin Plan), protect the environment and regional, social and economic outcomes by investing in strategic water recovery, water efficiency and river health measures. They also increase opportunities for people to look after their own environments by involving the community in decision making and information on their environment. Specific actions taken by the advisory groups to realise their goals also includes completing water sharing plans, reporting annually on environmental water use and assisting in the strategic recovery and management of water to improve the health of the most stressed rivers and wetlands for NSW. The South Australian Government also has an online platform **'yoursay.sa.gov.au'** which allows the general public to have a say on government decisions that matter to them. There also exists an ongoing promotion of the **Open Government Partnership**, which has its basis in the belief that a government that operates with transparency and openness is more easily accessible, responsive, and accountable to its citizens (Approach, n.d.). Access to broader environmental and water related data including flood awareness, science and research and management in South Australia are also available via **'WaterConnect'**[16] and **'Environ Data SA'**[17]. These platforms provide access to science and monitoring data on South Australia's environment and natural resources, particularly water. Numerous organisations in the country also share a dual commitment to safeguard and protect natural resources while advocating for active PP and inclusivity, particularly among marginalised and historically excluded groups in various environmental action plans (Wilderness Society, 2022).
Denmark	A **citizen-centric website** allows individuals to register their environmental concerns which the Danish Environmental Protection Agency then acts on (Danish Environmental Protection Agency, 2023). The collected data helps identify areas to prioritise while providing valuable information for developing environmental action strategies. More so, a range of monitoring strategies, such as atlas projects and advanced technologies like environmental DNA (e-DNA)

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[16] Water Connect. https://www.waterconnect.sa.gov.au/Pages/Home.aspx
[17] Enviro Data SA. https://data.environment.sa.gov.au/Pages/default.aspx

	and satellite data, are used to protect biodiversity (European Commission, 2022). Public hearings on the environment are also facilitated through the national portal, **'Høringsportalen'**. The long-term goal is to make Høringsportalen[18] a single entry point for all public hearings in Denmark, irrespective of the authority in charge from the national, municipal, council, and community levels.
France	The European Union initiated an infringement procedure against *France* due to prolonged delays in addressing compliance with data collection and information on its environment. In response, France modernised its environmental dialogue to make PP effective and access to information and data for decision making open[19]. In 2018, the Ministry of Environmental and Social Transition launched the **'Consultation Site for Projects subject to Impact Study'**[20] platform to enhance environmental transparency and public access to information concerning projects with substantial environmental impacts. The platform provides comprehensive details for each project, including a detailed description, impact studies, public consultation feedback and administrative documents authorising the project. The **Agricultural Biodiversity Observatory** also offers a participatory science program that provides farmers with biodiversity observation protocols to enhance their understanding of biodiversity in agriculture (OAB, n.d.). The Chamber of Agriculture website provides information on the Nitrates Directive, offering tools and technical resources to assist farmers (Chambres d'agriculture, 2023). Since 2019, France has made more online information available to farmers regarding their rights and responsibilities in protecting biodiversity. There is also the **River Quality App** (Box 4) which provides details on local river quality. **Box 4: The River Quality App of France** Developed by the Les Agences de l'Eau (Water agencies of France) the "River Quality" application[21] allows individuals to access (in real time) the ecological status of rivers as well as the species of fish living in the rivers and bathing water quality in France. Data on the nearest river can be accessed via smartphone or tablet by simply entering the river's name or postcode. This innovative application not only informs the public on the state of aquatic environments in their territory but also offers games and quizzes to test the users' knowledge of the water or to know the behaviours to avoid to protect water quality. In addition, it allows for data comparison over a period of three years, which prods users to take actions towards water restoration and take actions to eliminate pollution. In addition, France initiated the Assessment of Ecosystems and Ecosystem Services (EFESE) in 2012. EFESE serves as a platform that connects science, decision-making, and society, aiming to establish national-scale objectives similar to those of the Intergovernmental Science-Policy Platform on Biodiversity and Ecosystem Services (IPBES). EFESE consolidates various assessment works related to ecosystems and their services across different scales. It also helps to improve understanding and awareness on the current state of biodiversity with the long term aim to integrate all public perspectives into public policies and private decisions in France (Ministry of Ecological Transition, 2023).
Germany	In *Germany*, **the Baden-Württemberg** (Participation Portal) is a comprehensive repository cataloguing all accessible channels via which individuals can express their grievances and participate in the process of influencing public policy

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[18] https://hoeringsportalen.dk/

[19] https://unece.org/fileadmin/DAM/env/pp/ppdm/8th_PPDM/Statements_and_Presentations/8TFPP_2_3_PP_France_Guillemot.pdf

[20] Consultation site for projects subject to impact study. https://www.projets-environnement.gouv.fr/pages/home/

[21] https://www.lesagencesdeleau.fr/ressources/application-qualite-riviere

	(European Union, 2022). The **Federal Ministry for the Environment**, Nature Conservation, Nuclear Safety, and Consumer Protection and the Federal Environment Agency websites also provides readily accessible information on access to environmental matters (European Union, 2022).
Netherlands	**The Information Point Living Environment** (IPLO) is a valuable resource consolidating information concerning the environment. IPLO supports government bodies, social organisations, and businesses in navigating the Environment Act and its digital systems. It operates within the inter-administrative program called "Getting Started with the Environment Act," which is a collaboration between municipalities, provinces, water boards, and the national government (IPLO, n.d.). **An Environment Platform**[22] is also under development to facilitate the implementation of the new Environment Act and encourage PP through a common online system where all public inputs are recorded. **The Nitrate App** in the Netherlands has been a major step towards bridging the gap between farmers and stakeholders in identifying nitrate hotspots and mitigation decision-making in catchments. It is also being used for educational purposes in high schools and universities (Deltares, 2020). **Box 3: Nitrate App** The Netherlands collaborates with large agricultural corporations that organise study groups and catchment-scale projects. The Nitrate App in the Netherlands was originally developed to help farmers identify nitrate hotspots. It has since undergone a redevelopments with its new goal to expand user numbers to enhance water quality. During the App development, Deltares initially connected with local agricultural corporations but lost touch later. This connection is being restored with users who want new features like user group management. Although the App is freely downloadable, including access to data, there are valid criticisms of the modelling complexity, affecting trust among farmers IBM, the technological company behind the development of the App has been working with farmers to improve its user-friendliness and communication and to provide more informative results for farmers. Nonetheless, the App serves as a communication tool, bridging the gap between farmers and stakeholders and can be a useful exemplar for RoI.
Scotland	The *Scottish* Government promotes an '**Open Government Partnership**' by hosting an online dialogue to gather public input on how principles like openness, transparency, accountability and public engagement in decision-making can be integrated and improved in the activities of the government (Scottish Government, 2023). The **Scottish Environment Web**[23] serves as a centralised repository for everything related to the environment. This user-friendly website consolidates environmental information and data, facilitating easy search, discovery, analysis, and interpretation. Additionally, the **Scottish Environmental Protection Agency** (SEPA) plays a crucial role in safeguarding the environment under the "One Planet Prosperity" where SEPA ensures transparency by making permit applications and closed consultations accessible through a consultation hub, allowing communities, businesses and stakeholders to provide input on environmental matters (SEPA, n.d.).

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[22] https://aandeslagmetdeomgevingswet.nl/ontwikkelaarsportaal/
[23] https://www.environment.gov.scot/

Table 5: Lessons for the RoI on access to information and environmental decision making

- The RoI should adopt the Water Quality App as developed by "Les Agences de l'Eau" in France to enable access to information on water quality across catchments. Real-time data accessibility and user-friendly interfaces will help enhance PP and awareness, aiding in the protection and restoration of Ireland's water quality while fostering a sense of shared responsibility among citizens.
- The LAWPRO Community Catchment Fora can draw lessons from the Environmental Water Advisory Group in New South Wales and the Water Board of the Netherlands on how to utilise local expertise to drive actions towards resolving environmental challenges at catchment level, while contributing to broader water policy at national level.
- Consideration should be given to developing a centralised online platform similar to South Australia's "yoursay.sa.gov.au" "WaterConnect" and "Environ Data SA" and the "Scottish Environment web" which serve as single entry points for citizens to engage with the government on environmental matters and as centralised repositories for environmental information and data, facilitating easy search, discovery, analysis and interpretation.
- Funding mechanisms that enable non-professional scientists and volunteers to participate in environmental data collection, research and monitoring actively must be valued and continuously supported. These initiatives can provide valuable insights and localised data, contributing to informed decision-making and building a sense of ownership and responsibility among citizens.
- It is widely accepted that youth-led activism and innovation must be encouraged and fostered in order to build future capacity. As illustrated by the case studies presented this can be achieved through grants, awards and support mechanisms for young individuals and students-led projects that address environmental challenges. This will encourage young people to have an interest in environmental issues and to participate actively even from an early age. Additionally, inclusive PP and engagement strategies tailored to marginalised and migrant communities in the RoI that accommodate cultural norms and time constraints should be considered as the RoI is experiencing a growing diversity and migrant population (CSO, 2023)
- The Social, Environmental and Scientific Education (SESE) curriculum in the RoI should be expanded, and structured to prioritise environmental and sustainability education programmes in alignment with practice under the Early Years Learning Framework and the Framework for School Age Care education in Australia. Academic institutions can also run professional training and courses for interested individuals on public participation and governance as offered by the Hague Academy for Local Governance.

By adopting these policy recommendations, RoI can create an environment that encourages meaningful public engagement, strengthens collaboration among stakeholders, and promotes informed decision-making in environmental matters. These measures will contribute to more sustainable environmental policies and practices in the country.

4. Charting a new approach to PP in the Republic of Ireland

From the review of existing literature there are a number of guidelines and regulations that outline the *do's* and *don'ts* of PP in literature and various state and non-state statutory documents (e.g. An Fóram Uisce, 2021; Cinnéide et al., 2020; Government of Ireland, 2023b, 2023a; PPN, 2021; Rolston et al., 2016); nonetheless, there still exist gaps in the practical implementation of PP in environmental decision-making and plans of action. Local authorities and PPNs collaborate to support communities to engage meaningfully on issues that concern them, their participation and representation, particularly in relation to the environment, and in particular water governance and management at local levels,

remains inconsistent with other functions (DRCD, 2022a; PPN, 2021). From the stakeholder interviews, what constitutes a successful PP in water resources governance and management is not evenly understood among stakeholders. In addition, how collective participation can amplify the value of water resources while encouraging continuous participation in decision-making remains fuzzy. More so, taking the International Association for Public Participation (IAP2) spectrum into account (see Fig 2), it is evident that the RoI has not been able to put decision-making in the hands of the public but has rather been undertaking a more informing and consulting approach, which only solicits and provides information to the public. There are, however, growing attempts being made towards involvement and empowerment, including the addition of two general consumers to An Fóram Uisce, active Tidy Towns engagement, citizen science initiatives, and growing information accessibility through catchments. ie and LAWPRO's funding for catchment initiatives. However, ensuring that the public actively participates in all water-related decision-making requires strong collaboration and coherency among the institutions fronting such endeavours. Admittedly, PP across catchments is complex, with multi-level interactions between water resources, land owners and farmers, local businesses, and community members with varying interests, consequently perpetuating existing inequalities within communities.

Careful consideration is therefore necessary when designing and implementing participation processes to ensure equity and inclusivity while also considering the broader socio-economic, behavioral, and environmental context. To achieve this, a more responsive and inclusive environmental decision-making process that corresponds with public preferences to increase PP and fulfil the core values of participation may be required. This can be delivered through an established approach that builds the capacity of the public to influence decisions and provide accessible and understandable information on projects and initiatives and their potential impacts while establishing effective communication channels between the public and decision-makers to facilitate constructive dialogue and idea exchange towards a renewed approach to effective PP in the RoI.

4.1 The SCOT analysis

The Strengths, Challenges, Opportunities, and Threats (SCOT) analysis (fig 3) provides a snapshot of the interplay of factors that influence PP in RoI It is based on insights gathered from the NSH interviewees. The opportunities identified also stem from best practices on what RoI could do based on best practices from other countries.

Public Participation
SCOT Analysis

Strengths	Challenges	Opportunities	Threats
• Inclusive PP in project design beyond passive audiences	• Low engagement due to busyness and apathy towards PP.	• Robust integration of the EU biodiversity strategy for 2030.	• Shortcomings in youth, women, and marginalised group inclusion efforts.
• Environmental awareness and community-led problem-solving.	• Information deficiency and confidence in participation processes.	• Enhanced emphasis on PP in project design, implementation & evaluation.	• Worsening climate change impacts on water.
• Advance transparency in PP and decision-making.	• Limited awareness and concern among citizens.	• Attract new investors.	• Funding constraints and complications with LAWPRO funding applications.
• Citizen science and catchment characterisation initiatives amplifying PP.	• Capacity gaps in facilitating PP.	• Establishment of effective structures and guidelines for optimal PP.	• Limited clarity of communication on policies and plan of action.
• LAWPRO'S role in identifying water quality issues.	• Navigating public fatigue, mistrust, and role ambiguity.	• Improved community stewardship through initiatives, projects, and strategies.	• Knowledge mobilisation and policy improvement challenges.
• Collaborative efforts among An Fóram Uisce, The Heritage Council, Catchment Associations, The Rivers Trusts and community stakeholders.	• Cumbersome funding application challenges.	• Informed public engagement with local water bodies.	• Loss of trained personnel without adequate succession planning.
• All-Ireland approach by The River Trusts for collective catchment problem-solving.	• Aging volunteer demographic.	• Growing collaborative efforts among various public and private stakeholders, including farmers and businesses.	• Report publication delays and feedback timelines.
	• Communication and awareness gaps.	• Traction on Social media to influence the youth and media users.	
	• Institutional fragmentation.		

Figure 3: SCOT analysis highlighting the strengths, challenges, opportunities and threats to PP.

Institutional fragmentation, legal and operation ambiguities and General Data Protection Regulation measures may be contributing factors to why institutions work in silos, or why some stakeholders are unsure whether PP should focus on enforcement, scientific evidence, or a combination of both. There still, however, exists an opportunity for various stakeholders and institutions to realign their strategies and approaches to complement rather than compete with each other. From these challenges and threats, an Integrated Participatory Model (IPM) that leverages the strengths and opportunities are developed and linked to various recommendations towards improving PP in the RoI.

4.2 Integrated Participatory Model

The Integrated Participatory Model (IPM) is proposed as an approach to streamlining coherence in the delivery of PP considering the roles and responsibilities of various institutions and how they can collaborate to achieve the overarching objective of mainstreaming PP into water governance and management (Fig 4). This model draws inspiration from the Public Participation (IAP2) spectrum (IAPP, 2018) and adapts its tenets to the Irish context as similarly outlined in the Framework for Integrated Land and Landscape Management (FILLM) framework (Water Forum, 2021). The model further incorporates insights from previous studies on PP in RoI that address various challenges related to water policy (Boyden, 2015; Cinnéide et al., 2020, pp. 2018–202; O'Rafferty, 2019), including a desk study on public engagement in water governance prepared for An Fóram Uisce (Bresnihan & Hesse, 2019). While these studies profess a number of recommendations to raise awareness on the impact of participation in deepening catchment engagement, capacity and skills development, and provision of targeted financial support for participation efforts, there are still prevalent challenges (Setec

hydratec, 2022); this model emphasises 1) institutional coherence in delivering effective PP in environmental management, 2) effective monitoring and evaluation to ensure consistent PP, and 3) a bridge between bottom-up and top-down approaches to PP, ensuring that all institutions collaborate towards achieving common environmental objectives.
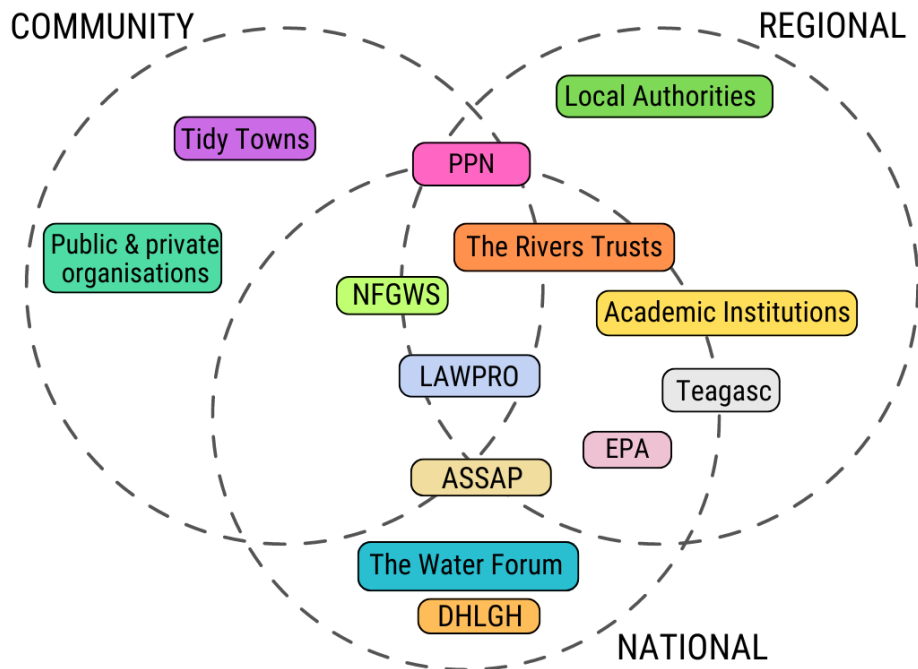

Figure 4: Integrated Participatory Model (IPM). Authors construct, 2024

The broken lines illustrate how these organisations can collaborate to promote effective public engagement to improve water quality and management at the catchment level.

This model identifies avenues for engagement (purposeful action), representation (knowledge and resource sharing), and action (strategic plans, results, and feedback) where various organisations can either work directly (e.g. The Rivers Trust directly feeding into national policies) or indirectly (e.g. Catchment groups influencing decisions through PPNs) towards policy decision making and enhanced PP actions. The primary focus is on reducing barriers to effective PP and ensuring that environmental outcomes are interconnected rather than overly separated or overlapping. This interconnected approach is intended to foster common goals to improve water quality, enhance participation, and promote environmental sustainability.

ENGAGEMENT	REPRESENTATION	ACTION
The emphasis on engagement revolves around how institutions implement diverse strategies to involve the public to achieve optimal representation and participation.	It emphasises how scarce resources can be utilised efficiently to avoid duplication and public fatigue in repeated activities. The objective is to promote collective action, shared knowledge, and coordinated plans to achieve common goals at the catchment level.	The action components underscore how collaboration between institutions and stakeholders can effectively strategise and implement catchment initiatives with specific goals. It also stresses the importance of continuously monitoring and evaluating these plans for ongoing learning and adaptation.

The model is not just a checklist of activities but a lens through which PP design and implementation actions can be optimised at catchment levels.

By producing more inclusive and effective outputs fuelled by public inputs, the institutional coherence and collaboration from this model could considerably increase PP should each of the identified organisations undertake a self-assessment on who they engage with to streamline their activities. This could support a consistent approach to involving the public, reduce fragmentation and misunderstanding, and enable improved communication and coordinated activities. In addition, this integrated model could serve as a guide in pulling resources, experience, and information from different organisations toward enhancing PP. These synergies may further result in better-informed decision-making processes, improved access to data and research, and comprehensive outcomes for water-related concerns. Furthermore, this approach can create trust among stakeholders, including the public and private sectors; when the institutions collaborate transparently and harmoniously. For the institutions under IPM, the following considerations can be taken into account as part of engagement, representation, and actions (Text Box 5).

Specific Actions under IPM that require consideration

Box 5
Engagement
- PPNs could serve as a conduit for enhanced PP by providing consistent and active online platforms and forums where the public can access information, ask questions, and provide feedback on environmental initiatives, similar to the River's Trust CBA webpage for England and Wales. Social media, websites, and online surveys can also be used to effectively engage a broader audience in this regard.
- The media (both print and electronic) could promote effective PP in RoI by promoting public awareness on water quality and conservation through collaboration with organisations within the water sector.
- LAWPRO could explore the potential to attract funding from additional sources, for example public-private networks and other non-traditional sources, to undertake projects and recruit staffs for its activities.
- The DHLGH and EPA could devote more financing to educational programmes that increase environmental knowledge and awareness, such as giving practical resources and information to the public, schools, and companies to efficient water usage and environmental sustainability.
- Private enterprises could allocate resources for community-based projects that improve water access, quality, and distribution to enhance the livelihoods of local communities and encourage participation. They can also innovate and develop water-efficient technologies, robust online platforms and solutions that reduce water wastage/ pollution and enhance online discussions and engagement.
- LAWPRO could expand its citizen science engagement through collaboration with other bodies and institutions to offer training on catchment assessment and public awareness campaigns on various priority actions. Citizen science engagement can increase local understanding of critical issues on water resources, encourage active participation and provide a source of data for policy recommendations and plan of actions.
- The Rivers Trusts could continuously organise and expand workshops, seminars, and community meetings to raise awareness about local river issues, share information, and encourage active participation.

Representation
- The NFGWS as an organised body could be used as co-collaborators in piloting PP studies and testing plans of action and matrix (such as the Poor Active Mild (PAM) Model as

proposed as a recommendation to strengthen feedback mechanisms and PP monitoring) among various schemes to assess its viability before being scaled up nationally.

- The DHLGH could demonstrate a commitment and political will by embedding PP assessment into all funded actions to encourage active PP. It could also promote collaboration among local governments and organisations like LAWPRO to guarantee effective public involvement at the catchment level.
- Private enterprises could allocate resources for community-based projects that improve water access, quality, and distribution to enhance the livelihoods of local communities and encourage participation. They can also innovate and develop water-efficient technologies, robust online platforms and solutions that reduce water wastage/ pollution and enhance online discussions and engagement.

Action

- The River Trusts could speed up the launch of the Rivers Trust Data hub for access to data and information, utilise social media, websites, and online forums to share information and engage the community in river-issue discussions.
- PPNs could advocate for appointing specialists who can focus on specific areas, such as biodiversity and climate change, within local authorities or PPN structures. These specialists could provide guidance and expertise to member groups and help implement mechanisms to monitor and evaluate the effectiveness of public participation in particularly water-related issues.
- PPNs could enhance collaboration with Local Authorities through training and capacity building and ensure that Local Authorities adhere to the requirement of participation in its decision-making while acting as the main agent for community consultation and representation as mandated under the Local Government Reform Act. This could help build relationships and forge collaboration.
- Technological companies/data centres can assist in developing tools to enable real-time monitoring of water resources, allowing the public to track changes and respond to emerging issues quickly such as the River Quality App of France. They can also aid in developing decision support systems based on water data to enable policymakers, stakeholders, and the general public to make informed decisions on water management practices and policies.

5. Key Policy Recommendations For Effective Public Participation

Recommendations made for effective PP are based on outputs from the assessment of international studies, stakeholder interviews and from the IPM. While some recommendations are long-term, characterised not just by financial resources available, but also by unwavering political and institutional will. Others can be executed within a medium to short-term timeframe, requiring collaborative efforts that align with various ongoing initiatives undertaken by environmental/water sector organisations. In addition, acknowledging that there is no one-size-fits-all approach to achieving optimal participation guides the recommendations made. These recommendations are therefore offered in the context of the unique policy and decision-making landscape in the RoI, emphasizing the importance of adaptability and flexibility.

Policy Recommendation no. 1: Integration and Governance

Challenge	Evidence	Action required	Recommendations
Governance	*ST_Taisce_1* (Bresnihan & Hesse, 2019; DHLGH, 2022a; DRCD, 2022b; Setec hydratec, 2022).	Institutional Collaboration	A shift from siloed processes and tools to a more streamlined approach. Embed good participation and communication practices.
Exemplar/Resources			
• South Australian Government *Better Together programme* (South Australian Government, 2019). • The Guide For Inclusive Community Engagement in Local Planning and Decision and Values and Principles for Collaboration and Partnership (DRCD, 2022; Government of Ireland, 2023). • PP as a fundamental mechanism in water and sanitation planning in South Africa (Tyhotyholo & Ncube, 2023).			

In the RoI, environmental concerns are addressed by a number of bodies and community-led organisations. However, communication between these organisations is either often weak or non-existent, and their approaches tend to be more of consultation than active participation, with roles and responsibilities overlapping in some instances. This breeds power imbalances between organisations and among various stakeholders. Beyond the suggested actions of various organisations under the IMP,

- Organisations working within the water and environmental sector should establish clear communication protocols that involve clear guidelines and protocols for internal and external communication. This should specify the channels, frequency, and modes of communication to ensure that information is shared effectively among different departments and with the public.
- There should be at least a bi-annual inter-organisational meeting between different stakeholder bodies and/or institutions involved in environmental/PP initiatives. These meetings could provide a platform for sharing updates, discussing ongoing projects, and identifying potential overlaps.

  PPNs should lead the effort towards collaborative planning and strategy sessions for community organisations and stakeholders to explore and align roles and responsibilities. This will promote consistent information sharing, understanding of each other's contributions, and plan of action, help identify overlaps, and formulate a coordinated strategy to improve PP.

Policy Recommendation no. 2: Communication

Challenge	Evidence	Action required	Recommendations
Communication	*LP_LAWPRO 2* *AI_DKIT* (Bresnihan & Hesse, 2019; Government of Ireland, 2023b).	Inclusive information sharing	Embrace flexible models of engagement and communication. Simplified and dialogical communication approaches. AI feedback tools for public engagement and decision-making.
Exemplar/Resources			
• River Quality App in France[24]			

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[24] https://www.lesagencesdeleau.fr/ressources/application-qualite-riviere

- Nitrate App in the Netherlands (Deltares, 2020).
- The Baden-Württemberg (Participation Portal) of Germany (European Union, 2022).
- South Australian Government "yoursay.sa.gov.au" platform and the Open Government Partnership (Approach, n.d.).
- A common platform that allows individuals to register their environmental concerns as existing in Denmark (Danish Environmental Protection Agency, 2023).

- Careful consideration of technology and its inclusivity to ensure accessibility for users with varying abilities, especially across different age groups, is paramount in ensuring that participation is achieved physically and virtually when possible. If technology becomes overly complex, it may deter certain users. Similar to the River Quality App in France and the Nitrate App. in the Netherlands, the public can be made aware of their water quality through a mobile application that gives details of each river and its status. The use of a similar App. in RoI can be used to drive PP and awareness while connecting land owners, farmers, and the public with their waterbody and become interested in protecting it. Such Apps or platforms can be developed and updated through collaboration with the various technological companies in RoI as part of their corporate social responsibilities.

- Sharing the environmental journey of communities and their development and sustainability initiatives is also crucial. Currently, LAWPRO has a map of funded projects, and more information could be added to help other community groups stay motivated and be encouraged to own their success stories and identify with what is being shared or discussed. The use of films and social media stories can make community members proud to share their accomplishments. This increases dedication and encourages local environmental actions. It is also important to ensure that the communities themselves tell these stories.

- Also, developing tools for participatory processes and visualization can promote learning and involvement. Mapping tables and virtual reality can stimulate conversations. Working with landscape designers who visually convey ideas on paper during public participation can also improve engagement and communication by making concepts tangible and relatable. This hands-on method improves public interaction by encouraging active participation, understanding, and meaningful discussions. It also harnesses different skills of local artists and talents, contributing to progress in the local area and progressive catchment management.

- A blend of traditional media (e.g. TV, radio, newspapers) and social media can also be utilised in creating far-reaching content that can influence the interest of younger people coupled with available AI feedback tools[25] for effective decision-making and PP. The media- online and print should be involved in catchment activities and engagement processes. The comments section of videos posted by various organisations on the website should be enabled and monitored to allow follow-up inquiries and interactions with the public.

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[25]Building Institutional Capacity in Public Policy Development in the Field - A Decision Maker's Toolkit of AI
https://en.unesco.org/artificial-intelligence/decision-makers-toolkit

Policy Recommendation no. 3: Training and Professional Development

Challenge	Evidence	Action required	Recommendations
Training & supports	*LP_LAWPRO 1* (Government of Ireland, 2023b; Roche et al., 2021).	Upskilling & continuous professional development opportunities	Facilitate growth and build capacity through increased training for staff, facilitators, volunteers, and community members. Peer-to-peer learning, sharing of best practices, case studies, strategic approaches, and collaborative opportunities.
Exemplar/Resources			
- iCatch[26] programme under the Rivers Trust. - The Hague Academy for Local Governance courses on Citizen Participation and Inclusive Governance - Citizen Science training through the National Biodiversity Data Centre of Ireland and the Agricultural Biodiversity Observatory of France (OAB, n.d.; Roche et al., 2021). - Australia Early Years Learning Framework and Framework for School Age Care (OECD, 2019a).			

The stakeholder interviews revealed that developing skills, technical expertise, and overall capacity building and upskilling of persons working with communities and leading PP and facilitation is crucial.

- This underscores the urgent need to build the capacity of LAWPRO staff and all organisations in the environmental sector in areas of effective facilitation. PPNs and An Fórum Uisce may consider hosting PP workshops in partnership with various academic and accredited public facilitation institutes.
- Upskilling should not also be just about employing staff/people to fill positions; rather, it should be about mentoring volunteers, community members, newly formed organisations, peer-to-peer learning, case studies, grant writing, strategic approaches, and collaborative opportunities.
- Upskilling should also include adopting social learning methodologies co-designed by community people to train volunteers and professionals, just like the iCatch Network which offers monthly training meetings and guest lectures/ talks on how to improve the water environment and share perspectives on catchment engagement.

Policy Recommendation no. 4: Assessment and Evaluation

Challenge	Evidence	Action required	Recommendations
Processes for PP not clearly defined	*NG_GI* (Government of Ireland, 2023a, 2023b; The Water Forum, 2022).	Close the feedback loop Monitor PP and self-assess	Strengthen feedback mechanisms. Explore use of collaborative software tools and online civic engagement software that could provide feedback to people who have participated. Self-assessment and transition to good participation practices and tracking of progress.
Exemplar/Resources			
- Open Government National Action Plan 2023 – 2025 (Government of Ireland, 2023b). - Public Participation Network (PPN, 2021). - Swedish approach to reporting and evaluating PP (EEA, 2020).			

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[26] The Maigue and Inishowen Rivers Trusts founded the iCatch Network in 2020 to connect Irish and Northern Irish river trusts working on projects. The Rivers Trust in Ireland manages it. Members gather monthly online for expert talks, training, and peer-to-peer support on river trusts, river organisations, and catchment groups that want to enhance their water environment.

At present, there is no publicly available matrix for evaluating and monitoring PP. This leads to a gap in gathering feedback and in strengthening mechanisms to improve PP. To monitor PP activities and ensure transparency a robust PP feedback mechanism should be implemented with a matrix that considers several factors that can be adaptable to the specific context of an issue under discussion. This can help gauge stakeholders' level of awareness, involvement, and desire to collaborate in achieving desired environmental outcomes while measuring the extent to which PP is embedded in environmental decision-making.

- To do this, there should be an annual report and a 4-year key learning follow-up report - as is the practice in Sweden - on PP activities undertaken by various organisations under the auspices of DHLGH and verified under a PP matrix.
- A PP matrix can be used as an indicator to assess the impact of stakeholder engagement taking into account a number of factors. It can help to gauge stakeholders' levels of awareness, involvement, and willingness to collaborate in achieving desired environmental outcomes (see, Appendix 3 on a proposed PAM Matrix under consideration for piloting).
- A centralised database on all environmental concerns and accompanying PP exercises carried out to serve as a source of data and references for future activities and for the Catchment Community Fora to have as a resource to enhance their work.
- Local authorities and PPNs should review and ensure that all environmental decision-making relating to water and water quality are arrived at through a participatory approach, with LAWPRO and other relevant bodies facilitating such engagement through close community collaboration to ensure they follow the principles of PP.

Policy Recommendation no. 5: Funding

Challenge	Evidence	Action required	Recommendations
Resources	*TT_01* *NF_WS_2* (Antwi et al., 2021; DRCD, 2022a).	Funding for actionable plans that prioritise participatory processes. Funding to employed skilled/permanent staff	Consideration for regional distribution, population, and catchment sizes in funding. Public-Private partnership to raise funding for projects/programmes Technical support in grant application and pilot projects.
Exemplar/Resources			
• LAWPRO Community Water Development Fund (LAWPRO, 2022). • Participatory budgeting as set aside by the City of Amsterdam, in the Netherlands to fund community projects that has environmental impact (Rincon, 2021).			

Funding for public participation varies from one organisation to another and is often overlooked, with limited budgets allocated compared to the overall project costs. Just as farmers take pride in their land, community groups or the public value the opportunity to input into decisions impacting their lives or communities.

- To enhance catchment activities, an increase in funding support through the Community Water Development Fund (CWDF) should be considered. These funds should be redirected towards actionable projects to raise awareness and encourage community participation. Simplifying the funding application process is

also essential to facilitate smoother applications, as the current complex form-filling process poses challenges for community groups with limited administrative capacity as revealed in the stakeholder interviews. Offering regular training sessions on funding applications can empower groups to tap into various national and international funding opportunities.

- To promote equitable distribution, funding processes should consider factors such as regional distribution, population, and community size. This approach recognizes diverse needs and priorities across regions and communities, preventing disparities and fostering inclusive development. It will also enable larger communities and catchment areas to access the much-needed funds based on their specific needs.

- The interviews with the NSH revealed that PPNs currently have a lesser grip on the environmental sector compared to others because they have limited staff with the necessary knowledge on environmental issues, particularly climate change, water, and biodiversity, as revealed in a stakeholder interview. Funding should be increased to hire qualified environmental officers attached to Local Authorities and encourage more environmental representation within the PPN structure to support and monitor PP in various catchment activities.

Policy Recommendation no. 6: Diversity and Inclusion

Challenge	Evidence	Action required	Recommendations
Diversity and Inclusion	*TT_02* (CSO, 2023; DRCD, 2022b).	Adequate representation of marginalised groups	Remove barriers, and participation pathways for marginalised members, the youth, and emphasis on gender balance
Exemplar/Resources • The Values and Principles for Collaboration and Partnership by the Government of Ireland (DRCD, 2022). • The South Australian Better Together programme (South Australian Government, 2019).			

PP does not improve democratic practice if it is not inclusive. Likewise, public input does not improve the quality of decision-making if the right people are not involved or decision-makers do not consider their views. More so, PP can breed distrust and conflict if the public does not perceive the process as fair and inclusive of diverse views. Efforts to improve inclusivity and strengthen the decision-making process should include

- A deliberate involvement of identified vulnerable, marginalised and/ or affected persons such as prisoners, the Irish Traveller communities, and migrants and settlers in social housing units should be encouraged. Including these diverse groups may enhance public dialogue and representation, enhance participation, and promote effective dialogue and understanding of environmental issues.

- Third-level and Transition year students should be encouraged to volunteer with local community organisations to develop an interest in community service and participation. Encouraging young people to be active at the community level can increase their understanding and enthusiasm for active involvement and participation in environmental issues while taking up leadership roles and responsibilities in the future.

- Environmental Day/World Water Day celebrations and awareness could be continuously encouraged with support from Rivers Trusts, local authorities, and

schools to promote diversity and inclusion in environmental management through active engagement of all students.

Policy Recommendation no. 7: Research and Development

Challenge	Evidence	Action required	Recommendations
Research and Innovation	*AI_DCU_WB* (DCU Water Institute, 2023; Hesse et al., 2023).	Easily accessible research data and a centralised repository	Citizen science data accessibility for baseline studies. Social science research to complement rigorous scientific catchment characterisation. Prioritisation of environmental education in Irish Schools.
Exemplar/Resources • Open Government Partnership of Scotland (Scottish , 2023), and the Utopian Stories (EU-Citizen Science, 2023). • The UK Research and Innovation (UKRI, 2022). • The Hague Academy for Local Governance (Rincon, 2021).			

For future PP to be more effective, research data and information on public engagement must be saved and made easily accessible. This preserves valuable insights and lessons learned, enabling organizations to build on prior successes and avoid repeating mistakes. It also offers a foundation for decision-making based on evidence, assisting policymakers in making informed decisions on strategies and approaches while promoting transparency by documenting the process, which can enhance the trust the public and stakeholders have in the water sector. Sharing data and researching findings from PP initiatives can help inform the public, increase knowledge on the value of participation, and inspire others to participate. Overall, a knowledge hub with all research data, findings, and information from preserving research data and information builds a knowledge base that promotes more successful and significant efforts to engage the public. The accumulated data and lessons learned over time can contribute to developing a PP guideline, like the CPP in the Netherlands (CPP, 2011). At present, the EPA maintains an open-access, searchable environmental research database[27], but data from surveys and citizen science efforts is scattered and hard to trace, meaning there are meaningful insights attributed to their efforts.

- Learnings from social/behavioural science research can play a pivotal role in the context of catchment actions for water quality and PP by providing deeper insights into human behaviour and decision-making and developing more effective PP strategies.
- A centralised, open-access repository where all this valuable data can be quickly deposited would enable easy access to catchment data and to have inputs for modelling long-term trends for analysis based on data collected through citizen science, even from a decade or more. This can significantly benefit research, improve catchment engagement and participation, enhance understanding of catchment challenges, and address future environmental challenges, especially in river ecosystems.
- A centralised platform for PP announcements and engagement, like the Open Government Partnership of Scotland and Scottish Environment Web might inform

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[27] erc.epa.ie/smartsimple

the public about ongoing activities in numerous environmental areas. The site should be user-friendly, considering literacy and computer competence with widespread advertisement to raise stakeholder awareness on such platforms and for policymakers to have insight into various efforts undertaken through PP in the country on greater compliance with regulations.

- There should be integration and prioritisation of environmental education into the core curriculum of Irish schools, providing students with essential skills and knowledge for environmental sustainability while analysing trends in primary education curricula to inform and enhance environmental curriculum development, emphasising areas for improvement as highlighted by O'Malley & Pierce (2023) on the changing role of environmental education in Irish schools.

Policy Recommendation no. 8: Community Catchment Fora

Challenge	Evidence	Action required	Recommendations
Catchment Engagement	*LP_LAWPRO 1* (DHLGH, 2022b; LAWPRO, 2023).	Community Catchment Fora	Balanced representation of selected and elected members. Flexible meeting options to accommodate participants' availability and schedule
Exemplar/Resources			
• The Environmental Water Advisory Groups of New South Wales (NSW Government, 2020). • Dutch Water Board (Mostert, 2017).			

Recognised globally for its exemplary water management practices, the Water Board model in the Netherlands demonstrates how citizens can facilitate stakeholder engagement and influence regional government decisions on national water quality, flooding, and the governance and management of water assets, including investment and planning. The proposed Community Catchment Fora to be piloted by LAWPRO for the 3rd RBMP sometime in 2024 (LAWPRO, 2023) should draw inspiration from the Dutch water board approach and the Environmental Water Advisory Groups of New South Wales, Australia on drawing different expertise to the Fora.

- The Fora should comprise elected or appointed executives to promote democratic representation and accountability. Not only do the elections allow for the inclusion of diverse perspectives and priorities of the community. The elected officials become responsible for responding to the concerns and needs of their constituents, fostering a stronger connection between environmental policies and public concerns. This also encourages individuals with a genuine commitment to environmental issues to take on leadership roles, resulting in effective management of the fora.
- To promote diversity and inclusion within the Fora, conscious efforts should be made to ensure the representation of underrepresented groups, such as marginalised communities and ethnic minorities.
- The Fora should meet at least twice a year to review progress, set objectives, and engage with each other to maintain momentum. Some of these meetings, where possible, should be done online to strike a balance in accommodating members availability.
- The successful establishment of the CCF will significantly impact environmental decision-making by ensuring democratic representation with members possessing

diverse expertise. As a local policy and implementation advocate, the CCF can drive policies and implementation actions that resonate with community needs. Moreover, it can contribute to policy development and implementation strategies, drawing upon best practices from various countries to foster connections and collaborations.

References

Akerboom, S., & Craig, R. K. (2022). How law structures public participation in environmental decision making: A comparative law approach. *Environmental Policy and Governance, 32*(3), 232–246. https://doi.org/10.1002/eet.1986

Albrecht, J. (2016). Legal framework and criteria for effectively coordinating public participation under the Floods Directive and Water Framework Directive: European requirements and German transposition. *Environmental Science and Policy, 55,* 368–375. https://doi.org/10.1016/j.envsci.2015.07.019

An Fóram Uisce. (2021). *An Fóram Uisce – the Water Forum: Strategic Plan 2022-2027.* The Water Forum. https://thewaterforum.ie/our-work/#our-mission

Antwi, S. H., Linnane, S., Getty, D., & Rolston, A. (2021). River Basin Management Planning in the Republic of Ireland: Past, Present and the Future. *Water 2021, Vol. 13, Page 2074, 13*(15), 2074. https://doi.org/10.3390/W13152074

Approach. (n.d.). *Approach | Open Government Partnership.* Open Government Partnership. Retrieved July 31, 2023, from https://www.opengovpartnership.org/about/approach/

ASSAP. (2019). *Agricultural Sustainability Support and Advisory Programme.* https://www.teagasc.ie/media/website/news/2020/ASSAP-Interim-Report---1.pdf

Berry, L. H., Koski, J., Verkuijl, C., Strambo, C., & Piggot, G. (2019). *Making space: How public participation shapes environmental decision-making.* Stockholm Environment Institute. https://www.sei.org/wp-content/uploads/2019/01/making-space-how-public-participation-shapes-environmental-decision-making.pdf

BMUV. (2015). *Innovative citizens' dialogue on ProgRess II.* https://www.bmuv.de/fileadmin/Daten_BMU/Download_PDF/Ressourceneffizienz/gespraechstoff_buergerratschlag_bf.pdf

Boyden, M. (2015). *Public Engagement in Integrated Catchment Management: StreamScapes Recommendations.* Environmental Protection Agency. https://www.epa.ie/publications/research/small--scale-studies/EPA-Research-155---Public-Engagement-in-Integrated-Catchment-Management-WEB.pdf

Bresnihan, P., & Hesse. (2019). *Desk Study on Public Engagement in Water Governance.* An Fóram Uisce. https://thewaterforum.ie/app/uploads/2020/03/Water-Forum_Public-Participation_Bresnihan-and-Hesse_2019.pdf

Catchment News. (2018, March 13). Creating a vision for Dundalk Bay Rivers. *Catchments.Ie.* https://www.catchments.ie/creating-vision-dundalk-bay-rivers/

Chambres d'agriculture. (2023, April 5). *Chambers of Agriculture France: Directive nitrates.* https://chambres-agriculture.fr/agriculteur-et-politiques/politiques-environnementales/directive-nitrates/

Cinnéide, M. O., O'Riordan, J., & Boyle, R. (2020). *Case Studies on Local Catchment Groups in Ireland, 2018-2020.* EPA Research Programme. https://www.ipa.ie/epa-reports/case-studies-on-local-catchment-groups-in-ireland-2018-2020.5763.html

Citizen Assembly. (2023). *Report of the Citizens' Assembly on Biodiversity Loss.* https://citizensassembly.ie/wp-content/uploads/Report-on-Biodiversity-Loss_mid-res.pdf

ClientEarth. (2022). *Public Participation in Environmental Matters in the UK/England & Wales.* www.clientearth.org/media/ftxnaemc/draft-guidance-on-public-participation-9-february-2022-public.pdf

Collins, A., Coughlin, D., Miller, J., & Kirk, S. (2015). *The Production of Quick Scoping Reviews and Rapid Evidence Assessments: A How to Guide.* DEFRA publication. https://assets.publishing.service.gov.uk/media/5a7f3a76ed915d74e33f5206/Production_of_quick_scoping_reviews_and_rapid_evidence_assessments.pdf

CPP. (2011). *Guidance for Public Participation in planning and Strategic Environmental Assessment (SEA)*. https://www.commissiemer.nl/docs/mer/diversen/os_guidance_publicparticipation.pdf

CSO. (2023, May 30). *Migration and Diversity*. Census of Population 2022 - Summary Results; CSO. https://www.cso.ie/en/releasesandpublications/ep/p-cpsr/censusofpopulation2022-summaryresults/migrationanddiversity/

Danish Environmental Protection Agency. (2023). *Digital Environmental Administration*. https://dma.mst.dk/

DCCAE. (2019). *Climate Action Plan 2019 To Tackle Climate Breakdown*. Government of Ireland.

DCU Water Institute. (2023). *WaterBlitz 2022 Report*. https://dcuwater.ie/water-blitz/

Deltares. (2020). *Evaluation of Nitrate App* (Memo; p. 72).

DHLGH. (2022a). *Public Consultation on the draft River Basin Management Plan for Ireland 2022-2027*. Department of Housing, Local Government and Heritage. https://www.gov.ie/en/consultation/2bda0-public-consultation-on-the-draft-river-basin-management-plan-for-ireland-2022-2027/#documents

DHLGH. (2022b). *Third Cycle Draft River Basin Management Plan 2022-2027: Consultation Report*. Water Advisory Unit, Department of Housing, Local Government and Heritage. https://assets.gov.ie/230374/5a137ca0-0ef6-4734-ab35-5fc9f113f702.pdf

DHPLG. (2019). *Public Consultation on the Significant Water Management Issues for the third cycle River Basin Management Plan for Ireland 2022-2027*. https://www.housing.gov.ie/water/water-quality/water-framework-directive/public-consultation-significant-water-management

DRCD. (2022a). *PPN Structural Review Report*. Department of Rural and Community Development. https://www.gov.ie/en/publication/f6fe9-ppn-structural-review-report/#

DRCD. (2022b). *Values and Principles for Collaboration and Partnership*. Department of Rural and Community Development. https://www.gov.ie/pdf/?file=https://assets.gov.ie/237588/dadc85ce-5dce-49f1-a6fa-4c28d4f1ae31.pdf#page=null

Duijn, M., van Buuren, A., Edelenbos, J., van Popering-Verkerk, J., & Van Meerkerk, I. (2019). Community-based initiatives in the Dutch water domain: The challenge of double helix alignment. *International Journal of Water Resources Development*, 35(3), 383–403. https://doi.org/10.1080/07900627.2019.1575189

Easton, S. (2018, June 21). *NSW information commission charts the course to a more open government*. The Mandarin. https://www.themandarin.com.au/94661-nsw-information-commission-launches-charts-the-course-to-a-more-open-government/

EEA. (2014). *Public participation: Contributing to better water management: Experiences from eight case studies across Europe*. European Enviornmental Agency. https://www.eea.europa.eu/publications/public-participation-contributing-to-better

EEA. (2020). *Sweden country briefing—The European environment—State and outlook 2015—European Environment Agency* [Briefing]. https://www.eea.europa.eu/soer/2015/countries/sweden

EPA Catchments Unit. (2019). *The growth of The Rivers Trust movement on the island of Ireland*. Catchment Management, Get Involved, News, Stories, Water and Communities. https://www.catchments.ie/the-growth-of-the-rivers-trust-movement-on-the-island-of-ireland/

EPI. (2022). *Environmental Performance Index 2022 Results*. https://epi.yale.edu/epi-results/2022/component/epi

EU. (2017). *EU Environmental Implementation Review Country Report, Denmark*. https://environment.ec.europa.eu/law-and-governance/environmental-implementation-review_en

EU-Citizen.Science. (2023). *Utopian Stories*. https://eu-citizen.science/project/322

European Commission. (2003). *Public participation in relation to the water framework directive. Guidance document No 8*. https://op.europa.eu/en/publication-detail/-/publication/0cbbda1e-ac34-44ea-93f5-5a51920ba063

European Commission. (2021a). *Implementation of planned Programmes of Measures New Priority Substances Preliminary Flood Risk Assessments and Areas of Potential Significant Flood Risk*. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=COM:2021:0970:FIN

European Commission. (2022). *Environmental Implementation Review 2022: Country Report—Denmark*. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=comnat%3ASWD_2022_0253_FIN

European Commission. (2021b). *Implementation Reports*. https://environment.ec.europa.eu/topics/water/water-framework-directive/implementation-reports_en

European Union. (2020). *Regulation (EU) 2020/741 Of The European Parliament And Of The Council Of 25 May 2020 On Minimum Requirements For Water Reuse*. https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32020R0741&from=EN

European Union. (2022). *Turning the tide through environmental compliance- Germany*. https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=comnat%3ASWD_2022_0265_FIN

Federal Republic of Germany. (2016). *Deutsche Nachhaltigkeitsstrategie*. www.bundesregierung.de/resource/blob/975292/730844/81d656dbe61813ec647c5e3f86e252ec/deutsche-nachhaltigkeitsstrategie-neuauflage-2016-download-bpa-data.pdf?download=1

Government of Ireland. (2023a). *A Guide for Inclusive Community Engagement in Local Planning and Decision Making*. https://assets.gov.ie/274611/a547919e-0cf5-412b-8983-f260c8ed66ed.pdf

Government of Ireland. (2023b). *Consultation Report – Ireland's Open Government Partnership National Action Plan 2023 - 2025*. Department of Public Expenditure, NDP Delivery and Reform. https://www.gov.ie/en/publication/44ee0-consultation-report-irelands-open-government-partnership-national-action-plan-2023-2025/

Graversgaard, M., Hvarregaard Thorsøe, M., Kjeldsen, C., & Dalgaard, T. (2016). *Evaluating public participation in Denmark's water councils: How policy design and boundary judgements affect water governance!* https://journals.sagepub.com/doi/10.1177/0030727016675691

Guo, J., & Bai, J. (2019). The Role of Public Participation in Environmental Governance: Empirical Evidence from China. *Sustainability*, 11(17), Article 17. https://doi.org/10.3390/su11174696

Hesse, A., Bresnihan, P., & White, J. (2023). The data treadmill: Water governance and the politics of pollution in rural Ireland. *Local Environment*, 28(5), 602–618. https://doi.org/10.1080/13549839.2023.2169668

Hough, A., Doran, P., & Brennan, C. (2022). *Report on Aarhus Implementation—Ireland*. Irish Research Council. https://research.thea.ie/handle/20.500.12065/4466

Hügel, S., & Davies, A. R. (2020). Public participation, engagement, and climate change adaptation: A review of the research literature. *WIREs Climate Change*, 11(4), e645. https://doi.org/10.1002/wcc.645

IAPP. (2018). *Spectrum of Public Participation*. Organizing Engagement. https://organizingengagement.org/models/spectrum-of-public-participation/

Jager, N., Challies, E., Kochskämper, E., Newig, J., Benson, D., Blackstock, K., Collins, K., Ernst, A., Evers, M., Feichtinger, J., Fritsch, O., Gooch, G., Grund, W., Hedelin, B., Hernández-Mora, N., Hüesker, F., Huitema, D., Irvine, K., Klinke, A., … von Korff, Y. (2016). Transforming European Water Governance? Participation and River Basin Management under the EU Water Framework Directive in 13 Member States. *Water*, 8(4), 156. https://doi.org/10.3390/w8040156

Koski, J., Verkuijl, C., Strambo, C., & Piggot, G. (2019). *Making space: How public participation shapes environmental decision-making*. https://www.sei.org/publications/how-public-participation-shapes-environmental-decision-making/

LAWPRO. (2019). *Local Authority Waters Programme Annual Report*. https://lawaters.ie/app/uploads/2021/06/Annual-Report-2019.pdf

LAWPRO. (2022). *Local Authority Waters Programme Annual Report 2022*. file:///C:/Users/LocalAdmin/Desktop/LA_

Waters_AR-2022-_Publication-150823-1.pdf

LAWPRO. (2023). *Catchment Management Planning & Catchment Community Fora.* https://consult.watersandcommunities.ie/en/consultation/catchment-management-planning-catchment-community-fora

Luisi, D., & Hämel, K. (2021). Community participation and empowerment in primary health care in Emilia-Romagna: A document analysis study. *Health Policy,* 125(2), 177–184. https://doi.org/10.1016/j.healthpol.2020.11.007

Maigue Rivers Trust. (2022). *Morningstar River Giant Hogweed Control Project 2022 – Maigue Rivers Trust.* https://maigueriverstrust.ie/2022/10/06/morningstar-river-giant-hogweed-control-project-2022/

Ministry of Ecological Transition. (2023). *The French assessment of ecosystems and ecosystem services.* https://www.ecologie.gouv.fr/levaluation-francaise-des-ecosystemes-et-des-services-ecosystemiques

Ministry of Infrastructure and Water Management. (2015). *National Water Plan 2016-2021.* Ministry of Infrastructure and the Environment Ministry of Economic Affairs. https://www.government.nl/topics/water-management/documents/policy-notes/2015/12/14/national-water-plan-2016-2021

Mostert, E. (2017). Between arguments, interests and expertise: The institutional development of the Dutch water boards, 1953-present. *Water History,* 9(2), 129–146. https://doi.org/10.1007/s12685-016-0154-1

NFGWS. (2019). *National Federation of Group Water Schemes Annual Report 2019.* https://nfgws.ie/2019-annual-report/

NSW Government. (2020, May 11). *Environmental Water Advisory Groups.* NSW Environment and Heritage. http://www.environment.nsw.gov.au/topics/water/water-for-the-environment/about-water-for-the-environment/environmental-water-advisory-groups

OAB. (n.d.). *Observatoire Agricole de la Biodiversité.* Retrieved July 25, 2023, from https://www.observatoire-agricole-biodiversite.fr/

OECD. (2015). *Stakeholder Engagement for Inclusive Water Governance.* OECD. https://doi.org/10.1787/9789264231122-en

OECD. (2019a). *OECD Environmental Performance Reviews: Australia.* www.oecd.org/environment/country-reviews/EPR-AUS-Highlights-WEB-FINAL.pdf

OECD. (2019b). *OECD Environmental Performance Reviews: Denmark 2019.* https://doi.org/10.1787/1eeec492-en

OECD. (2020). *How's Life? 2020: Measuring Well-being.* https://doi.org/10.1787/5ea587ba-en

OECD. (2021). *OECD Environmental Performance Reviews: Ireland 2021.* https://doi.org/10.1787/9ef10b4f-en

O'Malley, S., & Pierce, J. (2023). Mainstream or margins? The changing role of environmental education in Irish primary school curricula, 1872 to 2021. *Journal of Outdoor and Environmental Education,* 26(2), 189–206. https://doi.org/10.1007/s42322-022-00118-w

O'Rafferty, S. (2019). *Public engagement & environmental policy.* Catchment News. https://www.catchments.ie/public-engagement-environmental-policy/

Pellegrini, E., Bortolini, L., & Defrancesco, E. (2019). Coordination and Participation Boards under the European Water Framework Directive: Different approaches used in some EU countries. *Water (Switzerland),* 11(4), 833. https://doi.org/10.3390/w11040833

PPN. (2021). *Public Participation Networks Annual Report 2021.* Department of Rural and Community Development. https://www.gov.ie/en/policy-information/b59ee9-community-network-groups/

Reed, M. S., Dougill, A. J., & Baker, T. R. (2008). Participatory indicator development: What can ecologists and local communities learn from each other? *Ecological Applications: A Publication of the Ecological Society of America,* 18(5), 1253–1269. https://doi.org/10.1890/07-0519.1

Reed, M. S., Vella, S., Challies, E., de Vente, J., Frewer, L., Hohenwallner-Ries, D., Huber, T., Neumann, R. K., Oughton, E. A., Sidoli del Ceno, J., & van Delden, H. (2018). A theory of participation: What makes stakeholder and public engagement in environmental

management work? *Restoration Ecology*, *26*(S1), S7–S17. https://doi.org/10.1111/rec.12541

Rincon, L. (2021, September 1). *Citizen participation initiatives in Amsterdam*. The Hague Academy. https://thehagueacademy.com/news/citizen-participation-initiatives-in-amsterdam/

Roche, J., Ni Shuilleabhain, A., Mooney, P., Barber, G. L., Bell, L., & Ryan, C. (2021). Citizen Science in Ireland. *Frontiers in Communication*, *6*. https://www.frontiersin.org/articles/10.3389/fcomm.2021.629065

Rolston, A., Jennings, E., & Linnane, S. (2016). *Towards Integrated Water Management (TIMe)* (p. 36). Environmental Protection Agency.

Scottish Government. (2023). *Participation Framework*. Minister for Parliamentary Business. http://www.gov.scot/publications/participation-framework/

SEPA. (n.d.). *Scottish Environment Protection Agency—Citizen Space*. Retrieved July 27, 2023, from https://consultation.sepa.org.uk/

Setec hydratec. (2022). *An Assessment Of Policy Coherence And Conflicts For Water And Environmental Management*. https://thewaterforum.ie/app/uploads/2022/06/An-Assessment-of-Policy-Coherence-and-Conflicts-for-Water-and-Environmental-Management.pdf

South Australian Government. (2019). *Best practice stakeholder engagement*. https://www.dpc.sa.gov.au/resources-and-publications/premier-and-cabinet-circulars/PC036-Best-Practice-Stakeholder-Engagement.pdf

The Water Forum. (2022). *Submission on the Public Consultation of the River Basin Management Plan 2022-2027*. https://thewaterforum.ie/app/uploads/2022/03/Water-Forum-RBMP-Submission_-Final-.pdf

Tyhotyholo, T., & Ncube, B. (2023). The rhetoric of community participation in urban South African water governance. *Utilities Policy*, *82*, 101573. https://doi.org/10.1016/j.jup.2023.101573

Uittenbroek, C. J., Mees, H. L. P., Hegger, D. L. T., & Driessen, P. P. J. (2019). The design of public participation: Who participates, when and how? Insights in climate adaptation planning from the Netherlands. *Journal of Environmental Planning and Management*, *62*(14), 2529–2547. https://doi.org/10.1080/09640568.2019.1569503

UKRI. (2022, November 23). *Research and innovation for all: UKRI's public engagement strategy*. https://www.ukri.org/publications/ukri-public-engagement-strategy/research-and-innovation-for-all-ukris-public-engagement-strategy/

UNECE. (2014). *The Aarhus Convention: An Implementation Guide (second edition)*. https://unece.org/environment-policy/publications/aarhus-convention-implementation-guide-second-edition

Water Forum. (2021). *A Framework for Integrated Land and Landscape Management Protecting and Enhancing Our Environment*. The Water Forum. https://thewaterforum.ie/app/uploads/2021/03/TWF-FILLM-Report-Feb21-v9WEB.pdf

Weiner, D., Bloomer, J., Conchúir, R. Ó., & Dalton, C. (2022). *The Role of Volunteers and Citizen Scientists in Addressing Declining Water Quality in Irish River Catchments* (1). *7*(1), Article 1. https://doi.org/10.5334/cstp.447

Wilderness Society. (2022). *Who holds the power? Community rights in environmental decision-making*. https://www.wilderness.org.au/images/resources/WhoHoldsThePowerReport.pdf

Wright, S. A. L., & Fritsch, O. (2011). Operationalising active involvement in the EU Water Framework Directive: Why, when and how? *Ecological Economics*, *70*(12), 2268–2274. https://doi.org/10.1016/j.ecolecon.2011.07.023

Yin, Y. (2010). *Review: Environmental governance in Sweden*. 50th Congress of the European Regional Science Association, Sweden. https://www.econstor.eu/bitstream/10419/119211/1/ERSA2010_1439.pdf

Appendix 1: Research Questions

1. What does public participation mean to you?
2. What do you feel are the key benefits of engaging the public in participation activities?
3. What are some of the key barriers and challenges to effective public participation, and how would/do you address them?
4. What strategies have you found to be most effective in engaging the public?
5. How do you ensure that the concerns of all stakeholders are heard and taken into account in decision-making?
6. How do you ensure that the representation of underrepresented groups, such as women and minorities, is increased in decision-making processes?
7. How do you collaborate with other stakeholders to ensure that relevant policies are integrated and aligned with broader environmental objectives?
8. What kind of support is available to ensure effective public participation in Australia?
9. What are some of the key lessons learned from your experiences in engaging the public?
10. What role do you see for technology and digital tools in enhancing public participation?
11. What are the best practices for inclusive and accessible engagement and communication strategies for public participation?

Appendix 2: Some selected evidence from stakeholder interviews

	Challenge	Evidence
1	Governance	*"I think it would be nice to have some sort of structures, and they don't have to be rich or anything like that, but just a proper guideline for PP"* *ST_Taisce_1* *"The frustration is with trust as a result, the National Parks and Wildlife Service for example have to get permission from different agencies to carry out their projects. It could have been better and a bit easier to mainstream all permission together" TT_02*
2	Training and supports	*"I don't think there's any point in just asking people to be full participants without helping them to build their expertise" ST_HC* *"Limited skills in facilitating public participation are among the challenges of community water officers and people in environmental management" LP_LAWPRO 1*
3	Processes for PP not clearly defined	*"The timing of participation and reporting of feedback is sometimes" NG_GI*
4	Research and Innovation	*"People are doing surveys here and there, but all the data gets lost. So if there was one open-access platform where all the data could go, the researcher could look into example 10 years of datasets and understand changes and also apply AI or modelling to assess future scenarios" AI_DCU_WB*
5	Communication	*"We also need to be very clear in our communication as to what LAWPRO does and does not do. Be very clear on our purpose and manage expectations" LP_LAWPRO 2*

		"There must be timely feedback" AI_DKIT
6	Resources	*"In comparison to the UK or Northern Ireland, there aren't many governmental grants that actually support the work of River Trust in the RoI" TT_01* *"I think time is one of the biggest things as it takes a lot of time to do things properly" NF_WS_2*
7	Diversity and Inclusion	*"We have a lot of Ukrainians and international protection people who arrived recently. While everybody is invited to every events which are free, we probably need to put a bit of effort into that actually, to be honest" TT_02*
8	Catchment Engagement	*"The implementation of catchment studies has proven to be an invaluable tool, yet there's room for improvement to empower a broader audience to comprehend and address environmental issues in their localities" LP_LAWPRO 1*

Appendix 3: Public Participation Matrix

Evaluating stakeholder engagement success may involve defining the scope of the issue under consideration, the willingness of participants and willingness to lead the processes. A PAM indicator (🔴 P = Poor 🟢 A = Active 🟡 M = Mild) is newly proposed here as a pilot indicator to assess the impact of both public and stakeholder engagement taking into account a number of factors that can be adaptable to the specific context of the issue under discussion. As a new matrix being developed by the research team, PAM can help gauge stakeholders level of awareness, involvement, and desire to collaborate in achieving desired environmental outcomes. A "P" score could indicate poor engagement, often stemming from limited communication, which results in low attendance, limited willingness to participate, low diversity of participants, and minimal feedback. An "A" score could signify an active engagement, characterized by an expected number of stakeholders, high attendance, enthusiastic participation, and positive feedback. A "M" score could be determined through feedback, responses, and the overall success of the engagement processes.

 Proposed PAM Assessment tool kit

	Indicators	*Some questions to consider*
Defined purpose and goals	A clear objective of the meeting and related outcomes for the environment. Well defined plan regarding the number of times a meeting will be held on the topic and the frequency of updates	• *Were stakeholders involved from the inception of the process and kept informed about the scope of issues?* • *Were barriers identified and addressed?* • *Were there options to facilitate engagement and to*

		meet the needs of different stakeholders? • *Was the entire engagement process co-designed?*
Number of participants	The number of people willing to participate in the meeting or engagement sections. Larger or smaller numbers may indicate the level of interest. The level of interest, influence, and position on the scope of issues to be discussed can be a benchmark for determining the rate of success or otherwise of an engagement. Stakeholders in attendance based on their power and interest in the scope of the issue can also help in identifying which stakeholders need close attention which can be monitored from a distance and how their power can influence outcomes.	• *Was the process clearly planned and communicated to all concerned?*
Participants Demography	The diversity of participants, their perspectives, and willingness or commitment to lead or facilitate the course of action to address issues can show a sign of willingness or not.	• *Was the planning and communication of the process clear and comprehensive for all parties involved?* • *Did marginalized and disadvantaged communities actively contribute to the planning and decision-making processes?*
Feedback	A survey or questionnaire during or after engagement to gather feedback from stakeholders can provide quantitative data on the level of engagement and satisfaction. This quantitative data aids in assessing the effectiveness of communication, understanding of engagement objectives, and overall satisfaction. Qualitative techniques, such as focus groups and interviews, can provide deeper insights into stakeholder perceptions, concerns, and expectations, facilitating a more comprehensive assessment of their engagement. Social media metrics, including the number of reactions, post engagement, and comments, can help determine whether stakeholder concerns are addressed.	• *Were participants feedback indicative of their feeling valued and heard?* • *Was feedback shared with the communities regarding the findings from the engagement process and information on subsequent steps?* • *Any systems in place for ongoing engagement?*

Proposed PAM self-assessment tool dot-matrix scoresheet

	Engagement	Representation	Action
Defined purpose and goals			
Defined structure and process			
A clear opportunity for influence			
Feedback			
Inclusive and effective representation			