



## **Working Paper No. 31**

**July 2024**

# **Coastal Community Recommendations to Build Resilience**

Authors: Dr. Eugene Farrell

Project Management and Report Preparation: MKO, Tuam Road, Galway, H91VW84

A working paper commissioned by the Climate Change Advisory Council, Ireland.

Disclaimer: The Climate Change Advisory Council working papers represent un-refereed work-in-progress by researchers who are solely responsible for the content and any views expressed therein. Any comments on these papers will be welcome and should be sent to the lead author by email [eugene.farrell@universityofgalway.ie](mailto:eugene.farrell@universityofgalway.ie).

# COASTAL COMMUNITY RECOMMENDATIONS TO BUILD RESILIENCE

Author: Dr Eugene Farrell, University of Galway

Project Management and Report Preparation: MKO, Tuam Road, Galway, H91VW84



How to cite:

Farrell, E.J., (2024). Coastal community recommendations to build resilience. Climate Change Advisory Council Working Paper 31. Climate Change Advisory Council, McCumiskey House, Richview, Clonskeagh Road, Dublin 14, D14 YR62, Ireland. 70pp.

## KEY FINDINGS

### A. Empowering volunteer groups can lead to sustainable solutions to climate risks and threats to biodiversity.

Coastal communities are protecting, conserving, and promoting our coastal assets. They want to collaborate with public sector bodies to develop sustainable solutions to climate risks and threats to biodiversity.

A.1	Community groups are very passionate and the frontline of active coastal management in many locations around Ireland. Their voluntary efforts should be acknowledged and supported.
A.2	Coastal communities want to be part of the transition to climate and ecological security. Despite their decades long efforts they feel (1) isolated, (2) not respected, and (3) not trusted by government bodies.
A.3	Support from local authorities, NPWS, local political representatives, and scientists are viewed as critical enablers for coastal groups to maintain their efforts and continue to be motivated to organize communities to make change 'on the ground'. This support can emerge in different ways: having access to key decision makers and 'champions'; access to funding; and access to scientific data.
A.4	Knowledge and ideas from coastal communities are critical to co-design sustainable plans for their coast. A coastal network can enable this (see <b>B</b> below).
A.5	Building relationships with key stakeholders takes " <i>time and perseverance</i> " (workshop participant words) but building this trust is essential for effective working partnerships. Building and maintaining relationships with community groups should be an explicit priority for local authorities and other key stakeholders (e.g., NPWS; OPW).
A.6	A recurring obstacle (barrier) for community groups is the changing responsibilities, functions and roles of local authorities and local authority staff. In theory, there are pools of expertise within local authorities (Biodiversity and Climate Officers) and NPWS (District Conservation Officers) that can support and inform volunteer groups but, in practice, these staff can be inaccessible and/or under-resourced and/or inexperienced (e.g., loss of 'champions' and brain drain when local authority staff move within/between offices) and/or lack decision-making responsibilities (e.g., no joined-up strategy between local authorities, NPWS and OPW, for example).
A.7	A national coastal protection plan would greatly benefit all stakeholders by providing a " <i>standard reference guide</i> " (workshop participant words) to plan community activities.
A.8	There is an urgent need for local governments to be able to prioritize support for community-led actions addressing climate adaptation and biodiversity conservation. Prioritization of this work within national or local plans can mitigate political interference within these organisations by empowering biodiversity and climate offices; ring fencing multi-year funding for 'priority' climate adaptation and conservation projects; and building capacity of these offices to work in communities (e.g., more trained staff 'on the ground' with expertise in 'adaptation' and 'conservation').

A.9	Coastal communities urgently need local authorities (LA) and NPWS to be sufficiently resourced to support their efforts. Biodiversity and climate officers in LA's and the District Conservation Officer in NPWS should be allowed to prioritize (e.g., ring-fenced, multi-year funding) support of community- or LA-led actions focusing on climate adaptation and conservation.
A.10	Once established, community groups rapidly expand their remit and are motivated to engage with all aspects of their coast including, but not limited to, coastal protection (erosion and flooding), conservation, heritage, management and education. Cumulatively, these works increase coastal resilience and build a 'sense of place' and social cohesion.
A.11	Many communities understand the value of scientific data but perceived the lack of access to this data as a barrier (55%). Access to expertise or community-led citizen science would help measure the impact of their work, e.g., <i>are the coastal assets increasing in value?</i>
A.12	The OPW flood and erosion maps are potentially a very impactful tool to raise awareness of climate risks to communities, but they are not easily accessible or interpretable. Community members highlighted the value of having access to these maps with overlays of residential and commercial properties, roads, land boundaries, zoning, and protected sites.
A.13	Community groups struggle to understand the (in)dependencies of the large number of policy documents relevant to their coast and how all these policies will impact them.
A.14	Community groups spend an " <i>inordinate</i> " (workshop participant word) amount of time organising their activities. This 'unseen' work is an enabler but requires group members to volunteer their time. It was noted that many volunteers have full- or part-time jobs, family and other obligations. This 'unseen' work is not visible to the community or other stakeholders but is critical to the success and sustainability of groups. Group members spend time writing applications (e.g., funding, awards); learning about regulatory compliance to ensure the group activities adhere to complex, interacting laws, regulations and standards established by government agencies; seeking permission to work on the coast from individuals (e.g., commonage landowners) and organisations (local authorities; NPWS); promoting their work (e.g., field events; workshops; social and broadcast media); and facilitating scientists to conduct research in their areas. In some cases, volunteer groups must have funding in place before they get the awards (reimbursed using receipts); list all the grants they have received from government agencies each time; and be expected to act like a company despite being a volunteer group (e.g., tax certificates; registered with revenue). A coastal network can support volunteers to overcome these obstacles (see <b>B</b> below).
A.15	The majority of coastal communities (59%) believe that the lack of access to a coastal network, or forum, is an important barrier. It is noteworthy that the negative impact of many identified barriers can be alleviated, at least partly, by an effective coastal network.
A.16	When or if consulted, coastal communities can articulate their own vision for a sustainable future in their area. They can develop " <i>local solutions for local problems</i> " (workshop participant words).

**B. A coastal network will increase the impact and visibility of volunteer-led climate adaptation and conservation actions.**

A coastal network – operated using principles of *empowerment*; *participation*; *inclusion*; *self-determination*; and *partnership* – would remove many of the obstacles that hinder community groups trying to plan and implement climate adaptation and conservation actions.

B.1	A coastal network (or ‘forum’) can provide a space for volunteer groups to share their experiences, learn ‘best practices’, design solutions; identify gaps in planning, science, and governance; and submit informed and coherent responses to public consultations of new climate and nature policies impacting coastal and marine sectors.
B.2	A coastal network can lead to greater consistency in the working relationships between volunteer groups and key stakeholders (e.g., local authorities; NPWS). Currently, there is very significant variability Ireland-wide in how volunteer groups are treated by public bodies and with responses to their requests for support.
B.3	A coastal network can inform community groups of what actions are permissible and provide clear guidance to deliver these actions.
B.4	There is precedence in Ireland of publicly funded community-led organisations that are successfully conserving Nature. The Community Wetlands Forum, for example, has 1-2 fulltime development officers and is the representative platform for community-led wetland conservation groups. Their principles (empowerment; participation; inclusion; self-determination; and partnership) closely align with the approach and ambitions of coastal community groups.

**C. The large influx of visitors during the summer requires appropriate management plans to enhance the visitor experience and protect coastal ecosystems.**

Degradation of coastal ecosystems is being exacerbated by increasing visitor numbers and is set to further deteriorate as visitor numbers rise. Equally, the unmanaged pressures from visitors can adversely impact local residents and landowners during the summer season.

C.1	Every summer, coastal residents and visitors highlight the lack of management plans and seasonal facilities in coastal areas. The lack of basic amenities linked to waste, drinking water, parking, camper van facilities, and signage (code of conduct; biodiversity awareness; environmental education) is impacting community and visitor experiences and causing degradation of coastal ecosystems. In many cases, visitors are simply not informed (e.g., trespassing on commonage; wild camping) and do not recognize or understand the damage they are causing. In cases where they are informed but do not care, there is a general lack of enforcement of local plans and county beach bye-laws due to limited An Garda Síochána resources and ambiguity in the responsibilities of the local authorities. Coastal communities believe these problems will not go away unless there is joined-up thinking between communities and all the organizations with vested interests in coastal management to deliver sustainable alternatives to visitors during the summer.
C.2	An analogy used to provide context to ongoing management issues linked to large influxes of summer visitors to the coast is to consider similar scenarios where large volumes of people gather in a confined outdoor space, e.g., folk festivals, live music events, arts and crafts fairs, summer fetes, or a family fun days etc. In these circumstances, the event organizers are required to submit detailed plans in advance for traffic and access control, toilet and waste management, site restoration, risk assessments, first aid and crowd management. Similar type plans would benefit coastal areas with very high visitor numbers during the summer months so that these coastal sites are properly managed and protected.
C.3	The perception of coastal communities is that public funding for climate adaptation and biodiversity conservation is not founded upon any coherent strategy for the coast that is linked to priority needs assessments, nor are there guidelines for spending – especially to target coastal community-led efforts. For example, investing in sustainable alternatives for visitors (e.g., managed camper van facilities) is an investment in protecting coastal assets.
C.4	Increasing the capacity of rural areas to host visitors in response to increasing visitor numbers is not identified at any stage as a priority need. This is even more relevant now following significant investments by Fáilte Ireland in developing tourist attractions integrally linked to the coast (e.g., Wild Atlantic Way; Ancient East). Tourism is welcomed (and critical for many rural businesses) but should be sustainably planned with joined-up thinking. Fáilte Ireland are recognised as a key partner for community groups in the future.
C.5	65% of coastal community groups work frequently with Local Authorities. 91% of coastal community groups stated that access to Local Authority decision makers supported their success. We remind government that building capacity of coastal communities to develop responses to a changing climate can only realistically be achieved using bottom-up approaches where the communities inform the decision makers of ' <i>local solutions to local problems</i> '. Resourcing ongoing partnerships between community groups and local authorities (at Directors of Services levels) are critical to this process.

## D. Community-led Nature-based Solutions (NbS) can protect and conserve the coast.

Examples of successful community-led NbS projects highlight the environmental, social, cultural, and economic benefits of the work. This highlights that climate risk management and biodiversity conservation are not mutually exclusive.

D.1	Coastal community groups are very concerned about the impacts of erosion (83%), climate change (76%), biodiversity loss (73%), and sea-level rise (69%). Community-led NbS projects are partly mitigating short-term problems. Implementing these NbS projects is extremely challenging for community groups in terms of permission, best practices, site maintenance, signage, access control, volunteers, and monitoring.
D.2	Restoration projects are seldom measured scientifically which is viewed as a missed opportunity to highlight the monetary (ecosystem services) and non-monetary (cultural and social) value of the work.
D.3	Currently, the management of protected Natura 2000 sites is limiting and a barrier to community-led climate adaptation actions (see: active management). The default response from management agencies of “do not touch” is perceived as an obstacle. There is a disproportionate balance between biodiversity preservation (see: passive management) and economic, social, cultural and regional requirements. Community groups would like to see a “ <i>common sense management approach</i> ” (workshop participant words). The emphasis and unilateral priority of scientific knowledge to avoid political and/or community negotiation is separating communities from Nature.
D.4	It is urgently requested that NPWS, local authorities and other government bodies join-up and deliver a national strategy and implementation plan to support community-led NbS efforts. It is wholly unfair that the principle of ‘beg, borrow and steal’ applies to community groups trying to fund and carry out this critical work towards a ‘just transition’. Sustainable management of the coast using NbS will protect communities and restore Nature.
D.5	There is widespread confusion of how Natura 2000 sites are managed (e.g., 87% of communities have an SAC in their area; 67% have an SPA). Communities would like clarity on who is responsible for managing their coast. Communities believe that there are too many government departments with a remit in coastal management, resulting in political interference and/or inaction and/or contradictory guidance.
D.6	Community groups would like to see Nature prioritised in new policies in terms of safeguarding mechanisms. This includes enforcement of by-laws that is currently lacking Ireland-wide.
D.7	<p>Policymakers are advised to read the recommendations in CCAC Working Paper No.26 (February 2024) <i>‘Identification and assessment of best practice in nature-based solutions for climate action and ecosystem restoration in Ireland’</i> (Molloy et al., 2024). Recommendations include, but are not limited to:</p> <ul style="list-style-type: none"> <li>• The need for a comprehensive and shared definition for nature-based solutions for policymakers for implementation across sectors.</li> <li>• Advisory programmes for informing stakeholders on the application, monitoring and evaluation of nature-based solutions across landscapes.</li> <li>• A collaborative approach across governmental departments, non-governmental organisations, public service bodies, local authorities and the private sector, along with engagement with local communities and a clear governance strategy, is essential for mainstreaming the implementation/monitoring of nature-based solutions at a national level.</li> </ul>

## ACKNOWLEDGEMENTS

We would like to acknowledge members of coastal community groups who participated in the survey and workshop. Their contributions informed all aspects of this report. Martha Farrell for comments during the drafting of the survey and report. Stephen Flood, Martha Farrell and Ruairí Ó Conchúir for contributions during the workshop. Liam Carr, Auriol Considine; Madison Hedges; Laura Foster; Padraic Mac Donnacha, Maïlis Sontot-Marjary; Siobhan McLoughlin; Niamh Nolan; Sibi Selvaraj; Barbara Wadum for facilitating the survey and workshop. Stephen Flood, Jodie Colgan, and Bryn Canniffe for project guidance. Part of this research was carried out with the support of the Marine Institute, funded under the Marine Research Programme by the Government of Ireland (Grant-Aid Agreement No. PDOC/21/02/02).



## TABLE OF CONTENTS

	<b>KEY FINDINGS</b>	2
	<b>ACKNOWLEDGEMENTS</b>	7
	<b>TABLE OF CONTENTS</b>	8
	<b>EXECUTIVE SUMMARY</b>	9
<b>1.0</b>	<b>INTRODUCTION</b> .....	13
<b>2.0</b>	<b>METHODOLOGY</b> .....	14
	2.1 Survey	14
	2.2 Workshop	14
<b>3.0</b>	<b>BACKGROUND</b> .....	15
	3.1 What is the value of our coast?	15
	3.2 What are the pressures on our coast?	16
	3.3 Institutional and technical barriers to building resilience in Ireland	17
	3.4 Coastal protection and conservation	18
	3.5 Climate action and biodiversity in policy and legislation	19
	3.6 Coastal resilience case studies in Ireland	20
<b>4.0</b>	<b>RESULTS</b> .....	23
	4.1 Survey: section 1 (community group profiles)	23
	4.2 Survey: section 2 (enablers and barriers)	28
	4.3 Survey: section 3 (workshop topics)	34
	4.4 Survey: section 4 (interactive mapping)	35
	4.5 Workshop results	38
<b>5.0</b>	<b>CONCLUSION</b> .....	50
	<b>REFERENCES</b>	51
	APPENDIX 1 – Survey questions and responses	53
	APPENDIX 2 - workshop details	68

## EXECUTIVE SUMMARY

A range of Government departments and public bodies are currently overseeing coastal management in Ireland and are responsible for supporting the building of climate change resilience along Irish coastlines. These include the Office of Public Works, the Department of Environment, Climate and Communications, the Department of Housing, Local Government and Heritage, the Department of Transport and various local authorities. Moreover, the National Climate Action Plan 2023, the National Adaptation Framework (NAF), the National Planning Framework, and relevant Sectoral Adaptation Plans (SAP) and Local Authority Climate Action Plans all contain actions that aim to support coastal management. However, in the absence of a National Coastal Management Strategy coastal communities often find it challenging to implement local coastal management measures.

The National Adaptation Framework states that building resilience of our coastlines not only depends on action by all levels of government but also on active and sustained dialogue and engagement with the relevant stakeholders, including coastal communities. The EPA published a research report ‘Building Coastal and Marine Resilience in Ireland’, which highlights barriers and enablers coastal communities in Ireland face when trying to build resilience towards climate change (Farrell et al., 2023a). This study builds on the key lessons identified in this work that emphasise the importance of involving communities in the decision-making process through dialogue between communities and policy makers. The objectives of this study was to facilitate this dialogue by delivering community informed policy recommendations in the context of building resilience in coastal areas in Ireland and will support the Just Transition principle of continued social dialogue.

During December 2023 to January 2024, leaders from twenty-eight coastal community groups in eleven counties around Ireland completed an online survey that profiled each group (e.g., legal status; governance; motivations; levels of concerns for different types of stressors), identified enablers and barriers that supported or hindered their efforts, mapped areas where they have completed management interventions and assessed whether these actions made a positive impact, or not. A follow-up participatory workshop in Galway city during March 2024 with ten of the leaders enabled them to share their experiences, discuss some key findings from the survey, and identify key recommendations for the Climate Change Advisory Council.

The Background section of the report provides brief overviews of key aspects of our coast: *what is the value of our coast?; what are the pressures on our coast?; coastal protection and conservation; climate action and biodiversity in policy and legislation*; and includes 25 examples of existing *coastal community resilient projects in Ireland*. The Results section of the report provides the responses of participants to the online survey and workshop, including summaries of key findings.

Recommendations identified through this study to support coastal communities to build resilience include:

- **Empowering volunteer groups can lead to sustainable solutions to climate risks and threats to biodiversity.** [adapted from Key Findings A1 - A16, p. 2-3]

Community groups are very passionate and the frontline of active coastal management in many locations around Ireland. Their voluntary efforts should be acknowledged and supported.

Coastal communities want to be part of the transition to climate and ecological security. Despite their decades long efforts they feel (1) isolated, (2) not respected, and (3) not trusted by government bodies.

Support from local authorities, NPWS, local political representatives, and scientists are viewed as critical enablers for coastal groups.

Building relationships with key stakeholders takes “time and perseverance” but building this trust is essential for effective working partnerships. Building and maintaining relationships (at higher management levels) with community groups should be an explicit priority for local authorities and other key stakeholders (e.g., NPWS; OPW).

A recurring obstacle (barrier) for community groups is the changing responsibilities, functions and roles of local authorities and local authority staff.

A national coastal protection plan would greatly benefit all stakeholders by providing a “standard reference guide” (workshop participant words) to plan community activities.

There is an urgent need for local governments to be able to prioritize support for community-led actions addressing climate adaptation and biodiversity conservation. Prioritisation of this work within national or local plans can help to mitigate political interference within these organisations by empowering biodiversity and climate offices and ring-fencing multi-year funding for ‘priority’ climate adaptation and conservation projects.

Coastal communities urgently need local authorities (LAs) and NPWS to be sufficiently resourced to support their efforts. Biodiversity and climate officers in LAs and District Conservation Officer in NPWS should be allowed to prioritise (e.g., ring-fenced, multi-year funding) support for community actions.

Once established, community groups rapidly expand their remit and are motivated to engage with all aspects of their coast including, but not limited to, coastal protection (erosion and flooding), conservation, heritage, management and education. Cumulatively, these works increase coastal resilience and build a ‘sense of place’ and social cohesion.

Many communities understand the value of scientific data but perceived the lack of access to this data as a barrier.

The OPW flood and erosion maps are potentially a very impactful tool to raise awareness of climate risks to communities but they are not easily accessible or interpretable. Community members highlighted the value of having access to these maps with overlays of residential and commercial properties, roads, land boundaries, zoning, and protected sites.

The majority of coastal communities (59%) believe that the lack of access to a coastal network, or forum, is an important barrier. It is noteworthy that the negative impact of many identified barriers can be alleviated, at least partly, by an effective coastal network.

When or if consulted, coastal communities can articulate their own vision for a sustainable future in their area. They can develop “local solutions for local problems”.

- **A coastal network will increase the impact and visibility of volunteer-led climate adaptation and conservation actions.** [adapted from Key Findings B1 - B4, p.4]

A coastal network can provide a space for volunteer groups to share their experiences, learn ‘best practices’, design solutions; identify gaps in planning, science, and governance; and submit informed and

coherent responses to public consultations of new climate and nature policies impacting coastal and marine sectors.

A coastal network can lead to greater consistency in the working relationships between volunteer groups and key stakeholders (e.g., local authorities; NPWS). Currently, there is significant variability Ireland-wide on how volunteer groups are treated by public bodies and responses to their requests for support.

A coastal network can inform community groups of what actions are permissible and provide clear guidance to deliver these actions.

There is precedence in Ireland of publicly funded community-led organisations that are successfully conserving Nature. The Community Wetlands Forum, for example, has 1-2 fulltime development officers and is the representative platform for community-led wetland conservation groups. Their principles (*empowerment; participation; inclusion; self-determination; and partnership*) closely align with the approach and ambitions of coastal community groups.

- **The large influx of visitors during the summer requires appropriate management plans to enhance the visitor experience and protect coastal ecosystem.** [adapted from Key Findings C1 - C5, p.5]

Coastal communities believe problems associated with surges in summer visitors will not go away unless there is joined up thinking between communities and all the organisations with vested interests in coastal management to deliver sustainable alternatives to visitors during the summer.

The perception of coastal communities is that public funding for climate adaptation and biodiversity conservation is not founded upon any coherent strategy for the coast that is linked to priority needs assessments, nor are there guidelines for spending – especially to target coastal community-led efforts. Investing in sustainable alternatives for visitors (e.g., managed camper van facilities) is an investment in protecting coastal assets.

Increasing the capacity of rural areas to host visitors in response to increasing visitor numbers is not identified at any stage as a priority need. Tourism is welcomed (and critical for many rural businesses) but should be sustainably planned with joined-up thinking.

65% of coastal community groups work frequently with Local Authorities. 91% of coastal community groups stated that access to Local Authority decision makers supported their success. We remind government that building capacity of coastal communities to develop responses to a changing climate can only realistically be achieved using bottom-up approaches where the communities inform the decision makers of 'local solutions to local problems'. Resourcing ongoing partnerships between community groups and local authorities (at Directors of Services levels) are critical to this process.

- **Community-led Nature-based Solutions (NbS) can protect and conserve the coast.** [adapted from Key Findings D1 - D6, p.6]

Coastal community groups are very concerned about the impacts of erosion, climate change, biodiversity loss, and sea-level rise. Community-led NbS projects are partly mitigating short-term problems.

Implementing these NbS projects is extremely challenging for community groups in terms of permission, best practices, site maintenance, signage, access control, volunteers, and monitoring.

Restoration projects are seldom measured scientifically which is viewed as a missed opportunity to highlight the monetary (ecosystem services) and non-monetary (cultural and social) value of the work.

Currently, the management of protected Natura 2000 sites is limiting and a barrier to community-led climate adaptation actions (see: active management). The default response from management agencies of “do not touch” is perceived as an obstacle. There is a disproportionate balance between biodiversity preservation (see: passive management) and economic, social, cultural and regional requirements. Community groups would like to see a “common sense management approach” (workshop participant words). The emphasis and unilateral priority of scientific knowledge to avoid political and/or community negotiation is separating communities from Nature.

It is urgently requested that NPWS, local authorities and other government bodies join-up and deliver a national strategy and implementation plan to support community-led NbS efforts.

There is widespread confusion of how Natura 2000 sites are managed. Communities would like clarity on who is responsible for managing their coast. Communities believe that there are too many government departments with a remit in coastal management, resulting in political interference and/or inaction and/or contradictory guidance.

Community groups would like to see Nature prioritized in new policies in terms of safeguarding mechanisms. This includes enforcement of by-laws that is currently lacking Ireland-wide.

## 1.0 INTRODUCTION

A range of Government departments and public bodies are currently overseeing coastal management in Ireland and are responsible for supporting the building of climate change resilience along Irish coastlines. These include the Office of Public Works, the Department of Environment, Climate and Communications, the Department of Housing, Local Government and Heritage, the Department of Transport and various local authorities. Moreover, the National Climate Action Plan 2023, the National Adaptation Framework (NAF), the National Planning Framework, and relevant Sectoral Adaptation Plans (SAP) and Local Authority Climate Action Plans all contain actions that aim to support coastal management. However, in the absence of a National Coastal Management Strategy coastal communities often find it challenging to implement local coastal management measures.

The National Adaptation Framework states that building resilience of our coastlines not only depends on action by all levels of government but also on active and sustained dialogue and engagement with the relevant stakeholders, including coastal communities. The EPA published a research report ‘Building Coastal and Marine Resilience in Ireland’, which highlights barriers and enablers coastal communities in Ireland face when trying to build resilience towards climate change (Farrell et al., 2023). This study builds on the key lessons identified in this work that emphasise the importance of involving communities in the decision-making process through dialogue between communities and policy makers. The objectives of this study were to facilitate this dialogue by delivering community informed policy recommendations in the context of building resilience in coastal areas in Ireland and will support the Just Transition principle of continued social dialogue.

During December 2023 to January 2024, leaders from twenty-eight coastal community groups in eleven counties around Ireland completed an online survey that profiled each group (e.g., legal status; governance; motivations; levels of concerns for different types of stressors), identified enablers and barriers that supported or hindered their efforts, mapped areas where they have completed management interventions and assessed whether these actions made a positive impact, or not. A follow-up participatory workshop in Galway city during March 2024 with ten of the leaders allowed them to share their experiences, discuss some key findings from the survey, and identify key recommendations for the Climate Change Advisory Council (CCAC). The participants were informed, for the outset, that this small-scale study is a first step in a longer-term process through which coastal community groups can participate and actively envision the future of their coast in partnership with each other and with government bodies and research agencies in Ireland. The philosophy behind this participatory approach is that knowledge and ideas from the community are critical to co-design long-term, sustainable plans for the coast. If implemented correctly and fairly, this approach can embed the coastal community groups within decision-making processes guiding future coastal management, climate adaptation and conservation actions in their areas. Otherwise, other external groups and individuals will determine their future for them. It was made very clear to participants that the survey and workshop were not designed to find solutions, rather to create a space for community groups to share information, identify barriers and enablers that hinder and/or support their work, and deliver their own recommendations to the CCAC of how to design a longer-term policy framework (policy + mechanisms + monitoring) to facilitate community groups to engage with government bodies responsible for the protection, management and conservation of their coast.

*“Community Engagement is...the process of working collaboratively with and through groups of people affiliated by geographic proximity, special interest, or similar situations to address issues affecting the well-being of those people. It is a powerful vehicle for bringing about environmental and behavioural changes that will improve the health of the community and its members. It often involves partnerships and coalitions that help mobilize*

*resources and influence systems, change relationships among partners, and serve as catalysts for changing policies, programs, and practices". (CDC, 1997)*

## 2.0. METHODOLOGY

### 2.1 SURVEY

On 20<sup>th</sup> December 2023, fifty-three coastal community groups were invited to participate in the study. In total, thirty-one groups attempted the survey (closing date: 16<sup>th</sup> January 2024). Of these, twenty-eight groups located in eleven counties around Ireland completed all or most of the survey. Prior to release, a community group leader known to the team reviewed the survey questions. The co-designed final online survey had four sections.

The first section (11 questions) profiled each group (e.g., year formed; legal status; governance; motivations; levels of concerns for different types of stressors) and designated environmental protected areas in their locale. The second section (5 questions) focussed on profiling each groups activities and identifying enablers and barriers that supported or hindered their efforts. The third section (4 questions) asked groups if they would be interested in participating in a follow-up workshop and their preferred format (in-person; online), day of week, and specific items they would like to see featured at the workshop. The fourth section was an interactive mapping exercise that allowed participants to identify high priority locations where they have conducted management interventions and a mark-up tool to allow them to list details of the interventions they have done and whether these actions made a positive impact, or not.

All the survey questions and responses are in **Appendix 1**

### 2.2 WORKSHOP

The participatory workshop took place in Galway city on the 9<sup>th</sup> March 2024 from 11:00 to 16:00 (see **Appendix 3** for details). In total, seventeen participants representing ten groups in five counties participated. The workshop had very brief (<10 minutes) presentations from Dr. Stephen Flood (CCAC mission statement and structure; study objectives; dissemination of the study results) and Dr. Eugene Farrell (workshop objectives; survey results).

The workshop had two presentations:

- (1) The co-founder and Director of the Maharees Conservation Association CLG (Ms. Martha Farrell) highlighted their groups activities and discussed the obstacles/solutions that hindered/supported their work.
- (2) The Local Authority Waters Programme (LAWPRO) Community Water Officer for Limerick & Clare (Mr. Ruairí Ó Conchúir) presented an overview of their organisation and their partnerships with community groups.

After lunch, the workshop facilitators asked small groups of participants to discuss some of the key survey findings. Specifically, each roundtable discussed ways to build awareness of future climate and biodiversity risks to their stakeholders (residents, visitors, management authorities, and public bodies); potential solutions to remove barriers identified in the survey as hindering their activities; and discuss how a national network (or 'forum' type structure) connecting coastal communities could benefit them.

All the workshop questions and responses are in Section 4.5 (p.37).

## 3.0 BACKGROUND

### 1.0 What is the value of our coast?

Ireland is an island nation, with an economy that is integrally linked to the coast and ocean. According to Tsakiridis et al., (2019), sixteen of the twenty six counties are coastal counties (75% of population), 710 of the 3,409 electoral districts are immediately adjacent to the ocean or a transitional water body (27% of population) and when considering a European classification scheme (Coastal NUTS III) over 94% of the island can be considered a coastal zone. No matter the political jurisdictions, the fact is that 40% of Ireland's population live within 5km of the coastline. The estimated increase in population by 2040 (extra 1 million people) will put more pressure on our coastal and marine ecosystems that are already areas of contested space and areas that are in poor ecological condition.

Ireland's coast is one of our most valuable assets. The coast influences almost every aspect of economic, environmental, social, cultural and political activities on the island (Devoy et al., 2021). In order to make informed management decisions a common currency is required to assess and compare the value of benefits derived from the coast. Monetising the benefits of the Irish coast to people and the economy is at a nascent stage and, in many cases, is not easily achievable. The Norton et al., (2018) EPA report found that parts of the Irish coastal and marine ecosystems are likely to have an economic value that will, perhaps significantly, exceed **€3.58 billion per annum**. This includes fisheries, aquaculture, genetic materials, water services, coastal defence, habitats, pest and disease control, climate regulation, recreational services, scientific and educational services, marine heritage and aesthetic services. Although the authors explicitly directed users not to use their aggregated single value (€3.58 billion) as a representation of the total economic value (as it oversimplified their approach which comprised of disparate techniques (see their Table ES.1)), the figure highlights the potential value and an important knowledge gap that exists in Ireland for research.

We can also learn from international research that has produced protocols that characterise coastal and ocean ecosystems as natural capital and appraised their ecosystem services. For example, research carried out for the UK's coastal margins (dunes, machair, saltmarsh, shingle, sea cliffs, coastal lagoons) estimated that these systems were worth at least £48 billion (€52.6 billion) per annum (3.46% of UK global national income) to the economy (Lead et al., 2011). Applying a similar valuation method and proportional contribution to Ireland produces an estimate of **€2.57 billion per annum**. This figure can serve as an indicator of the potential value for Ireland's coastal margin ecosystem, but again highlights the knowledge gap that exists in Ireland for equivalent research.

Although access to most of our coastal and rural landscapes is free for visitors, the fact that they must travel to and from these areas in order to use them means that a price is actually paid. This "travel cost method" is commonly used by economists as a proxy for market value. Researchers in the University of Galway applied this method to the Maharees peninsula in 2019 and determined that daily visitors (average 580 visits per day) contribute over **€9 million during the summer season** to the local economy (Carr, 2020; Farrell et al., 2020).

Embedding ecosystem services in coastal planning leads to better outcomes for people and nature (Arkema et al., 2015). The ecosystem services modelling approach can provide Irish government departments a clearer understanding of why we need to invest more to protect and conserve these spaces and support the volunteer community groups who have been proactive in managing their coastal assets.



*“The economic benefits delivered by natural capital remain very undervalued and underrepresented in government policy. Properly accounting for natural capital can help make these values visible, revealing Ireland’s hidden wealth, and the hitherto invisible factors that, by degrading natural capital, impoverish us. Natural capital concepts are already found in a range of flagship national policies, including the National Planning Framework, the National Biodiversity Action Plan 2017-2021, the National Adaptation Framework, and Heritage Ireland 2030 – but much more can be done to embed natural capital thinking in decision making.”*

- Natural Capital Ireland

Incorporating a proxy for the suite of non-monetary values linked to coastal heritage and culture is also essential in coastal planning because they contribute to social cohesion, individual well-being, sense of place, environmental stewardship, and cultural richness. While monetary ecosystem services provide valuable economic insights, they do not fully capture the intrinsic, emotional, and cultural significance of Ireland’s coastal cultural heritage. Many coastal communities in Ireland rely on industries such as fishing, tourism, and maritime activities for their livelihoods. These industries are often intertwined with local tourism. For example, traditional fishing methods, historic sites, traditional music, storytelling and local cuisine can be significant attractions for tourists, contributing to the local economy. The cultural heritage of coastal communities all around Ireland also contributes to the unique ‘*sense of place*’ that characterizes these areas. For residents, this connection to their cultural roots and heritage enhances their well-being by fostering a sense of pride, belonging, and continuity with the past. Previously, public bodies responsible for protecting and promoting our coastal heritage have been staunch supporters for coastal management (**Table 1**). More recently, Failte Ireland have advocated that tourism should protect “*environmental, heritage and cultural assets*” (**Table 1**). In theory, the Failte Ireland’s aspirational initiatives are extremely valuable especially if they are linked to monitoring and reporting. In practice, they require sustained and strategic engagement with coastal community groups who are ‘on the ground’ trying to reduce the impact of high volumes of visitors to their areas on sensitive coastal habitats, especially during the summer months.

**Table 1.**

Agency	Strategy recommendation
Heritage Council (2006)	The Heritage Council would strongly endorse the development of a governmental support framework for (any such) local ICZM initiatives. (p.22)
Department of Arts, Heritage, Gaeltacht and the Islands (2002)	Prepare and adopt a National Integrated Coastal Zone Management Strategy making specific provision for the conservation of biodiversity. (p.35)
Failte Ireland (2023)	Strategic Initiative 5. Ensure the conservation and maintenance of key elements of biodiversity as part of any development projects to ensure they do not contribute to biodiversity loss or deterioration, i.e., there should be no net loss of biodiversity. (p.78)  Strategic Initiative 9. Implement the Environmental Monitoring Programme, as referenced above, to ensure that the effects of tourism on environmental, heritage and cultural assets is monitored to allow for early detection of any possible issues. (p.78)

## 2.0 What are the pressures on our coast?

The most visible pressure of climate change on Irish coastlines will be due to rising sea levels, manifested in increased risks from storm erosion and flooding. Even if the EU meets its aim to be climate-neutral by 2050, sea-level rise is locked-in for Ireland and will take decades, or even centuries, to stop (a 1m sea level rise by 2150 is projected using the IPCC moderate greenhouse gas trajectory (SSP2-4.5)). This leaves coastal communities with a short-term path to adapt to increasing impacts from Atlantic storms or hurricanes (Raby and Masselink, 2021), e.g., winter storms 2013-2014; Hurricane Ophelia 2017. Other climate pressures on our coastal and marine environments include changing ocean acidification, warmer

sea-surface temperatures (SST), and extreme marine heatwaves as observed in June 2023 around our coast where SSTs were as much as 4-5°C above normal.

The pressures from human activities on our coast, include, but are not limited to, increasing urbanisation, coastal squeeze, resource exploitation, invasive species and nutrient enrichment of transitional and coastal waters, 16% of which are potentially eutrophic (Bermejo et al., 2019). Overall, water quality in coastal waters and estuaries is deteriorating, especially along the southeast and southern seaboard due to agricultural run-off (Trodd et al., 2022).

Equally, iconic coastal destinations in Ireland have become unliveable for local residents, and unsafe and uncomfortable for visitors due to overcrowding during the summer. It is unequivocal all these pressures will have irreversible impacts on our coastal social-ecological systems (CSES) if left unmanaged. CSESs occupy the dynamic land-sea boundary and therefore have unique sets of problems within shared, sometimes contested, spaces. In the context of resilience, this means we need to develop a shared understanding of what our CSES need in order to be considered 'resilient' and develop effective responses to minimize the pressures at different scales (site specific, multiple or cumulative pressures). Part of the solution will be to support community-led climate and conservation efforts, not least to find '*local solutions for local problems*'.

### 3.0 Institutional and technical barriers to building coastal and marine resilience in Ireland

The 2023 EPA report '*Building coastal and marine resilience in Ireland*' (Farrell et al., 2023a) identified key institutional and technical barriers to coastal communities trying to build resilience to climate-induced pressures (e.g., extreme storm events, sea-level rise) and localized human activities (e.g., coastal development; tourism; land-use practices) (**Table 2**). The themes that emerged are still relevant today and featured prominently in the consultations with community groups in this study. These experiences are also echoed by other coastal community groups in previous engaged research studies (Sánchez-Arcilla et al. 2016; Philips and Murphy, 2021; Philips et al., 2022; Farrell and Farrell, 2023; Farrell et al., 2023a,b) and public and training events (e.g., An Taisce, Clean Coasts; Leave No Trace; Natural Capital Ireland). The cumulative impact of these pressures occurs in the absence of local coastal management plans and is chronically reducing the value of important coastal assets (physical, natural, social, economic and cultural) and eroding the trust of communities in new policy efficacy. It is critical to design appropriate indicators to assess how the values of our coastal assets are changing over time – especially in response to management interventions (are they working?) (see Flood et al., 2021).

**Table 2.**

Institutional barriers	Technical barriers
<b>Weak governance.</b> Too many government departments or public bodies (>40) with a remit for the coastal area have different policy objectives that do not align with each other.	<b>Measuring climate adaptation.</b> There is confusion on what NAF adaptation actions are to be considered and/or prioritized and how their impact will be measured.
<b>Confusion on legal responsibility of coast.</b> Local authorities do not have jurisdiction in coastal areas or lack guidance, expertise and resources to design and deliver climate actions.	<b>Are our coastal assets losing/gaining value?</b> Identifying and valuing coastal natural capital will highlight the financial benefit of capital investments in coastal projects.
<b>No coastal stakeholder forum.</b> Unlike other sectors that have publicly funded organisations to support resilience-building (Local Authority Waters Programme), there is no equivalent structure to coordinate actions for coastal communities.	<b>EU protected sites.</b> The NPWS management of Natura 2000 sites is viewed as exclusively top-down and disproportionately balanced between biodiversity preservation and economic, social, cultural and regional requirements.
<b>Seasonal tourism.</b> Successful marketing initiatives such as Failte Irelands Wild Atlantic Way are increasing the number of visitors to the coast with no equivalent increase in	<b>Erosion and flooding.</b> Coastal erosion and flooding are critical factors in the vulnerability of coastal communities and rely on under-funded local authorities (rural counties)

amenities leading to pressure on CSEs during the summer season.	for funding and prioritization. NbS require a planning framework.
---	---

#### 4.0 Coastal protection and conservation

Historically, coastal protection in Ireland has focussed on reducing climate risks by solely relying on engineering solutions. These “once-off” intervention approaches (e.g., rocky revetments) have real value in site-specific locations (e.g., transport and utility infrastructure; unconsolidated (soft) sediment coastlines along the eastern and southern coasts and within sedimentary bays on western and northern coasts) but require ongoing maintenance to fulfil OPWs statutory requirement under the Coastal Protection Act 1963. It is accepted that these shoreline armouring interventions can have unintended geomorphological (beach lowering; coastal squeeze) and ecological (habitat loss or fragmentation; decreasing biodiversity) consequences. In practical terms, our coasts are not all equal and the physical and social setting of a coastline will significantly affect the choice of coastal defence strategy. It is very unclear how much of our coastline has hard defences (Northern Ireland, 32%; England and Wales, 44%; Scotland, 6%) and what proportion of these structures are endangered by rising sea levels and increased storminess or to what extent they have impacted the coast, e.g., observed beach narrowing due to wave reflection processes in front of hard structures (e.g., Lahinch, Co. Clare; Salthill, Co. Galway). The Europe-wide mandate to prioritise an ecosystem approach to coastal management is constrained in Ireland by legacy engineering practices but the OPW have stated they will consider this approach for coastal protection. For example, research on native oyster reef restoration in Galway Bay shows that the nature-based solution to protecting an at-risk coastal amenity (that is, restoring the native reefs and dampening the impact of storm surges) had a benefit-cost ratio multiple times larger than the grey infrastructure alternative of (revetment/seawall) (Hynes et al., 2022). New approaches such as this will require a transdisciplinary approach and new planning decision trees within OPW. An ecosystem-based approach will also have to be prioritized within mechanisms to implement the recommendations listed in the new National Coastal Change Management Strategy (DHLGH and OPW, 2023). It is reaffirming to see that this strategy explicitly identifies the need for consulting with coastal communities (**Table 3**). Existing evidence show that a large number of coastal communities, voluntary organisations, researchers and local authorities are already engaged with the transition towards nature-based solutions (NbS) to defend or conserve coastlines with vary degrees of success. Investing large amounts of money and effort in coastal and ocean NbS that fail is unhelpful. However, not investing in community-led restoration work is potentially far worse in the longer-term.

**Table 3.**

<b>Strategic Pillar 2. Understanding the Risk and Identifying Potential Technical Risk Management Options</b>	
Recommendation 6 National Assessment of Coastal Change Risk	OPW to undertake an assessment to identify the <b>communities</b> and coastal areas at potentially significant risk from coastal change, both now and in the future, making use of historic data, predictive assessments and <b>consultation with key stakeholders</b> such as the local authorities. This assessment should include the identification of the habitats, cultural heritage and other sectoral assets at risk from coastal change.
Recommendation 7 Assessment of Technical Risk Management Options	The OPW to identify, assess and appraise technical options and constraints, in <b>consultation with local communities</b> , to inform decisions on the management of coastal change risks in relevant areas and the long-term planning for the management of potential future change.
<b>Strategic Pillar 3. Developing Management Responses to Coastal Change</b>	
Recommendation 8 Short-term measures	In already identified vulnerable locations, local authorities and State agencies should continue to <b>engage with local communities</b> to ascertain the most appropriate interventions. Policy issues arising should be brought to the Interdepartmental Steering Group for consideration and action.

Recommendation 9 Coastal Change Management Planning	The Interdepartmental Steering Group should apply the defined policy framework to potentially at-risk coastal cells and sub-cells around the country and, in <b>consultation with local communities</b> and other stakeholders, prepare a national set of coastal change management plans.
Recommendation 11 Promotion of Nature-based Solutions	The Interdepartmental Steering Group should promote a multi-sectoral approach to the application of nature-based solutions in the coastal environment to achieve multiple benefits in <b>conjunction with local communities</b> .
Recommendation 15 Developing Managed Retreat Options	A communications and <b>consultation</b> process should be put in place with the affected <b>communities</b> , led by the local authority, over an extended time period.

Ireland has made a commitment under the newly developed Marine Strategy Framework Directive Programme of Measures to ‘*develop Nature-based Solutions to conserve and restore estuarine, coastal and marine habitats*’. Reform measures within NPWS’s first Strategic Plan (2023-2025) to conserve and protect nature should address our extremely poor performance these areas to date. Operationalizing these measures and coastal management are not mutually exclusive for Ireland. They are intertwined as seen in the large proportion (>1,000,000 acres) of coastal habitats lying within designated Natura 2000 sites. The spectrum of coastal NbS feasible in Ireland is unknown but could span a range of terrestrial and marine ecosystems (e.g., beaches, dunes, saltmarshes, oyster reefs, seagrass meadows, kelp forests). The coastal community groups consulted in this study are working on protecting and conserving dunes, seagrass, wetland and kelp habitats.

## 5.0 Climate action and biodiversity in policy and legislation

Molloy et al., (2024) list the main action plans and frameworks that the Irish government has developed in response to climate risks and declining biodiversity. Their report focusses on nature-based solutions so the results are very relevant to coastal and marine management. A selection of their action plans and frameworks is highlighted here for their significance in linking coastal management with policies and supplemented with coastal- and marine-specific legislation (**Table 4**). This list is not exhaustive (see also Farrell et al., 2023a) but establishes that the Irish government is (1) aware of the current and future climate risks for the coast and (2) has ambitious targets to protect and restore coastal and marine ecosystems.

**Table 4.**

Action plan / framework	Relevance to coastal and marine management
Climate Action Plan 2024	<ul style="list-style-type: none"> <li>Projected increases in sea levels and storm surge will result in increased <b>coastal</b> flooding and change, with significant impacts for coastal structures, communities, and <b>coastal</b> heritage sites.</li> <li>The conservation and protection of marine biodiversity to international conservation targets. One outcome is: <i>Increased understanding of the impacts of climate change on our marine and <b>coastal</b> environment to inform action and decision-making for mitigation, resilience and adaptation.</i></li> </ul>
MPA Bill	<ul style="list-style-type: none"> <li>Identification of <b>coastal</b> and <b>marine</b> habitats for protection due to their carbon capture and storage capability, including mudflats and sandflats, seagrass beds, and saltmarsh habitats.</li> <li>Consideration of ecosystems services, including carbon sequestration, in the identification and designation of <b>Marine</b> Protected Areas.</li> </ul>
Maritime Area Planning Act 2021	<ul style="list-style-type: none"> <li>Coastal local authorities have certain responsibilities up to three nautical miles beyond the high-water mark to have a more active role in <b>coastal management</b> which is relevant given increased flooding, erosion, sea level rise, wetland loss, inappropriate development etc.</li> <li>It is unknown how the MAP Act will achieve the NMPF objectives closer to shore.</li> </ul>
4 <sup>th</sup> National Biodiversity Action Plan	<ul style="list-style-type: none"> <li>The conservation, protection and recovery of <b>marine</b> biodiversity is being prioritized to meet international and EU conservation targets.</li> </ul>

	<ul style="list-style-type: none"> <li>Design and initiate the process for achieving 30% <b>Marine</b> Protected Area coverage by 2030.</li> </ul>
Kunming-Montreal Global Biodiversity Framework	<ul style="list-style-type: none"> <li>At least 15% of Ireland's €225 million climate finance target will target biodiversity protection/restoration. Ireland aims to deliver better policies to ultimately restore <b>coastal</b> and <b>marine</b> ecosystems to good status for future generations.</li> </ul>
National Adaptation Framework 2018	<ul style="list-style-type: none"> <li>Sectoral Adaptation Planning (agriculture, forest and seafood; built and archaeological heritage; flood risk management; water quality and water service; biodiversity) will require departmental cooperation, particularly for flood risk management, critical infrastructure, <b>marine</b> and <b>coastal</b> issues and emergency planning.</li> </ul>

It is noteworthy that Coastal Climate Adaptation (CCA) has been of interest for decades in Ireland, but little progress has been made in operationalising this strategic vision. It is concerning that many of the barriers highlighted by previous coastal researchers remain today (**Table 5**). While integrated management approaches such as ICZM, Marine Spatial Planning (MSP) and Ecosystem-Based Management (EBM) are often presented as adaptive management solutions, they still have not delivered solutions. Similarly, the European Union (EU) programme for the protection of coastal habitats and birds, implemented primarily through Natura 2000, should be viewed as a positive management tool that comprises a pan-European, biogeographical framework with political will by member states to implement. In reality, Natura 2000 has many critics, especially from volunteer groups actively managing these sites in Ireland. The negative aspects are that NPWS have a static approach to species and habitat conservation. Others have highlighted examples where formal compliance with the Directives that guide Natura 2000 management have resulted in “common sense” environmental and conservation objectives fading to the background.

Unequivocally, the success of adaptation actions will rely on strong cooperation and coordination between vertical scales of government to support and promote spatial planning decisions to achieve long term CCA targets. The promotion of ‘greener’ and ‘softer’ measures that enable adaptation have to be resourced (finance and expertise) and prioritized so that ambitious climate change policies facilitate change on the ground (Dekker and O’Leary, 2020). This is especially the case where the decision making occurs within local governance.

**Table 5.**

Source	Description / Details
Coastal Climate Adaptation in Ireland: Assessing current conditions and enhancing the capacity for climate resilience in local coastal management CCRP Report, 2013.	<p>The Coastal Climate Adaptation in Ireland (CLAD) study developed a tool kit to support local level climate adaptation in coastal areas. The circumstances under which coastal climate adaptation in Ireland should proceed were explored and the potential for enhancing the capacity of coastal communities to develop resilient responses to changing climatic conditions was examined. Key findings include:</p> <ul style="list-style-type: none"> <li>The ineffectiveness of existing management structures for addressing the challenges of integrated coastal adaptation governance is recognised by <b>practitioners</b>.</li> <li>The barriers to effective coastal climate adaptation in Ireland are: <ul style="list-style-type: none"> <li>the fragmentation of institutions and administrative functions with respect to coastal governance</li> <li>ill-defined responsibilities among the actors and institutions involved in climate adaptation</li> <li>short-term planning horizons and linear, top-down management</li> <li>a lack of experience of cross-sectoral cooperation and stakeholder involvement.</li> </ul> </li> </ul>

## 6.0 Coastal resilience case studies in Ireland

One objective of this small-scale study was to review case studies in Ireland that address the broad theme of ‘coastal resilience’ (Villasante et al., 2023). Case studies 1-9 in **Table 6** were listed in Devoy (2019). There are a further 14 case studies listed section 4.4 of the report (Interactive mapping exercise).

**Table 6.**

#	Study location	Description
1	Bantry Bay, Cork	In 1997, work began on the development of a consensus-based strategy between stakeholders for the Integrated Coastal Zone Management for more effective management of Bantry bay and coastline. Source: Original Case Studies (1990's) based on the EU Demonstration Projects (EU-LIFE).
2	Beach / Soft Coast line Management, Donegal (7 beaches)	In 1997, a demonstration project was launched in Donegal to develop and implement sustainable management strategies for 7 Atlantic dune systems (encompassing the nearshore zone, beach, and sand dunes) at Rossnowlagh, Narin, Magheraroarty, Downings, Port Salon, Lisfannon & Culdaff. Source: Original Case Studies (1990's) based on the EU Demonstration Projects (EU-LIFE).
3	Donegal, Donegal (8 beaches) – continuation of the Demonstration Project (above)	In 2004, the COREPOINT set out to take account of and build on the earlier work on Donegal Beaches by influencing management of the coastline at a strategic level and to enhance management capacity (of coastal areas) in the Local Authority. 8 beaches were considered – the original 7 (above) as well as 5 Finger Strand. Source: EU INTERREG (COREPOINT).
4	Cork Harbour	The project aim in this case was to improve management of the multi-use Cork harbour between its users and which was cognisant of the risks associated with Climate Change. This was to be achieved by the establishment of a strategic alliance (couplet) between the local authority and multidisciplinary academic experts. The project resulted in the adaptation of an Integrated Harbour Management Strategy set up with the consensus of stakeholders and it helped to strengthen the link between science and policy at the local level. Source: EU INTERREG (COREPOINT).
5	Lough Swilly, Co. Donegal	IMCORE Project (EU Project funded under INTERREG) – overall objective was to improve management approaches to enhance abilities to response to the economic, social and environmental challenges from coastal / climate change. This project was also intended to inform MSP in Ireland. Source: EU INTERREG (IMCORE).
6	Coastline from Carrowinsky to Newport, Co. Mayo	Atlantic Network for Coastal Risk Management (ANCORIM; 2009-12) examined a 40 km stretch of the Mayo coastline focusing on how the three key issues of erosion, water quality and planning have impacted on it. Source: INTERREG IVB (ANCORIM).
7	Beach Management, (Portmarnock, Rush and Malahide), Fingal	The Fingal Coastal Liaison Group was established in 2016 in response to coastal erosion and flooding concerns in these areas and to facilitate communication between communities, Fingal County Council and other key stakeholders. Report done for Coastal Communities Adapting Together (CCAT) to support Fingal County Council in managing responses to the impacts of coastal erosion and prospective flooding scenarios at Portrane. Consultations between community groups, An Taisce, Clean Coasts and University of Galway to establish best practices for beach cleaning.
8	Beach Management, Bettystown Beach, Meath	Beach Management Plan prepared on management issues related to traffic, parking, access and litter on beach (with very little attention on adaptation and climate change).
9	Tramore, Co. Waterford	Tramore back marsh - restoration of intertidal mudflats and saltmarsh - this restoration was necessary as compensatory measure for Tramore landfill infilling mudflat and saltmarsh. Here Coastwatch was engaged in halting the landfill, compensatory habitat negotiations, then led on the actual compensatory site selection.
10	Maharees, Kerry; Youghal, Cork	This research investigated barriers to the environmental and socio-economic resilience of two coastal communities between 2019 and 2022. In both locations, community-led efforts to build resilience to climate change are hindered by the absence of an engagement mechanism that recognises the validity of community-determined pathways to resilience, and forums that promote exchange of technical and policy knowledge and understanding to inform decision-making. Source: EPA Report 429.
11	Horn Head, Rinclevan; Gweedore, Donegal; Mullet Peninsula; Inishkea Islands; Doogort; Roonagh Cahasy Baun	Ongoing research project in partnership with farmers. To improve the conservation status of Ireland's machair and fixed dune habitats for breeding waders and pollinators. Services delivered: the diversity of plant species found at sites support agriculture through grazing animals, and an array of pollinators which provide pollination services; Machair provide sediment trapping and flood regulation, along with coastal protection;

	Loughs; Dooaghtry, Mayo; Doonloughan; Murvey, Galway	grazing; pollination; sediment protections / flood regulation; coastal protection; recreation; education; artistic inspiration (cultural). Source: EU LIFE programme (Life on Machair).
12	Killala Bay, Moy Stuary, Mayo; Furnace, Baile Lar, Lettercallow, Galway; Fenit Island, Barrow Harbour, Maharees, Derrynane Bay, Kerry	Ongoing research project in University of Galway in partnership with local authorities. Services delivered: biodiversity maintenance, carbon sequestration, nursery area for invertebrates and fishes, coastal protection, sediment oxygenation and filtration. Source: EU Horizon (CLIMAREST). The scientific monitoring is more prominent in this project than restoration works.
13	Bertra, Mayo	Ongoing project in partnership Bertra Connected (local communities), Mayo County Council, National Parks and Wildlife Service, University of Galway, Clean Coasts and Leave No Trace. Objectives: to restore the dunes natural functioning of the beach dune system; design a visitor infrastructure that allows for an enhanced experience of this special area of conservation as part of a wild Atlantic landscape; Produced the Bertra 2050 Vision and Community Stewardship Plan.
14	Mulranny, Mayo	Community-led project 'Rosmurrevagh Machair Restoration' to stabilize dunes using fencing; encourage dune disturbance using grazing (donkeys) to increase biodiversity and support food chains. Services delivered: increased biodiversity (wildflowers; birds etc.) along beach, drift line, foredune and machair continuum; Tourists and locals - valuable location for recreational use; farmers - maintaining diverse swards.
15	Maghery, Donegal	Community-led project in partnership with Donegal County Council to restore stability of dunes and create resilience to storms. Fences erected to trap sand, along with revegetating the dunes (marram grass planting). Services delivered: increased resilience to storms; habitat for invertebrates.
16	South Galway Bay	Community-led partnership to restore native oysters in partnership with the Marine Institute and Bord Iascaigh na Mhara. Some services provided: restoring an oyster reef bar provides a protective barrier from storm surges that impact a coastal trail and the surrounding coastal area; improved water quality; food; benefits to many marine species. Source: Cuan Beo Environmental CLG.
17	Rogerstown estuary and Turvey National Park Portrane Co. Dublin	Local authority (Fingal County Council) led initiative in partnership with Turvey Nature reserve, Birdwatch Ireland, and Nature Conservation Dublin (local community). In 2020, approximately 1.4km of a 1.5m high embankment was intentionally removed for the purposes of habitat creation and restoration of the natural hydrology. Rewetting the wetland by managed realignment has led to the reappearance of saltmarsh vegetation and an amenity area for tourists and birdwatching.
18	Ards Forest, Horn Head, Rinclevan, Murvagh, Donegal; Raven Reserve, Wexford	Ongoing research project between Coillte and National Parks and Wildlife Service to remove exotic conifers planted in 1930s/1950s on fixed dunes. The conifer plantation has reduced the quality of the dune habitats by reduction in the extent of functioning fixed dune and dune slacks. Restoration of fixed dune habitat promotes favourable conservation status (qualifying interest of SAC's) and increases resilience to climate change. Source: EU LIFE programme (Insular).
19	Sligo	Ongoing research project concerned with the Smart Control Of Climate Resilience, and focuses on empowering coastal communities to build resilience to climate risks using smart technology and co-creation of solutions. Source: EU Horizon project (SCORE).
20	Derrynane, Kerry	Ongoing research project with OPW, University of Galway, and partners to design a coastal management plan for Derrynane National Historic Park in consultation with the local community. A report is available on the community workshop on coastal management and climate adaptation held in April 2022.
21	Fenit Island, Kerry	Ongoing community-led scientific monitoring of seagrass beds in Tralee Bay. Community-led actions to protect seagrass beds in partnership with Tralee Bay Oyster Society. Community-led work to try to manage and restore dunes on Fenit Island tombolo.
22	Harper's Island, Cork	BirdWatch Ireland and Cork County Council worked to restore the wetland area. The area was rewetted in 2006. Services provided: saltmarsh habitat created; bird reserve in partnership with Birdwatch Ireland and Glounthaune Community Association; carbon sink; protect inland areas from flooding and storm; water birds and aquatic species benefit from the protection of this area and the creation of new habitats; reduced flooding benefits the local authority and local community; added amenity provided by the wetland.

23	To be decided	Ongoing research project with UCC, Cork County Council and European partners to conduct a demonstration study on the co-development of implementable coastal and marine NbS, accompanied by innovative governance structures and technological enablers. Source: EU Horizon (A-Agora).
----	---------------	--

## 4.0 RESULTS

### 4.1 Survey: Section 1 (Community group profiles)

The first section (11 questions) profiled each group (e.g., year formed; legal status; governance; motivations; levels of concerns for different types of stressors) and identified how many, if any, designated environmental protected coastal sites were in their locale. All the questions and responses are listed in **Appendix 1**. Some of the key findings are presented here (**Table 7**).

**Table 7.**

#	Q1. Group name	County	Q2. Years formed	Q7. Group leaders	Q8. People active in group work	Q12. <sup>2</sup> Clean Coasts	Q12. <sup>2</sup> Coast- watch
1	Maharees Conservation Association	Kerry	6-10	>10	>100	VF	R
2	Fenit Coast Conservation group	Kerry	1-5	2-5	31-50	F	VF
3	Banna Coastcare - Banna Sea Rescue <sup>2</sup>	Kerry	6-10	2-5	31-50	F	YO
4	Spanish Point Community Group	Clare	6-10	>10	10-30	VF	VR
5	Coastwatch	Clare	6-10	2-5	10-30	F	VF
6	BannerGle: Liscannor Bay Association	Clare	<1	1	<10	SWF	N
7	Gurteen Bay & Dogs Bay committee	Galway	1-5	6-10	<10	O	R
8	Connemara Green	Galway	6-10	2-5	10-30	N	F
9	Mulranny Environmental Group	Mayo	>10	2-5	<10	R	N
10	Enniscrone Tidy Towns	Sligo	>10	6-10	31-50	SWF	N
11	Skreen Dromard Coast Care Group <sup>2</sup>	Sligo	1-5	2-5	<10	O	R
12	Castlegoland Beach CLG	Donegal	1-5	>10	>100	O	N
13	Friends of Rossnowlagh	Donegal	6-10	6-10	31-50	VF	N
14	Friends of Murravagh Beach	Donegal	1-5	6-10	51-100	F	R
15	Fanad Coastal Group	Donegal	6-10	6-10	10-30	O	R
16	Bettystown Tidy Towns	Meath	6-10	6-10	31-50	VF	N
17	Killiney Beach Group & community council	Dublin	6-10	6-10	31-50	DNR	DNR
18	Portmarnock Comm. Assoc. & Clean Coast	Dublin	>10	2-5	10-30	SWF	O
19	Donabate Clean Coasts Group	Dublin	1-5	1	10-30	F	N
20	Coastwatch	Dublin	>10	1	<10	R	VF
21	Dun Laoghaire Rathdown Dublin	Dublin	>10	6-10	<10	DNR	DNR
22	Courtown Community Council	Wexford	>10	2-5	10-30	F	F
23	Coastwatch	Wexford	>10	>10	>100	YO	VF
24	Tramore Eco Group	Waterford	6-10	6-10	31-50	DNR	DNR
25	Bantry Bay: Protect Our Native Kelp Forests	Cork	6-10	>10	51-100	R	VF
26	Youghal Blue & Green Community Network	Cork	1-5	>10	51-100	VF	F
27	Ballynamona Clean Coasts <sup>1</sup>	Cork	6-10	6-10	>100	VF	N
Total				<sup>3</sup> c.203	<sup>3</sup> c.1320		

**Notes.**

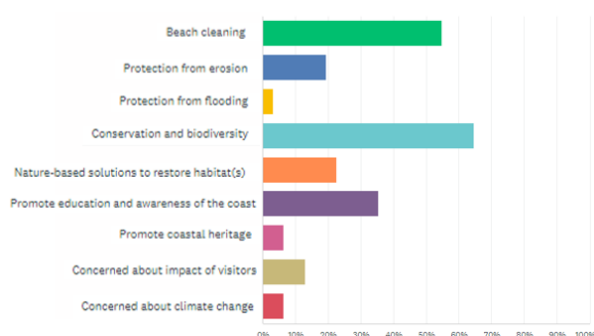
<sup>1</sup> Ballynamona Clean Coasts group also works as the East Cork Biodiversity Networking Programme and Sea And Land Trust (SALT) CLG.

<sup>2</sup> Many coastal community groups formed as An Taisce, Clean Coasts (also referred to as Coast Care groups) or Coastwatch (part of Coastwatch Europe) groups and/or work frequently with these eNGO organisations. Question 12 in the survey asked participants how frequently they worked with these organisations: VF: Very frequently (i.e. once a week); F: Frequently (i.e. once a month); SWF: Somewhat frequently (i.e. every 3 months); O: Occasionally (i.e. every 6 months); R: Rarely (i.e. every 1-3 years); VR: Very rarely (i.e. every 5 years); N: Never; DNR: did not respond.

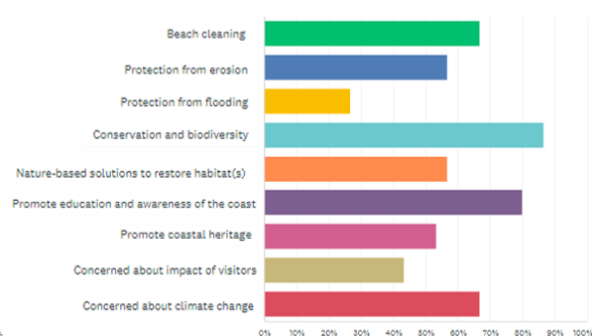


<sup>3</sup> A crude estimate of the number of leaders and volunteers within community groups from adding the 'maximum' number in the responses. The equivalent 'minimum' numbers are 143 (group leaders) and 900 (volunteers).

Questions 4 and 5 in the survey dismantles changes in the motivational factors driving community groups from the time they formed (Q4) to today (Q5). There were two primary reasons that motivated community groups to form: *conservation and biodiversity* (63%) and *beach cleaning* (53%). Interestingly, the motivation (linked to actions) of groups expanded substantially and diversely over time. Both *conservation and biodiversity* (63% to 87%) and *beach cleaning* (53% to 67%) increased. Further, the groups transitioned to a set of new motivations today that were previously not priorities on their original agendas, including, *promote education and awareness of the coast* (80%), *concerns about climate change* (67%), *protection from erosion* (57%), *nature-based solutions to restore habitat(s)* (57%), *coastal heritage* (53%), *concern about impact of visitors* (43%), and *flooding* (27%).



A. Survey responses to Question 4:  
*What motivated your coastal community group to form in the first place?*



B. Survey responses to Question 5:  
*What is motivating your coastal community group today?*

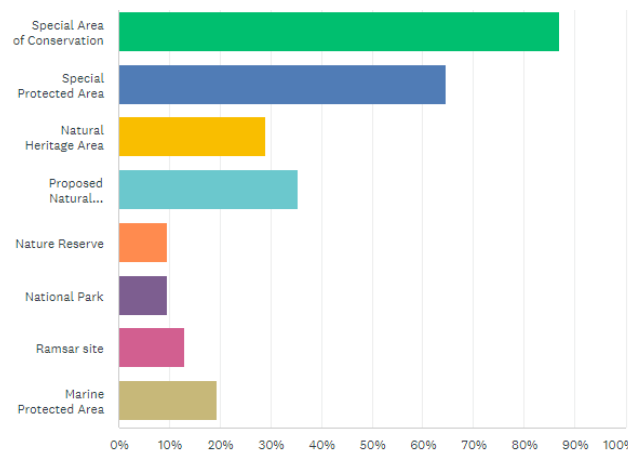
This transition in motivations elucidates that **raised awareness within community groups allows them to identify both the opportunities and challenges of the coast**. The community groups provide a clear focal point for positive change, transforming awareness of the issues facing coastal communities and catalysing activities drawing on individual experiences, collective histories, and best practices (if available) to transform local places and articulate their own vision for a sustainable future. In theory, the results suggest that - if mobilised and if resourced – the ambitions of community groups are potentially limitless but, in practice, community groups are resource-limited, people-limited, and/or legally-limited. Investigating these changes in motivations and limitations may provide information of how best to build capacity within coastal community groups.

One key element discussed at the workshop is to make it easier for community groups to mobilise. One community group explained how access to other community groups - *via* a coastal network, for example - would have been a tremendous help to their group during the initial set up stages. Examples of information that communities need are: advice on how to set up; insurance requirements; accounting requirements; when, why and how to get Company Limited by Guarantee without a Share capital (CLG) status; role of company directors; understanding and applying the governance code; reporting requirements; funding (e.g., CLG initial setup: c.€450; insurance costs p.a. c.€850; accountancy fees p.a. c.€750 p.a.); managing ongoing governance and cohesion; and ensuring changeover in officer roles. Access to this information in a digestible form and providing the requisite forms would support community groups. These groups are at the frontline of coastal management, and they would like to be sustainable

and grow the coming year(s) – either reacting to short-term pressures or being proactive to future adaptation needs.

Participants identified other motivations to form within the survey, including concerns for water quality to daily, year-round swimmers, opposition to commercial-scale resource extraction, issues of public access, village maintenance, and concerns about new planning decisions. Participants identified other ongoing motivations, including interest to inform community on issues linked to coastal health, coastal change, wildlife, public access, deteriorating water quality and support community-led marine management plans. The details are listed in **Appendix 1**.

Question 9 determined if community groups work in coastal sites designated with some form of environmental protection. The results show that a significant proportion of community groups are working in coastal habitats lying within designated Natura 2000 sites: SAC (87%), SPA (67%), and (p)NHA (60%). For context, over 425,000 hectares (>1,000,000 acres) of coastal habitats lie within an SAC and nearly 90% of our dune habitats lie within SACs. Therefore, **supporting partnerships between volunteer community groups, NPWS (District Conservation Officers), and local authorities (Biodiversity and Climate Officers) builds capacity to protect, enhance and restore our coastal and marine ecosystems.**



Survey responses to Question 9: *Are the following designated environmental areas in your location?*

Question 11 gauged the general levels of concern in coastal communities from potential natural and human stressors during the next decade(s). The results show that coastal community groups are extremely and/or moderately concerned about the impacts of *erosion* (84%), *climate change* (77%), *biodiversity loss* (74%), and *sea-level rise* (70%) (**Table 8**). *Ocean water quality* (68%), *extreme weather* (63%) and *flooding* (57%) also featured prominently in their concerns. Overall, community groups were not concerned by *too little tourism* (65%) or *population growth* (63%).

Notes. The survey acknowledges that individual levels of concern vary greatly within and between communities and people might not agree with the group leader's opinions. The traffic light approach used in **Table 8** should not deflect from very real community concerns within site-specific locations. For example, three (11%) groups are extremely concerned of the impact of invasive species whereas eighteen (67%) groups have very little concern of this potential stressor. These community groups highlighted the negative impact of invasive species in (1) intertidal and shallow marine areas where seagrass and kelp habitats exist, and (2) terrestrial areas comprising dune habitats.

Table 8.

	EXTREMELY CONCERNED (EC)	MODERATELY CONCERNED (MC)	SLIGHTLY CONCERNED	NOT AT ALL CONCERNED	I DO NOT KNOW	TOTAL	EC+MC
Extreme weather	20.00%	43.33%	33.33%	3.33%	0.00%		63%
	6	13	10	1	0	30	
Coastal risk - erosion	45.16%	38.71%	16.13%	0.00%	0.00%		84%
	14	12	5	0	0	31	
Coastal risk - flooding	35.71%	21.43%	28.57%	14.29%	0.00%		57%
	10	6	8	4	0	28	
Coastal risk - invasive species	10.00%	26.67%	43.33%	16.67%	3.33%		37%
	3	8	13	5	1	30	
Tourism - too much (e.g., in summer)	6.67%	30.00%	40.00%	20.00%	3.33%		36%
	2	9	12	6	1	30	
Tourism – too little (e.g., in summer)	0.00%	13.79%	17.24%	65.52%	3.45%		14%
	0	4	5	19	1	29	
Lack of amenities for visitors/residents	20.00%	36.67%	23.33%	20.00%	0.00%		57%
	6	11	7	6	0	30	
Water quality – freshwater	20.69%	27.59%	20.69%	20.69%	10.34%		48%
	6	8	6	6	3	29	
Water quality – ocean water	38.71%	29.03%	22.58%	9.68%	0.00%		68%
	12	9	7	3	0	31	
Pollution	45.16%	16.13%	32.26%	6.45%	0.00%		61%
	14	5	10	2	0	31	
Biodiversity loss	38.71%	35.48%	22.58%	3.23%	0.00%		74%
	12	11	7	1	0	31	
Loss or lack of critical infrastructure	30.00%	33.33%	20.00%	16.67%	0.00%		63%
	9	10	6	5	0	30	
Loss or damage to homes or property	20.00%	26.67%	20.00%	26.67%	6.67%		47%
	6	8	6	8	2	30	
Inappropriate development on coast	22.58%	22.58%	25.81%	25.81%	3.23%		45%
	7	7	8	8	1	31	
Inappropriate agriculture practices	16.67%	20.00%	40.00%	6.67%	16.67%		37%
	5	6	12	2	5	30	
Weak local economy	10.34%	34.48%	31.03%	17.24%	6.90%		45%
	3	10	9	5	2	29	
Population change - too much growth	10.00%	20.00%	30.00%	30.00%	10.00%		30%
	3	6	9	9	3	30	
Population change - too little growth	0.00%	13.33%	13.33%	63.33%	10.00%		13%
	0	4	4	19	3	30	
Climate change	40.00%	36.67%	16.67%	3.33%	3.33%		77%
	12	11	5	1	1	30	
Sea-level rise	33.33%	36.67%	20.00%	6.67%	3.33%		70%
	10	11	6	2	1	30	

### Key Findings Survey Section 1

1. There are very knowledgeable leaders and organised coastal community groups. Nineteen (70%) groups had six years or more experience.
2. These groups rely heavily on leaders (59% of groups have six or more people organising their activities) and volunteers to implement activities.
3. Environmental NGO's are an important resource for community groups. Sixteen (59%) of the twenty-seven groups work with eNGO's at least once a month; seven (26%) of the groups work with eNGO's at least once every six months; every group engaged with an eNGO.
4. Community-led actions grow significantly and diversely after the group is formed. Raised awareness within community groups allows them to identify the opportunities and challenges of the coast.
5. Community groups are protecting and/or increasing the value of our coastal assets that provide physical, natural, social, economic and cultural benefits to people and Nature.
6. Community groups are a focal point for positive change, transforming awareness of the issues facing coastal communities and planning activities to transform local places and articulate their own vision for a sustainable future.
7. The motivations driving volunteer groups today are: *conservation and biodiversity* (87%), *promote education and awareness of the coast* (80%), *concerns about climate change* (67%), *beach cleaning* (67%), *protection from erosion* (57%), *nature-based solutions to restore habitat(s)* (57%), *coastal heritage* (53%), *concern about impact of visitors* (43%), and *flooding* (27%).
8. Coastal community groups are very concerned about the impacts of *erosion* (84%), *climate change* (77%), *biodiversity loss* (74%), and *sea-level rise* (70%). *Ocean water quality* (68%) and *extreme weather* (63%) also featured prominently in their concerns. Overall, community groups were not concerned by *too little tourism* (65%) or *population growth* (63%).

## 4.2 Survey: Section 2 (Enablers and barriers that support and/or hinder community-led actions)

The second section (5 questions) focussed on profiling each groups' activities, partnerships, and identifying enablers and barriers that supported and/or hindered their actions. Question 11 in the survey invited participants to share the extent of their networks with state and public bodies, research agencies, NGOs and other organisations (**Table 9**). Local authorities (65%) and An Taisce, Clean Coasts (62%) were the two organisations consulted most frequently by community groups (at least every three months). Clean Coasts are very effective at supporting beach cleaning, restoration, and education-related activities (e.g., training workshops; roadshows). Interestingly, a large proportion of community groups have very limited (or none) engagement with key research, management, and education organisations in Ireland such as Geological Survey Ireland (GSI) (67%), Education Training Boards (ETB) (67%), Marine Institute (63%), Failte Ireland (52%), OPW (41%) and EPA (37%). It was recognized at the workshop that research agencies do work with community groups through intermediaries such as scientists based in third level institutes (40% of groups frequently engage with scientists; 85% overall engagement). It is important to **investigate the types of community work that the local authorities support and assess if the resourcing and messaging are consistent and how these critical partnerships can be fostered through new policy mechanisms**. It was discussed in the workshop that building an engagement tool to connect community groups with **Failte Ireland**, in their capacity as a key stakeholder, is worth pursuing to build mutually beneficial partnerships in themes of **regeneration and economic growth**.

**Table 9.** Survey responses to Question 11: *Since your group formed, how frequently have you worked with the following state and public bodies, research agencies, NGOs and other organisations?* [Very frequently (i.e., once a week); Frequently (i.e., once a month); Somewhat frequently (i.e., every 3 months); Occasionally (i.e., every 6 months); Rarely (i.e., every 1-3 years); Very rarely (i.e., every 5 years); Never].

	VERY FREQ.	FREQ.	SOMEWHAT FREQ.	OCCAS	RARELY	VERY RARELY	NEVER	TOTAL
Local Authority	33.33%	22.22%	11.11%	18.52%	7.41%	3.70%	3.70%	
	9	6	3	5	2	1	1	27
NPWS	0.00%	22.22%	14.81%	18.52%	25.93%	7.41%	11.11%	
	0	6	4	5	7	2	3	27
OPW	0.00%	3.70%	7.41%	3.70%	14.81%	29.63%	40.74%	
	0	1	2	1	4	8	11	27
EPA	0.00%	7.41%	0.00%	25.93%	11.11%	18.52%	37.04%	
	0	2	0	7	3	5	10	27
Marine Institute	0.00%	3.70%	3.70%	14.81%	7.41%	7.41%	62.96%	
	0	1	1	4	2	2	17	27
GSI	0.00%	3.70%	0.00%	3.70%	11.11%	14.81%	66.67%	
	0	1	0	1	3	4	18	27
Clean Coasts	29.63%	25.93%	7.41%	22.22%	11.11%	0.00%	3.70%	
	8	7	2	6	3	0	1	27
Coastwatch	22.22%	11.11%	3.70%	11.11%	22.22%	3.70%	25.93%	
	6	3	1	3	6	1	7	27
Failte Ireland	0.00%	0.00%	7.41%	0.00%	22.22%	18.52%	51.85%	
	0	0	2	0	6	5	14	27
ETB	3.70%	3.70%	0.00%	3.70%	22.22%	0.00%	66.67%	
	1	1	0	1	6	0	18	27
University researchers	7.41%	7.41%	25.93%	11.11%	14.81%	18.52%	14.81%	
	2	2	7	3	4	5	4	27
Local schools	11.11%	11.11%	14.81%	29.63%	3.70%	11.11%	18.52%	
	3	3	4	8	1	3	5	27
Tidy Towns	22.22%	11.11%	14.81%	14.81%	7.41%	7.41%	22.22%	
	6	3	4	4	2	2	6	27

Coastal groups were also identified other organisations they worked with that were not listed in **Table 9**. These include: Coillte, Local Authority Waters Programme (LAWPRO), the Lighthouse Commission, Bord Iascaigh Mhara (BIM), Fisheries Local Action Groups, Sustainable Energy Authority of Ireland (SEAI), Local Development Companies (LDCs), local heritage groups and businesses; conservation, management and education organisations (Coomhola Salmon Trust, The Environmental Forum, Wild Derrynane, Beara Rainforest, Wexford Walking Trails, Native Woodland Trust, Seal Rescue Ireland; Banna Rescue; Sea Synergy; aquariums, Irish Ocean Literacy Network), and organisations with a scientific observation remit (MarineGEO; SeaSearch; FairSeas; and the Irish Whale and Dolphin Group). The nature of most of these working partnerships is largely unknown (there was no capacity in this study to investigate these) but potentially identifies new opportunities for communities - especially if these organisations have precedence of working in communities and/or supporting community-led actions.

The sustained work of coastal communities is the focus of Question 12 (**Table 10**). All the community groups are organising beach cleans in their areas. Half the community groups are actively doing work on restoring dune habitats. Six groups (23%) carry out works on dunes at least 3-5 times a year and in two cases more than ten times per year. Wetland restoration is technically and logistically more difficult, but five groups (19%) are doing some type of restoration work each year. The majority of community groups are promoting biodiversity (77%) and heritage (56%) awareness. The majority of community groups are also working on management tasks such as signage (e.g., code of conduct) (62%), amenity management (e.g., parking; roads) (42%) and controlling access (38%).

**Table 10.** Survey responses to Question 11: *In the past twelve months, approximately how many times has your group carried out the following activities?*

	> 10 times	6-10 times	3-5 times	1-2 times	Never	Total
<b>Beach clean</b>	51.85%	18.52%	7.41%	22.22%	0.00%	
	14	5	2	6	0	27
<b>Restoration of dunes</b>	7.41%	3.70%	11.11%	25.93%	51.85%	
	2	1	3	7	14	27
<b>Restoration of wetlands</b>	0.00%	0.00%	0.00%	18.52%	81.48%	
	0	0	0	5	22	27
<b>Control access</b>	3.70%	11.11%	3.70%	22.22%	59.26%	
	1	3	1	6	16	27
<b>Biodiversity awareness</b>	14.81%	14.81%	14.81%	33.33%	22.22%	
	4	4	4	9	6	27
<b>Heritage &amp; cultural events</b>	7.69%	7.69%	7.69%	34.62%	42.31%	
	2	2	2	9	11	26
<b>Amenity management</b>	11.11%	14.81%	3.70%	11.11%	59.26%	
	3	4	1	3	16	27
<b>Signage</b>	11.11%	11.11%	18.52%	22.22%	37.04%	
	3	3	5	6	10	27

Questions 12 and 13 invited participants to identify ‘enablers’ and ‘barriers’ that support and/or hinder their group activities. These questions are discussed together (**Tables 11 and 12**).

**Table 11.** Survey responses to Question 12: *How important are the following ‘enablers’ for supporting your group’s activities and the success of your group?* Note: the traffic light colouring in last column is based on an arbitrary categorization of the Very Important (VI) + Important (I) scores: green: 70-100%; orange: 40-69%; red: <40%.

	Very Important	Important	Moderately Important	Slightly Important	Not Important	Total	VI + I
Frequent, organized public meetings	25.93%	22.22%	14.81%	22.22%	14.81%		48%
	7	6	4	6	4	27	
Steering committee	44.44%	22.22%	14.81%	7.41%	11.11%		67%
	12	6	4	2	3	27	
Diverse backgrounds	25.93%	29.63%	14.81%	18.52%	11.11%		56%
	7	8	4	5	3	27	
Good governance	25.93%	40.74%	3.70%	22.22%	7.41%		67%
	7	11	1	6	2	27	
Motivation & priority consensus	44.44%	33.33%	11.11%	7.41%	3.70%		78%
	12	9	3	2	1	27	
Legal status	25.93%	11.11%	18.52%	25.93%	18.52%		37%
	7	3	5	7	5	27	
Strong presence on print, broadcast, social media	37.04%	33.33%	7.41%	14.81%	7.41%		70%
	10	9	2	4	2	27	
Learn from other coastal communities	48.15%	25.93%	14.81%	7.41%	3.70%		74%
	13	7	4	2	1	27	
Scientific monitoring of your coast	48.15%	33.33%	14.81%	0.00%	3.70%		81%
	13	9	4	0	1	27	
Support from local political representatives	37.04%	44.44%	11.11%	3.70%	3.70%		81%
	10	12	3	1	1	27	
Passion of the group	70.37%	14.81%	11.11%	3.70%	0.00%		85%
	19	4	3	1	0	27	
Access to funding	48.15%	25.93%	11.11%	3.70%	11.11%		74%
	13	7	3	1	3	27	
Access to decision makers in Local Authority	70.37%	25.93%	0.00%	0.00%	3.70%		96%
	19	7	0	0	1	27	
Support from LA + other agency ‘champions’	55.56%	29.63%	11.11%	0.00%	3.70%		85%
	15	8	3	0	1	27	
Access to decision makers in NPWS	48.15%	22.22%	14.81%	7.41%	7.41%		70%
	13	6	4	2	2	27	
Natura 2000 designation (SAC; SPA, pNHA)	37.04%	22.22%	14.81%	7.41%	18.52%		59%
	10	6	4	2	5	27	

It is emphasized that the traffic light approach used in **Tables 11 and 12** should not deflect from the positive/negative impact of enablers/barriers within site-specific locations.

Community groups highlighted other ‘enablers’ not listed in **Table 11**, including: support from local businesses, sponsors, donors and local fundraising events; support from scientists in third level institutes; support from An Garda Síochána; support from state agencies (NPWS, Coillte, Irish Coastguard and the Forestry Division in DAFM); support from other organisations with interests (to varying levels) in education and conservation (LAWPRO; Irish Native Woodland Trust, Wexford Walking Trail, Coastwatch, Coillte, Wexford Walking Trail, Sport Ireland); and the positive impact of collecting scientific evidence and new synergies that emerge from group work.



**Table 12.** Survey responses to Question 12: *How important are the following 'barriers' for hindering your group's activities and the success of your group?* Very Important (VI) + Important (I) scores: green: 70-100%; orange: 40-69%; red: <40%.

	Very Important	Important	Moderately Important	Slightly Important	Not Important	Total	VI + I
Competing values and priorities within group	3.70%	22.22%	3.70%	22.22%	48.15%		26%
	1	6	1	6	13	27	
Competing values and priorities within community	18.52%	33.33%	29.63%	7.41%	11.11%		52%
	5	9	8	2	3	27	
Disenchanted from past experiences	11.11%	25.93%	25.93%	7.41%	29.63%		37%
	3	7	7	2	8	27	
Lack of leadership in group	11.11%	18.52%	18.52%	11.11%	40.74%		30%
	3	5	5	3	11	27	
Community is unaware of future climate risks	29.63%	33.33%	25.93%	11.11%	0.00%		63%
	8	9	7	3	0	27	
Community unaware of threats to biodiversity	37.04%	33.33%	18.52%	11.11%	0.00%		70%
	10	9	5	3	0	27	
Community is not patient and want to see 'change' quickly	7.41%	22.22%	40.74%	14.81%	14.81%		30%
	2	6	11	4	4	27	
Landowners unwilling to participate	11.11%	22.22%	33.33%	22.22%	11.11%		33%
	3	6	9	6	3	27	
Commonage (>1 landowner)	11.11%	18.52%	11.11%	22.22%	37.04%		30%
	3	5	3	6	10	27	
No access to Local Authority decision makers	37.04%	22.22%	7.41%	18.52%	14.81%		59%
	10	6	2	5	4	27	
No access to NPWS decision makers	44.44%	22.22%	11.11%	11.11%	11.11%		67%
	12	6	3	3	3	27	
No access to scientific expertise	22.22%	33.33%	14.81%	0.00%	29.63%		56%
	6	9	4	0	8	27	
No access to other coastal communities	14.81%	11.11%	14.81%	22.22%	37.04%		26%
	4	3	4	6	10	27	
Natura 2000 designation	22.22%	14.81%	37.04%	7.41%	18.52%		37%
	6	4	10	2	5	27	
Lack of funding	22.22%	22.22%	29.63%	7.41%	18.52%		44%
	6	6	8	2	5	27	
Lack of volunteers	18.52%	29.63%	18.52%	22.22%	11.11%		48%
	5	8	5	6	3	27	
Poor communication (within group)	14.81%	11.11%	18.52%	22.22%	33.33%		26%
	4	3	5	6	9	27	
Poor communication (with other external organisations)	14.81%	22.22%	25.93%	7.41%	29.63%		37%
	4	6	7	2	8	27	
Lack of recognition of the group within broader community	11.11%	25.93%	29.63%	7.41%	25.93%		37%
	3	7	8	2	7	27	
Lack of recognition of the group by management agencies	29.63%	11.11%	25.93%	7.41%	25.93%		41%
	8	3	7	2	7	27	
Lack of a national 'coastal community forum'	25.93%	33.33%	14.81%	11.11%	14.81%		59%
	7	9	4	3	4	27	
Lack of visible info of protected sites for residents and visitors to the coast	44.44%	29.63%	14.81%	3.70%	7.41%		74%
	12	8	4	1	2	27	



Community groups highlighted other ‘barriers’ not listed in **Table 12**, including: need for volunteer training; lack of enforcement with environmental protected sites (e.g., SAC’s and SPA’s); lack of NPWS District Conservation Officers (one officer/ranger has to cover large areas and focus their time on needs of designated Parks); lack of consultation between local community groups and local authorities; lack of time to carry out the actions; lack of joined-up thinking and co-operation by state agencies (e.g., poor inter-agency communication; inconsistent responses to local community groups queries); building consensus within communities; lack of facilities for visitors; ongoing supported online forums misinforming/promoting wild camping; any group subsumed within a Tidy Towns organisation becomes very constrained with potential actions; the Community Services Programme is, in practice, focused entirely on social issues; the administrative burden for submitting and managing grants; obtaining community group insurance (e.g., marine insurance is difficult); overlapping interests and management responsibilities of agencies (e.g., County Council, NPWS, Coillte); and private land ownership of coastal areas.

The key findings from section 2 are an **aggregation of the survey results and observations and recommendations collected during the workshop** to provide clarity and context of the results.

### Key Findings Survey Section 2

1. Community groups are very passionate and are most effective when they have good governance structures, have consensus decision making, and are visibly promoting their work.
2. Support from local authorities, NPWS, local political representatives, and scientists are viewed as critical enablers for coastal groups to maintain their efforts and continue to be motivated in their efforts to organize communities to make change ‘on the ground’. This support can emerge in different ways: having access to key decision makers and ‘champions’; access to funding; and access to scientific data.
3. Building relationships with key stakeholders takes “*time and perseverance*” (workshop participant words) but building this trust is essential for effective working partnerships.
4. A national coastal protection plan would greatly benefit all stakeholders by providing a “*standard reference guide*” (workshop participant words) to plan community activities.
5. Community groups question why they are the only people actively managing their coast.
6. A recurring obstacle (barrier) for community groups is the changing responsibilities, functions and roles of local authorities and local authority staff. In theory, there are pools of expertise within local authorities (Biodiversity and Climate Officers) and NPWS (District Conservation Officers) that can support and inform volunteer groups but, in practice, these staff can be inaccessible and/or under-resourced and/or inexperienced (e.g., loss of ‘champions’ and brain drain when local authority staff move within/between offices) and/or lack decision-making responsibilities (e.g., no joined-up strategy between local authorities, NPWS and OPW, for example).
7. There is an urgent need for local governments to be able to prioritize support for community-led actions addressing climate adaptation and biodiversity conservation. Prioritisation of this work

within national or local plans can mitigate political interference within these organisations by empowering biodiversity and climate offices; ring fencing multi-year funding for 'priority' climate adaptation and conservation projects; and building capacity of these offices to work in communities (e.g., more trained staff 'on the ground' with expertise in 'adaptation' and 'conservation').

8. Community groups spend an "*inordinate*" (workshop participant word) amount of time organising their activities (e.g., 1-10 hours each week in summer). This 'unseen' work is an enabler but requires group members to volunteer their time. It was noted that many volunteers have full- or part-time jobs, family and other obligations. This 'unseen' work is not visible to the community or other stakeholders but is critical to the success and sustainability of groups. Group members spend time writing applications (e.g., funding, awards); learning about regulatory compliance to ensure the group activities adhere to complex, interacting laws, regulations and standards; seeking permission to work on the coast from individuals (e.g., commonage landowners) and organisations (local authorities; NPWS); promoting their work (e.g., field events; workshops; social and broadcast media); and facilitating scientists to conduct research in their areas. In some cases, volunteer groups have to have funding before they get the awards (reimbursed using receipts); list all the grants they have received from government agencies each time; and be expected to act like a company despite being a volunteer group (e.g., tax certificates; registered with revenue).
9. In terms on the highest scores (Very Important + Important), three of the most significant barriers hindering groups were linked to biodiversity (lack of visibility of Natura 200 sites (74%); lack of awareness of communities to threats of biodiversity (70%); and access to NPWS District Conservation Officers (67%)). The designation of Natura 2000 sites is viewed as either an enabler or barrier or both.
10. Currently, the management of protected Natura 2000 sites is limiting and a barrier to community-led climate adaptation actions (see: active management). There is a disproportionate balance between biodiversity preservation (see: passive management) and economic, social, cultural and regional requirements. Community groups would like to see a "*common sense management approach*" (workshop participant words). The emphasis and unilateral priority of scientific knowledge to avoid political and/or community negotiation is separating communities from Nature.
11. Many communities understand the value of scientific data but perceived the lack of access to this data as a barrier (55%). Access to expertise or community-led citizen science would help measure the impact of their work, e.g., *are the coastal assets increasing in value?*
12. The OPW flood and erosion maps are potentially a very impactful tool to raise awareness of climate risks to communities but they are not easily accessible or interpretable. Community members highlighted the value of having access to these maps with overlays of residential and commercial properties, roads, land boundaries, zoning, and protected sites.
13. Community groups struggle to understand the (in)dependencies of the large number of policy documents relevant to their coast and how all these policies will impact them.
14. The majority of coastal communities (59%) believe that the lack of access to a coastal network, or forum, is an important barrier. It is noteworthy that the negative impact of many identified barriers can be alleviated, at least partly, by an effective coastal network.

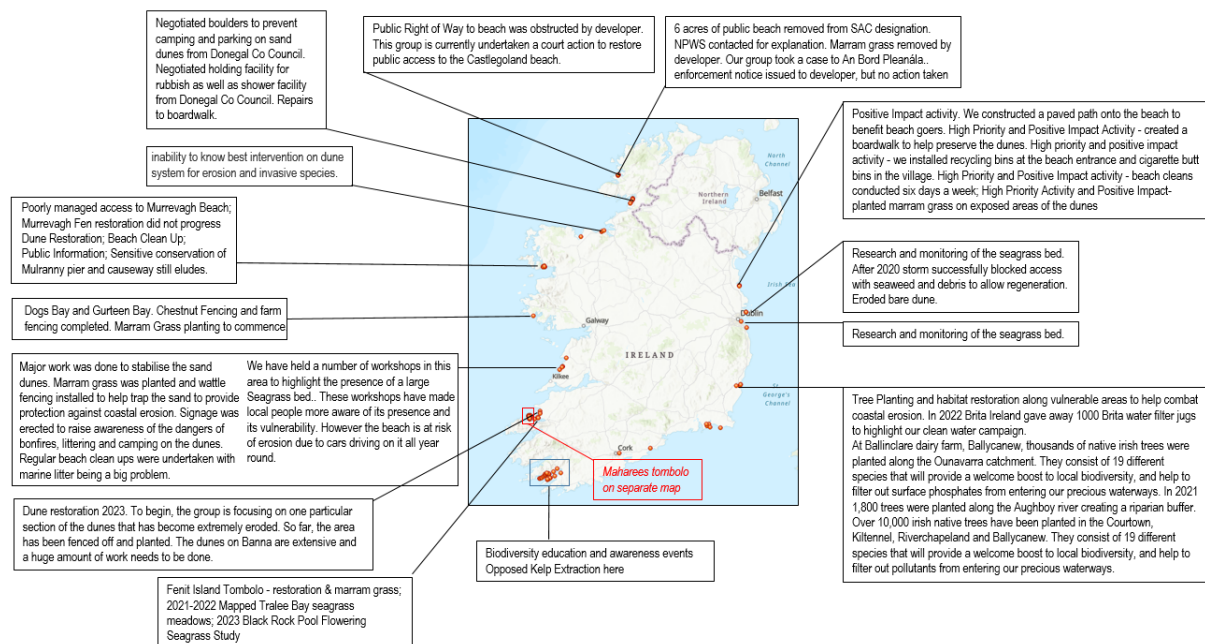
#### 4.3 Survey: Section 3 (Workshop topics)

The third section (4 questions) asked groups if they would be interested in participating in a follow-up workshop and their preferred format (in-person; online), day of week, and specific items they would like to see featured at the workshop. Based on the responses an in-person workshop was organized during a weekend (Saturday). The half-day workshop could not discuss all the items listed by participants. They are listed here to provide insight of the interests of community groups, e.g., future engagement activities.

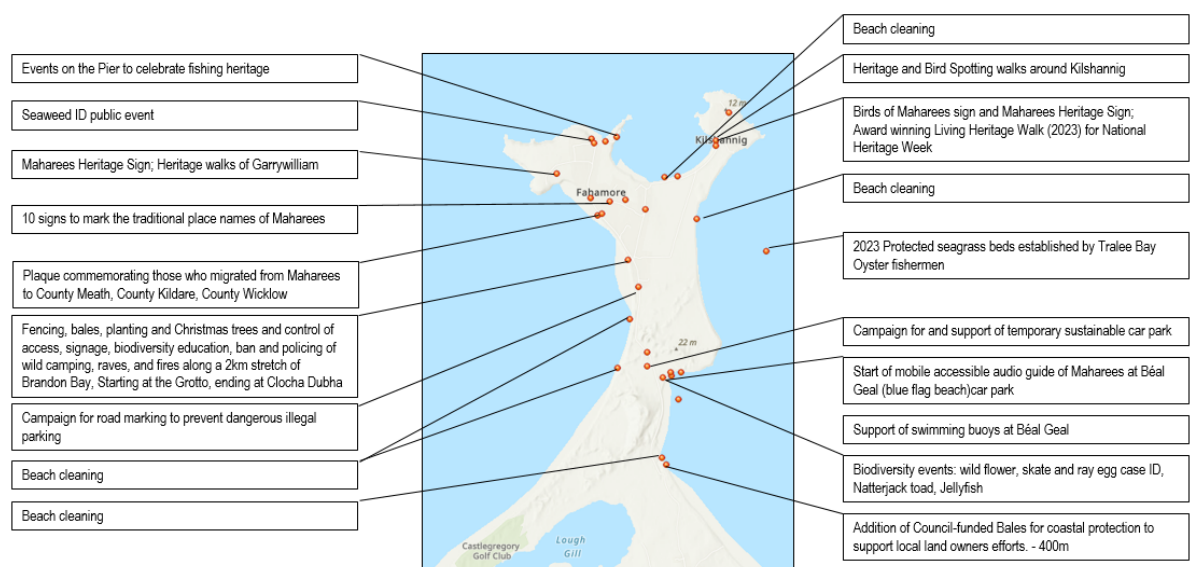
- *Coordination of coastal activities and policies coming from different actors.*
- *Coastal erosion - suggestions on how to deal with it and list of funding sources. Stabilisation of sand dunes.*
- *It would be great to be shown where to find the most up to date information on current and future coastal policies.*
- *Seagrass protection.*
- *The ineffectiveness of current "MPA's", Lack of understanding by the general public and decision makers about marine ecosystems.*
- *Information on who is responsible for coastal management / protection and explicit contact details for this 'body'. County/Regional Development plans related to specific coastal areas. Responsible person(s) for coastal management in specific areas.*
- *Yes, we need on ground people to support groups not just websites and funding. We also need the appropriate assessments done by government.*
- *A more holistic approach to coastal management from Local Authorities and more effective employment schemes to assist community groups achieve their goals.*
- *Stronger protections for mature trees. Stronger protections for our proposed Natural Heritage Areas and Marine Areas. Not just on Natura sites. Have a 'no build' buffer zone policy to prohibit damaging developments/agricultural practices on nature.*
- *Can we find local data about coastal erosion, water quality, types of marine litter found in the sea in our locality. What are the concerns we should be aware of. Local data.*
- *Potential funding sources for landowners adjacent and giving access to dunes and beaches for measures associated with dune management, biodiversity and access.*
- *Greater awareness around what Coastcare groups could do / should not do in or around SPAs and SACs. There is a lot of good will but potential to do inappropriate 'work' on such sites.*
- *Funding and community council /NPWS support. Best methods for dune restoration*
- *Relocation policy and fund Infrastructure for sea level rise Systematic funding stream for groups with status (CLG/ Charity) Inter agency cooperation and a single entity responsible.*
- *A programme of digital enablement and resources, the latter similar to SEAI <https://www.seai.ie/community-energy/enabling-framework/>*
- *Citizen Science and marine health indicators. Coastal report cards driven by our coastal communities. Grant submissions and management for committees' workshop.*
- *Rapid response suggestions to storm erosion events on dunes to mitigate continued wind erosion, (elastoplast the wound to encourage healing).*
- *Tourism and sustainable travel. Economic impacts of climate change. Ambient water quality (fresh and salt) and its impacts on ecological integrity, human health and the economy.*
- *How to communicate effectively with the appropriate bodies involved.*
- *I would like information about the worth of dune protection against sea level rise, expert advice on managing sea buckthorn on dunes and achieving designation for the dune system.*

#### 4.4 Survey: Section 4 (Interactive mapping exercise)

The fourth section was an interactive mapping exercise that invited participants to identify high priority locations where they have conducted management interventions and a mark-up tool to allow them to list details of the interventions they have done and whether these actions made a positive impact, or not. A total of 131 data points were added to the map by ten groups. The map illustrates the breadth of community-led actions all around Ireland. Participants identified a very diverse range of activities listed on the maps. Broadly, these activities engaged with the following themes: management (access control; parking; waste; code of conduct; enforcement); protection and restoration (dunes; seagrass; kelp; wetlands); scientific monitoring (seagrass) and education and awareness (biodiversity events; heritage walks). A selection of community actions are shown on **Maps 1** and **2** below.



**Map 1.** Selection of community-led activities inputted to an interactive map by survey participants.



**Map 2.** Selection of community-led activities inputted to an interactive map by Maharees Community Association CLG.



**Photographs 1 and 2.** Examples of ‘public information’ signs by the Mulranny (Co. Mayo) community group on the ‘Rosmurrevagh machair sand plains’.

# ROSMURREVAGH MACHAIR SAND PLAINS

ROSMURREVAGH

## ROSMURREVAGH BIODIVERSITY

Rosmurrevagh Machair is located on the north-western shore of Glenties Bay. It is a European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.

Machair sand dunes are more rarely seen, owing only to the north-western exposure of the coastline. Although designated for conservation, they are still undergoing development.

## BIRDS

**Rosmurrevagh Machair** is a special area that is one of the most important nature reserves in the county. It is a European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.

**A Sand Martin** (Psaltriparus minor) is a small bird that breeds in the sand dunes. It is a European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.

**A Sand Martin** (Psaltriparus minor) is a small bird that breeds in the sand dunes. It is a European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.

## INVERTEBRATES

**The Green Tiger Beetle** is a species of beetle that is found in the sand dunes. It is a European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.

**The Green Tiger Beetle** is a species of beetle that is found in the sand dunes. It is a European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.

**The Green Tiger Beetle** is a species of beetle that is found in the sand dunes. It is a European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.

## HABITATS

Machair sand dunes exhibit a complex mosaic of physical features or habitats, as a result of continuous cycles of deposition and erosion.

There is a difference between the landscape and the habitat diversity. The landscape is the result of the physical features or habitats, as a result of continuous cycles of deposition and erosion. The habitat diversity is the result of the physical features or habitats, as a result of continuous cycles of deposition and erosion.

There is a difference between the landscape and the habitat diversity. The landscape is the result of the physical features or habitats, as a result of continuous cycles of deposition and erosion. The habitat diversity is the result of the physical features or habitats, as a result of continuous cycles of deposition and erosion.

## BIODIVERSITY

The term 'Biodiversity' derived from 'biological diversity' is used to describe the variety of life on earth, from the simplest micro-organism to the complex system that is a rain forest, or simply, 'the web of life'.

Locally, biodiversity is defined as the variety of life forms, from the simplest micro-organism to the complex system that is a rain forest, or simply, 'the web of life'.

Locally, biodiversity is defined as the variety of life forms, from the simplest micro-organism to the complex system that is a rain forest, or simply, 'the web of life'.

## WILD FLOWERS

**Light Yellow** (Lupinus albus) is a species of flower that is found in the sand dunes. It is a European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.

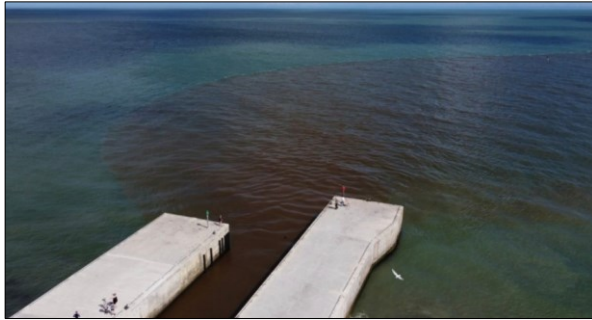
**Light Yellow** (Lupinus albus) is a species of flower that is found in the sand dunes. It is a European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.

**Light Yellow** (Lupinus albus) is a species of flower that is found in the sand dunes. It is a European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.

ROSMURREVAGH MACHAIR SAND PLAINS. A European designated Nature 2000, Special Area of Conservation (SAC) for its habitats and contains a wide variety of grassland fungi, flowering plant, invertebrate, bird and mammal species.



**Photographs 3, 4, 5, 6, 7 and 8.** Examples of community-led catchment management actions to alleviate pressures on water quality at the coast. Courtown Community Council is working with Seal Rescue to monitor local water quality, nutrient levels and sedimentation in the river. The vulnerability of Ounavarra/Owenvarragh River to pollution has mobilized the community group to make efforts to “restore local water quality to high status, improve biodiversity and climate resilience, and provide a better natural amenity for the public are well underway.”



Photograph of sulphates (diesel spill, 11 March 2021) flowing into Courtown Harbour.



Ballinclare tree planting.



Habitat restoration sign.



Ounavarra tree planting.



Coastal woodland erosion.



Riparian buffer planting.

**Note.** The interactive map tool was a preliminary data gathering exercise to facilitate discussion and does not represent the full dataset of community-led activities. It is noted that many participants had technical issues accessing and editing the map (ten participants successfully used the tools). We aimed to achieve high accessibility in each project stage as a priority, so this step a learning point on use and accessibility of digital mapping services in community engagement.

## 4.5 Workshop results

The following synopsis derives from the roundtable discussions (groups of 4-5 participants at each table) and a plenary session during the workshop. The statements represent the opinions and recommendations of the workshop participants. In a few cases, participants mentioned specific examples or case studies of community-led actions linked to the discussion. We have presented visual evidence for some of these examples and case studies to support their argument.

The workshop participants addressed four questions:

- A. How can we build awareness of climate risks and threats to biodiversity?
- B. Would an Irish Coastal Community Network (or Forum) benefit community groups?
- C. How can coastal community groups access, multi-year funding?
- D. How can coastal community groups access the key decision makers in all the relevant organisations?

### A. How can we build awareness of climate risks and threats to biodiversity?

Responses to Question 15 in the survey highlighted that communities are unaware of climate risks (63%) and threats to biodiversity (70%) in their areas. We invited workshop participants to share their recommendations on ways to build awareness of these issues.

**Overview.** Participants highlighted that “*awareness builds respect*” for the coast and “*awareness fosters a healthy relationship between the coast and its inhabitants, where sustainability benefits all parties*”. Recommendations to build awareness focussed on educating communities and visitors about each coastal area’s “*unique and fragile characteristics*” using signage (e.g., code of conduct; access management; environmental designations), education material (e.g., flyers; information boards), guided tours (e.g., heritage; biodiversity); self-guided tours; and public talks by experts (both inside and outside of the community) from diverse disciplines (e.g., climate; history; ecology; heritage; marine; art). It was noted that coastal communities have to overcome many obstacles in creating interpretive signage and material on their natural and cultural heritage events. They have to source the funding to design and manufacture signage; source content material (e.g., access to wildlife experts); engage with design companies; agree on sites to place signage; develop a works plan and secure the necessary expertise locally; erect the signs; publicise the works and do launch events. The long-term benefit of this work is invaluable as “*coastal communities have a very strong sense of place and identity*”. Promoting cultural heritage to residents and visitors is an important part of Ireland’s premium tourist product. It was agreed that Failte Ireland is a key stakeholder. In the few examples where Failte Ireland has consulted and worked with community groups they have had a very positive impact.

The following recommendations were made:

#### A.R1. Signage

- A region-wide or nationwide coastal/marine education signage programme should be designed in consultation with community groups. Signs should have a **standardized format** to maintain consistency, which appeals to local residents and visitors because they can easily recognize a sign by its familiar design. It is critical to have signs near high-volume access points (during the summer season) that **visually represent natural and heritage features of the area in a positive light** and present a **code of conduct** for the site to remind people to behave in a responsible manner.

- Signage offering direction and guidance encourages users to **access the coast** using paths approved by landowners and/or land managers. This includes **directing users away from sensitive areas** or **locations where safety concerns arise**. It is noted that fencing (or like) is also required to control access and remove footfall from sensitive coastal sites.

#### A.R2. Signage for 'coastal parks'

- Participants highlighted that there is currently limited/no information on (1) the boundaries of environmentally protected sites, in particular Natura 2000 sites (SAC's or SPA's) or (2) information on the importance of these habitats, species, and birds in coastal areas (e.g., species types; species characteristics; species value; status, e.g., Critically Endangered, Endangered or Vulnerable). A total of 73% of coastal community groups perceived the lack of visible information of protected environmental site for residents and visitors to the coast was a barrier that hinders their success. **Example 1** at the end of this section highlights the value of coastal signage and enforcement.
- It was proposed that the **NPWS and OPW** (in partnership with Local Biodiversity and Climate Officers in Local Authorities and community groups) **should consider designing and installing standardized signage and codes of conduct along coastal sites similar to those used in our national parks, particularly in areas that have high volume of visitors during the summer season**. This approach would build awareness of the coastal ecosystems at the sites and encourage visitors to behave in similar manner than when they visit National Parks or Nature Reserves. This 'coastal park' approach should be supported with very visible access routes; trails; and appropriate visitor amenities.

#### A.R3. Education

- The benefits of **education for school children** were highlighted. "*Fun initiatives*" successfully implemented by groups included children's colouring books linked to local biodiversity and guided tours. It was proposed that educational packages linked to sea safaris, forest schools and rock pool walks would greatly enhance children's and adult's knowledge and appreciation of the coast. These initiatives improve the community and visitor knowledge of the local biodiversity and coastal heritage.
- A major challenge was connecting to **teenagers and young adults** who were more likely to participate in wild camping. It was reasoned that **education and enforcement are both required to help change behaviours** of this age range.
- Participants agreed that more effort is needed to collect knowledge from older adults (e.g., storytelling) of our coastal heritage.
- Initiatives such as '*deep mapping*' (this term was not used but is appropriate here re: the methodology) to highlight the close relationships between communities and their coastal and marine environments in terms of **place attachment and dependency** was widely supported. This can be done using storytelling, visual aids (photographs; maps; art; film) and other multi-media tools in collaboration with communities and especially connecting with **local knowledge known by older adults**. The overall goal is to be able to see the 'place' through a new lens and build appreciation of coastal heritage based on knowledge sharing.
- It was recommended to avoid terms like 'sustainability' and 'resilience' as these terms were too vague and confusing to both young children and adults.



- The **OPW maps (floodinfo.ie)** were highlighted as very impactful but were not widely known, not easily found, nor easily understood by non-experts. These maps are potentially very valuable datasets and products that can be build awareness of a community's coastal erosion and flood risk. Participants would like to see these interactive maps be more visible to non-experts and allow users to see where properties are located (zoom in tool) and Natura 2000 sites are located (extra layer). **Example 2** at the end of this section illustrates a sample of the OPW maps for Liscannor Bay, Co. Clare.

#### **A.R4. Art**

- Participants highlighted the benefits of visual art of coastal themes. Art provides a unique platform to share information of biodiversity and/or climate change. The information conveyed is locally-relevant, accessible, and can generate emotive and personal feelings to the audience.
- Participants highlighted three art works that were highly impactful (Línte na Farraige light installations; Ms Ciara McKenna and Ms. Kate Kos murals). **Examples 3** and **4** at the end of this section illustrates these artworks. Participants recommended artworks that represented future high-water marks or erosion lines (or like) would resonate with residents and visitors.
- Art is uniquely capable of capturing the unique coastal human-nature interactions, situated in diverse geographical and cultural contexts.

#### **A.R5. Recognition of volunteer work**

- Coastal community groups feel (1) isolated, (2) not respected, and (3) not trusted by Government. This is despite their decades(s) long efforts actively managing their coastlines and transitioning to become the experts of their own locales.
- Participants felt that recognition from government bodies would be very helpful (1) to acknowledge their work; (2) provide motivation for the group; and (3) help validate their efforts within the larger community.
- Awards are also appropriate – but not for the accolade itself, rather to build awareness and validation of their efforts in the larger community.
- Coastal community leaders are knowledgeable and qualified to discuss coastal science and management with all key stakeholders (scientists; policymakers; government). Their presence at workshops and conferences should be a priority and not viewed as tokenism: *“if we’re even invited, we’re invited to government/academic events as exotic beasts”* (workshop participant words).

**Example 1.** Participants highlighted examples where signage can be impactful. They emphasized that other interventions are sometimes necessary to protect sensitive coastal areas, e.g., control access using fencing; beach warden programme; partnerships with landowners and An Garda Síochána to deter trespassing.

**A.**



**C.**



**B.**

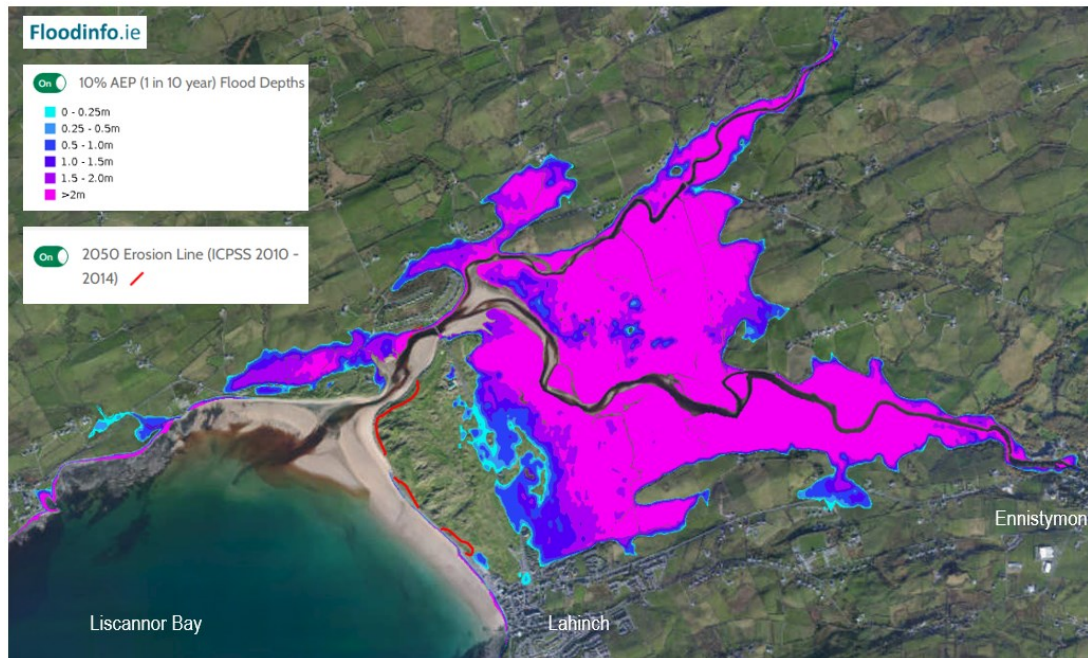


**A.** Example of 49 vehicles trespassing on private land during the 2019 summer season in Maharees, Co. Kerry. The site is part of the designated Natura 2000 area (SAC site code 2070). This site has no active conservation management plan. There was no enforcement of trespassing by NPWS or An Garda Síochána. Landowners felt threatened by visitors and avoided confrontations.

**B.** The aftermath of illegal camping at this same site in 2019. It required 30 people to work two hours to clean the site. A tractor was required to collect the cleared items including tents, beer bottles, nappies, and human excrement. The condition of coastal habitats Ireland-wide are being severely impacted each summer by day visitors and wild camping, including associated issues of anti-social behaviour and littering.

**C.** The local volunteer group gained permission from the landowners to actively manage the site using appropriate signage and to request trespassers to move (using a volunteer-run beach steward programme and in partnership with An Garda Síochána). These community-led actions have removed seasonal pressures from this protected site.

**Example 2.** Participants viewed the OPWS flood and erosion maps as potentially very impactful ways to communicate climate risks to communities but perceived the maps difficult to access, interpret and merge with other relevant map data. The map below (extracted from floodinfo.ie) shows the OPW National Coastal Flood Depth Map 2021 – High End Future Scenario and ICPSS 2050 Erosion Line (2010-2014) for Liscannor Bay – Lahinch, Co Clare.



**Example 3.** Participants highlighted the very impactful art display Linte na Farraige. This initiative highlights the risks of sea-level rise in Ireland.



**Art name:** Linte na Farraige. Location: Spanish Arch, Co. Galway; Wexford Harbour, Martello Tower in Blackrock, Co. Dublin.

**Artist:** Timo Aho and Pekka Niittyvirta. Linte na Farraige (€180,000 total; €160,000 from Creative Ireland but also substantially subsidised) involves a team including scientists based at Trinity College Dublin, Maynooth University and University College Cork; creators and artists; Dún Laoghaire-Rathdown County Council; Dublin Climate Action Regional Office; Wexford County Council; Galway City Council; Fingal County Council; and the Marine Institute.

**Background:** Linte na Farraige was a series of light installations across Irish coastal sites. The installations revealed the risks of rising seas and storm surges and demonstrated the need to reduce our greenhouse gas emissions, to lower the projected sea level line and adapt together to protect our coastlines. In terms of the Linte na Farraige project's capacity to promote change, the same participant felt that the light installation was a catalyst for putting the issue of flooding back on the local agenda for discussion again:

*"I think it created a level of awareness and discussion that it kind of puts it back on the local agenda for discussion, again - to force political discussion about it and force City Hall to discuss it again, with the various representative groups there that are affected mainly by flooding, which are the areas around the city centre that are traditionally affected by it."*

*-Participant, Linte na Farraige*

Source: Marguerite Nyhan, Alexandra Revez, Joanne Mac Mahon, Michelle Burke, Padraig Hogan, 2023. 'Creative C-Change - Analysing the Impact of the Creative Climate Action Initiative on Climate Change Awareness, Engagement & Action in Ireland.'



**Example 4.** Participants highlighted examples of community art that visually communicates human-nature interactions, promotes the 'sense of place' and builds awareness to residents and visitors.



**Mural name:** Natterjack toad. Location: Castlegregory playground, Co. Kerry.

**Artist:** Ms Ciara McKenna commissioned by Creative Ireland (c.€4000).

**Background:** Despite having 50-70% of Ireland's endangered natterjack toad population, many locals and visitors are not aware of their existence and the Maharees Conservation Association are trying to change that with this **mural** and the **information panel** next to it. Raising awareness of the natterjack toad will help build the area's identity as an area of conservation and will foster pride in and respect for the area's habitats and their inhabitants.



**Mural name:** Spider Crab. Location: at Maharees pier, Co. Kerry.

**Artist:** Ms Ciara McKenna commissioned by Creative Ireland (c.€4000).

**Background:** Raising awareness of the Spider Crab will build the area's identity as an area of conservation and will foster pride in and respect for the area's coastal habitats and their inhabitants.



Fenit: Flowerscape



**Mural name:** Flowerscape. Location: The Green Mile on Tralee to Fenit Greenway, Co. Kerry.

**Artist:** Ms Ciara McKenna commissioned by Creative Ireland (c.€8000).

**Background:** A member of the public who walks the Green Mile regularly, approached Ciara asking if she could do something to **brighten up and bring a new perspective to the walled section of the Greenway**, which Ciara did by showcasing the wildflowers which grow along it. [Pictures by Brid Ni Luasigh]

Source: Creative Ireland.

#### Example 4. [contd.]



**Mural name:** Sea Ribbon. Location: Riverchapel, Co. Wexford.

**Artist:** Ms. Kate Kos. The work is a joint initiative between Courtown Community Council, Creative Ireland Programme, Wexford County Council, Kate Kos and Saint John of God Hospitaller Services Group.

**Background:** The piece depicts a vibrant underwater scene incorporating both native and tropical marine life. This uplifting piece will carry the sea to Riverchapel and create a great talking point.

Sources:

Picture: <https://katekos.com/riverchapel-mural/>

Text: Courtown Community Council

### B. Would an Irish Coastal Community Network (or Forum) benefit community groups?

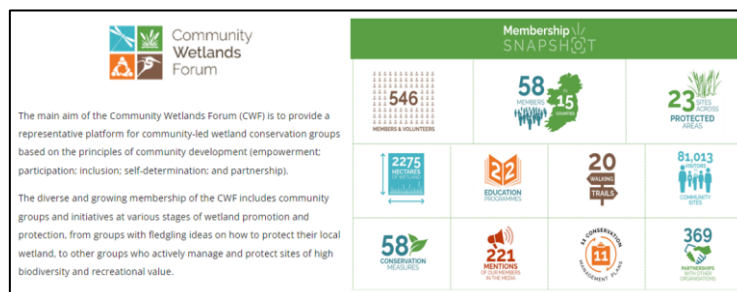
**Overview.** Responses to Questions 4, 5 and 12 and discussions in the workshop identified potential benefits for volunteer groups having access to a centralized coastal network. The majority of coastal communities (59%) believe that the lack of access to a coastal network is an important barrier. It is noteworthy that many barriers identified by community groups can be alleviated, at least partly, if they had access to an effective coastal network. Multiple community groups explained how access to other community groups or experts would have been a tremendous help during the initial set up stages and as they plan activities requiring expertise not readily available to them.

The following recommendations were made:

#### B.R1. A Coastal Community Network should deliver the following benefits to members

- Membership is free.
- Offer practical support to established and emerging local community groups (e.g., legal status; insurance; governance; funding; outreach; best practices; engaging with landowners and/or farmers; successful case studies; access to resources).
- “Easy” (workshop participant word) to connect with other community groups, scientific experts, Government Departments, Local Authorities, research agencies, universities and NGOs.
- A venue to exchange ideas and insights with other groups and practitioners of community-led climate adaptation and biodiversity conservation, both nationally and internationally.

- It guarantees access to at least one fulltime “officer” who is readily accessible, knowledgeable and can provide constructive, relevant, up-to-date advice to the community group.
- Keep members informed about the latest developments in coastal and marine policy in Ireland. “What is the government doing and how will it impact us?” (workshop participant words). By providing members with regular, easily accessible information, updates, and newsletters, it results in community groups becoming better informed on policy decisions and/or opportunity to co-write consultation documents on new policies: “We have more power as a group” (workshop participant words).
- Access to training (seminars, conferences, workshops) and networking opportunities.
- Support or learn from research monitoring projects. Communities can connect with scientists and/or each other to design and complete monitoring projects (physical; chemical; biologic; socio-economic data) that through joint working, amplify the benefits for coastal communities.
- Advise residents, farmers and all interested parties and individuals on what they can do to protect, enhance, or restore biodiversity in their area or steps to adapt to future climate pressures.
- Participants highlighted that there is precedence in Ireland for publicly funded community-led organisations that are successfully restoring landscapes. The Community Wetlands Forum, for example, used to sit within Irish Rural Link and has membership comprised of individual community groups and partners that include NPWS, Coillte, Bord na Mona, County Councils, IRWC, Birdwatch Ireland and Irish Wildlife Trust. They have one fulltime development officer. Their operating budget (from NPWS) is very small (c.€80-100,000) considering the excellent range of services they provide and/or facilitate.



Participants highlighted the UNESCO Man and Biosphere model that is included in Fáilte Ireland's Clew Bay destination and experience development plan, Mayo County Councils Climate Action Plan and the Mayo Local and Economic Community Plan.

- Another useful example mentioned by a workshop participant was the Coastal Communities Network in Scotland. This organisation was formed in 2017 because:

*“There was recognition of a need for a platform to provide opportunities for community organisations working on marine issues to access peer-to-peer support and guidance ... CCN’s mission has therefore become to connect and strengthen community-led efforts in protecting, restoring, and sustainably utilising Scotland’s coastal and marine resources. We firmly believe that power lies within local communities to drive meaningful change and make a lasting impact on the health of our coasts & seas”.*

Source: <https://www.communitiesforseas.scot/about-the-network/>

## **B.R2. The Coastal Community Network should be community-led and not add a layer of complexity**

- A number of caveats of the benefits provided by a coastal network were identified by participants. It was highlighted that it could potentially introduce another layer of bureaucracy in a field with too many disconnected organisations already; it should not be another voluntary position; it needs to be clear who has responsibility or is accountable for the networks (in)actions; and it needs to be community-led.

## **C. How can coastal community groups access, multi-year funding?**

**Overview.** The perception of participants is that the public funding for climate adaptation and biodiversity conservation is not founded upon any coherent national strategy or priority needs assessments nor are there guidelines for spending (e.g., within local authorities). Increasing tourism capacity in rural areas in response to the predicted increases in visitor numbers from very large investments (e.g., Wild Atlantic Way; Ancient East marketing initiatives) is not identified at any stage as a priority need. A lot of responsibility to address '*sustainable*' or '*regenerative*' tourism is being passed to local authorities who have discretion in how they spend the money.

The following recommendations were made:

### **C.R1. Multi-year funding is more impactful and less onerous on community groups**

- Participants would like to see multi-year funding opportunities that provide opportunity to hire an administrator or project manager.

### **C.R2. Centralized portal advertising funding opportunities**

- Participants acknowledged the value of small and diverse funding streams. They would like to see a centralized portal where they can view all the possible funding opportunities.
- Funding sources supporting diverse community group activities include, but are not limited to, NPWS Small Recording Grant (ID keys & guides, microscopes for ID of marine life and seagrass epiphytes c.€5,000); LAWPRO (GIS, cross-community storage costs, enhanced macro-photography gear c.€800); MarineGEO (environmental sensors, funding to attend international conference); Clean Coasts grants (purchase trowels for marram grass planting c.€155); Local Agenda 21 Environmental Partnership Fund (species spotter sheets and signage c.€1000) for local authority Community Support Funds (binoculars and hand lenses c. €500). These funding awards help build awareness but also the scientific knowledge base.
- Application forms can be overly complicated or not advertised; funding applications are highly repetitive. It was proposed that the government try to centralize the details required on all applications.

### **C.R3. Short-term funding provides a narrow window for actual work**

- The time periods of funding programmes do not reflect the time that the proposed work can actually occur. Participants mentioned the value of Local Biodiversity Action Plans but the



challenges of working under its current design. The feedback is that the funding stream “*work time*” is much too short and does not include “*monitoring impact*” (workshop participant words).

- For example: the proposal due date is c. 9<sup>th</sup> February each year.
- The awards are announced c. March or April (depending on NPWS unit assigned to review proposal(s)).
- The closing report due date is c. 1<sup>st</sup> November.
- The actual time to deliver the project objectives is c.6 months. There is potential to rollover projects to the following year but this requires a new application.
- Many projects require “top up” funds that are sourced using local fundraising events.
- Many projects require time to procure materials and have heavy administration burdens.
- The attractiveness and impact of these studies would improve if the project timelines were extended.

#### **C.R4. Access to a coastal network to advise on financial activities**

- A centralised coastal network to provide information, support and template examples would be highly beneficial for volunteer groups trying to source funding.

#### **D. How can coastal community groups access the key decision makers in all the relevant organisations?**

**Overview.** Communities believe that there are too many government departments involved in coastal and marine management. This results in political interference and/or inaction and/or contradictory guidance. Participants would like *clarity on best practices* and *clarity of who the decision makers are* for the relatively small sets of projects they commonly do (what can we do? where can we do it? who's permission do we need? who is responsible for enforcement?).

The following recommendations were made:

#### **D.R1. National coastal plans and standards can guide all key stakeholders**

- The absence of national guidelines on adapting to the effects of coastal erosion (e.g., community-led nature-based solutions) is perceived as a major barrier, especially as local authorities are lacking the expertise to make decisions and do not have funds ring-fenced for coastal management and restoration projects.
- Overall communities understand there is a lack of knowledge of coastal processes Ireland-wide and coastal processes are not prioritized within decision-making in local and national government bodies.
- There are significant scientific knowledge gaps both for terrestrial and ocean habitats. Many community groups are delivering citizen science programmes (e.g., seagrass and beach-dune monitoring projects; restoration; guided tours) with varying levels of support.
- The Biodiversity and Climate Officers in local authorities and the District Conservation Officers in NPWS offer significant potential to support communities but are under-resourced and, in some instances, do not communicate with each other.
- Habitats and species that lie outside of protected sites should receive more attention.

- Climate Officers should extend beyond climate mitigation projects in urban centres to also focus on climate adaptation projects in rural areas.
- Fully qualified ecologists for each municipal area could liaise and advise volunteer groups and support community-led monitoring science projects. Climate officers should focus beyond projects focussed on climate mitigation and focus on adaptation too.
- Participants would like “*accountability*” and coastal management plans from public bodies. An analogy used to provide context to ongoing management issues linked to large influxes of summer visitors to the coast is to consider similar scenarios where large volumes of people gather in a confined outdoor space, e.g., folk festivals, live music events, arts and crafts fairs, summer fetes, or a family fun days etc. In these circumstances, the event organizers are required to submit detailed plans in advance for traffic and access control, toilet and waste management, site restoration, risk assessments, first aid and crowd management. Similar type plans would benefit coastal areas with very high visitor numbers during the summer months so that these coastal sites are properly managed and protected.

## 5.0 CONCLUSION

It is conservatively estimated that the economic value of Irish coastal and marine ecosystems exceeds €4 billion annually. While monetary ecosystems services approaches offer economic insights, they do not capture the emotional and cultural significance of coastal heritage. Many Irish coastal communities rely on industries like fishing and tourism, intertwined with local traditions, which enrich tourists' experiences and contribute to the local economy. Coastal heritage enhances residents' well-being by fostering a sense of place and social cohesion. It is unequivocal that direct and indirect impacts from climate change and increased population will put increasing pressures on our coastal social-ecological systems the coming decades. Impacts from natural processes include higher and longer coastal flooding and irreversible coastal erosion. Impacts from visitors is already causing degradation and loss of sensitive coastal habitats and overcrowding at iconic coastal destinations around Ireland have become inhospitable for locals and uncomfortable for visitors due to summer overcrowding. All these pressures pose serious threats to coastal socio-ecological systems (CSES) if unaddressed. Given the dynamic nature of CSES, shared understanding and effective responses are needed to minimize pressures at various scales, emphasizing community-led climate and conservation efforts.

The findings from this engaged research show that volunteer community groups are already making significant progress in protecting, restoring and promoting our coastal assets. They have become practitioners of coastal management in order to manage the coastal and marine areas for themselves but also future generations. Their efforts are maintaining and growing the value of these assets in the absence of a national coastal management plan. However, they encounter many obstacles in their efforts. Their experiences and opinions formed the objectives of this study. The community groups recommended:

- Empowering volunteer groups can lead to sustainable solutions to climate risks and threats to biodiversity.
- A coastal network will increase the impact and visibility of volunteer-led climate adaptation and conservation actions
- The large influx of visitors during the summer requires appropriate management plans to enhance the visitor experience and protect coastal ecosystem.
- Community-led Nature-based Solutions (NbS) can protect and conserve the coast.

## REFERENCES

- Arkema, K.K., Verutes, G.M., Wood, S.A., Clarke-Samuels, C., Rosado, S., Canto, M., Rosenthal, A., Ruckelshaus, M., Guannel, G., Toft, J. and Faries, J., 2015. Embedding ecosystem services in coastal planning leads to better outcomes for people and nature. *Proceedings of the National Academy of Sciences*, 112(24), pp.7390-7395.
- Bermejo, R., Heesch, S., O'Donnell, M., Golden, N., MacMonagail, M., Edwards, M.D., Curley, E., Fenton, O., Daly, E. and Morrison, L., 2019. Nutrient dynamics and ecophysiology of opportunistic macroalgal blooms in Irish estuaries and coastal bays (Sea-MAT). Environmental Protection Agency Report 285, 56pp.
- Carr, L., 2020. The Economic Value of Outdoor Recreation on a Coastal Beach and Dune System in Ireland's Southwest. Whitaker Institute Policy Brief Series, Policy Brief No. 59, 2pp.
- Dekker, S. and O'Leary, S., 2020. Adaptation Challenges and Opportunities for Irish Cities.
- Department of Arts, Heritage, Gaeltacht and the Islands. (2002). National Biodiversity Plan. Department of Arts, Heritage, Gaeltacht and the Islands, Dublin, Ireland. ISBN 0 7577 1328 1.
- Devoy, R., 2019. Identified Coastal Adaptation / Management Case Studies. 3pp, unpublished.
- Devoy, R., Cummins, V., Brunt, B., Bartlett, D., and Kandrot, S., 2021. The Coastal Atlas of Ireland, Cork University Press, 893pp.
- DHLGH and OPW, 2023. Report of the Inter-Departmental Group on National Coastal Change Management Strategy, 108pp.
- Flood, S., Dwyer, N. and Gault, J., 2021. Policy Coherence in Adaptation Studies: Selecting and using Indicators of Climate Resilience. EPA Report 379.
- Faillte Ireland, 2023. Wild Atlantic Way Regional Tourism Development Strategy 2023-2027, 90pp.
- Farrell, E.J., Carr, L., Ó Fátharta, E., Bourke, M., 2020. How healthy Kerry sand dunes are worth €9 million a year. RTÉ Brainstorm.
- Farrell, E., Smith, G., O'Hagan, A.M., and LeTissier, M. 2023a. Building Coastal and Marine Resilience in Ireland. Environmental Protection Agency Report 429, 71pp.
- Farrell, E., Taylor, B., O'Neill, C. and Hyland, V., 2023b. Planning for change: coastal management and climate adaptation in Derrynane, Co. Kerry. OPW Ireland Report, 18pp
- Farrell, M. and Farrell, E., 2023. 'Successful implementation of community-led nature-based solutions for climate change adaptation on the Maharees, Co. Kerry, Ireland.' Maharees Conservation Association, Ireland. <https://aran.library.nuigalway.ie/handle/10379/17782>
- Hynes, S., Burger, R., Tudella, J., Norton, D. and Chen, W., 2022. Estimating the costs and benefits of protecting a coastal amenity from climate change-related hazards: Nature based solutions via oyster reef restoration versus grey infrastructure. *Ecological economics*, 194, p.107349.

Lead, C., Jones, L., Stewart Angus, A.C., Doody, P., Everard, M., Garbutt, A., Gilchrist, P., Hansom, J., Nicholls, R., Pye, K. and Ravenscroft, N., 2011. In UK National Ecosystem Assessment, Chapter 11, Coastal Margin, 47pp. <http://uknea.unep-wcmc.org/Resources/tabid/82/Default.aspx>.

Molloy, A., Collier, M.J., Buckley, Y.M., 2024. Identification and assessment of best practice in nature-based solutions for climate action and ecosystem restoration in Ireland. Climate Change Advisory Council Working Paper 26, 39pp.

Phillips, C., Murphy, C. and Bresnihan, P., 2022. The impacts of and responses to place loss in a coastal community in Ireland. *Local Environment*, 27(7), pp.879-896.

Norton, D., Hynes, S. and Boyd, J., 2018. Valuing Ireland's Coastal, Marine and Estuarine Ecosystem Services. Environmental Protection Agency Report 239, 85pp.

Phillips, C. and Murphy, C., 2021. Solastalgia, place attachment and disruption: Insights from a coastal community on the front line. *Regional Environmental Change*, 21(2), p.46.

Raby, A., Masselink, G., 2021. Sea-level rise is inevitable. We need to adapt to avoid the greatest harm. <https://www.plymouth.ac.uk/news/pr-opinion/sea-level-rise-is-inevitable-we-need-to-adapt-to-avoid-the-greatest-harm>.

Sánchez-Arcilla, A., García-León, M., Gracia, V., Devoy, R., Stanica, A. and Gault, J., 2016. Managing coastal environments under climate change: Pathways to adaptation. *Science of the total environment*, 572, pp.1336-1352.

The Heritage Council, 2004. In Review of Integrated Coastal Zone Management and Principles of Best Practice by Cummins V., O Mahony, C. and Connolly, N. Published by The Heritage Council, Kilkenny. 102pps.

Trodd, W., O'Boyle, S., and Gurrie, M., 2021. Water quality in Ireland 2016-2021. Environmental Protection Agency Report, 101pp.

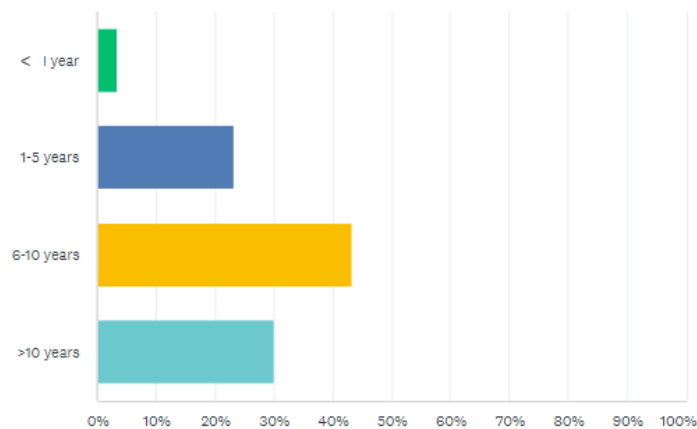
Tsakiridis, A., Aymelek, M., Norton, D., Burger, R., O'Leary, J., Corless, R. and Hynes, S., 2019. Ireland's ocean economy. Socio-Economic Marine Research Unit (SEMRU) report series. National University of Ireland, Galway, pp.1-82.

Villasante, S., Richter, K., Bailey, J., Blenckner, T., Farrell, E., Mongruel, R., Timmermann, K., Bouma, T., Melaku Canu, D., Chen, M., Lachs, L., Payo, A., Sousa Pinto, I. (2023) Building Coastal Resilience in Europe. Alexander, B., Muñoz Piniella, A., Kellett, P., Rodriguez Perez, A., Van Elslander, J., Bayo Ruiz, F., Heymans, J. J. [Eds.] Position Paper N°. 27 of the European Marine Board, Ostend, Belgium. 126pp.

## Appendix 1

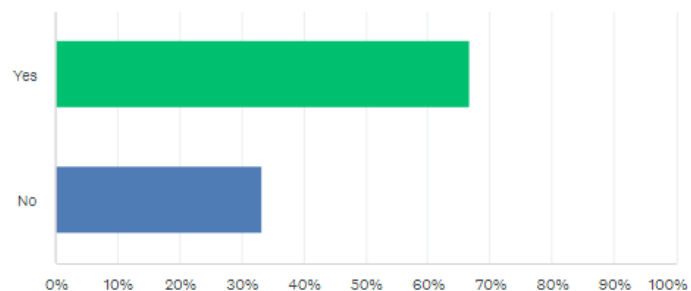
### Survey questions & responses

**Q.1** How many years has your group been formed?



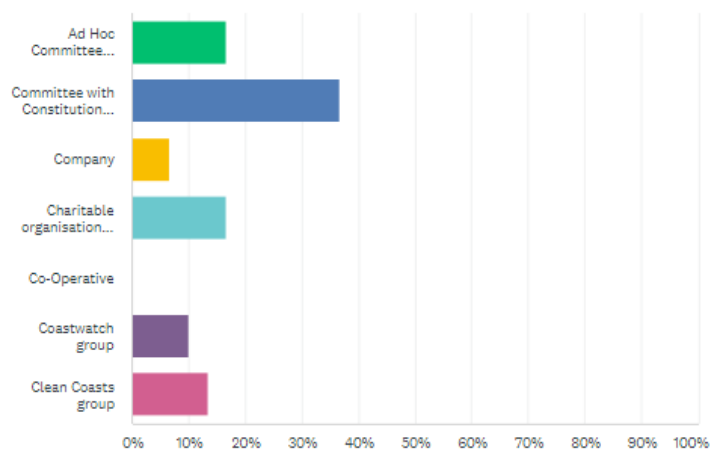
Answer choices	% Responses	Number
< 1 year	3.3	1
1 - 5 years	23.3	7
6 - 10 years	43.3	13
> 10 years	30	9
<b>Totals</b>	<b>100</b>	<b>30</b>

**Q2.** Is your group a legally recognised entity?



Answer choices	% Responses	Number
Yes	66.7	20
No	33.3	10
<b>Totals</b>	<b>100</b>	<b>30</b>

### Q3. What type of structure is your group?



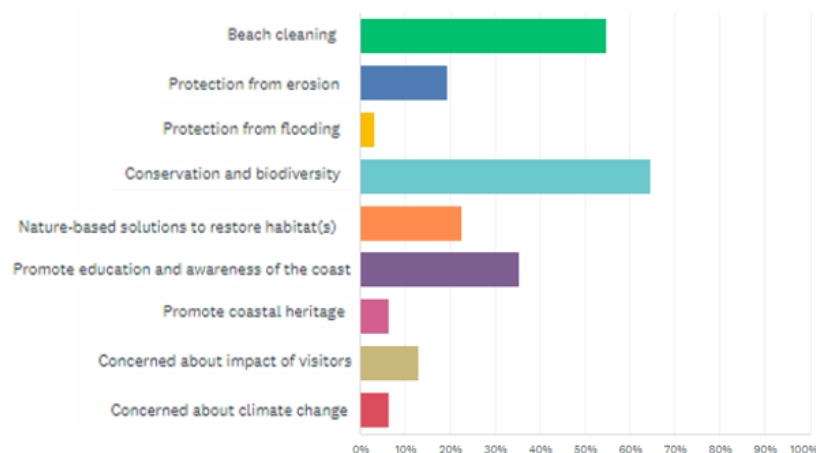
Answer choices	% Responses	Number
Ad hoc committee	16.7	5
Committee with constitution and rules	36.7	11
Company	6.7	2
Charitable organisation	16.7	5
Co-operative	0	0
Coastwatch group	10	3
Clean Coast group	13.3	4
<b>Totals</b>	<b>100</b>	<b>30</b>

**Notes.** Connemara Green is currently a group operated using an 'Ad Hoc Committee' but is also a registered Tidy Towns group. Friends of Rossnowlagh is currently a group operated using a 'Committee with Constitution & Rules' that was originally started as a Clean Coasts group. Clean Coasts Ballynamona, East Cork Biodiversity Networking Programme Sea And Land Trust (SALT) CLG is currently a 'Voluntary non-profit' group but is actively seeking to evolve to a 'Charitable organisation'.



**Q4.** What motivated your coastal community group to form in the first place?

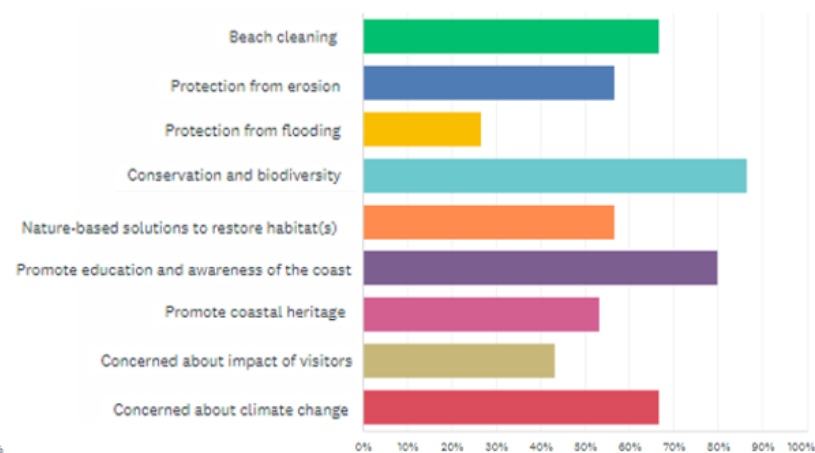
You can select up to three motivations but please only select one if it is clear why your group formed.



Answer choices	% Responses	Number
Beach cleaning	53.33	16
Protection from erosion	20	6
Protection from flooding	3.33	1
Conservation and biodiversity	63.33	19
Nature-based solutions to restore habitats	23.33	7
Promote education and awareness of coast	36.67	11
Promote coastal heritage	3.33	1
Concerned about impact of visitors	13.33	4
Concerned about climate change	6.67	2
<b>Total respondents (31)</b>		

**Q5.** What is motivating your coastal community group today?

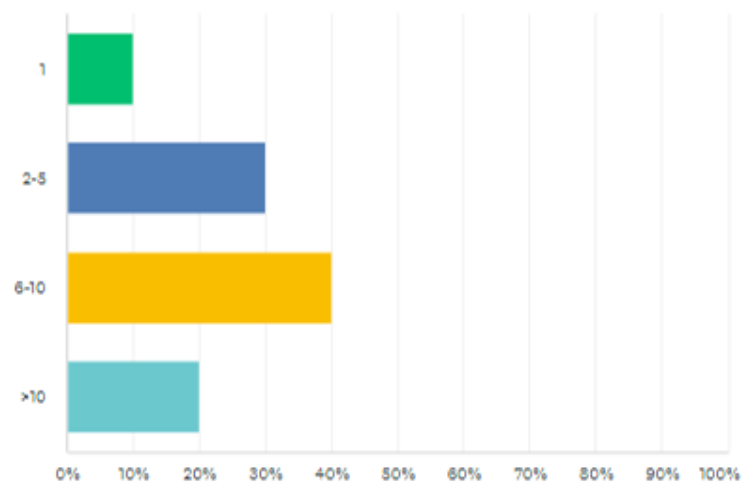
You can select as many categories as are relevant to your group's activities.



Answer choices	% Responses	Number
Beach cleaning	67.74	21
Protection from erosion	54.84	17
Protection from flooding	25.81	8
Conservation and biodiversity	87.10	27
Nature-based solutions to restore habitats	54.84	17
Promote education and awareness of coast	80.65	25
Promote coastal heritage	54.84	17
Concerned about impact of visitors	41.94	13
Concerned about climate change	67.74	21
<b>Total respondents (31)</b>		

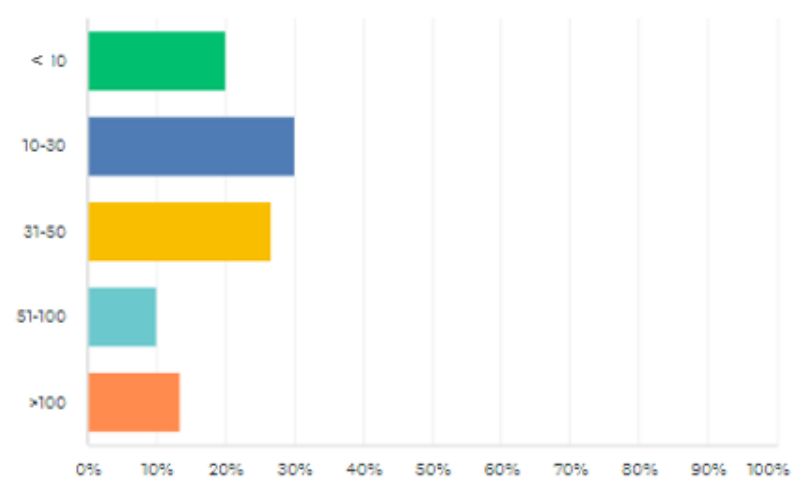
**Notes.** Participants identified other motivations to form, including: concerns for water quality to daily, year-round swimmers (Dun Laoghaire and Rathdown, Dublin); opposition to proposed experimental mechanical extraction of wild kelp forests (Bantry Bay); public access (Castlegoland, Co. Donegal), village maintenance (Courtown, Co. Wexford), and concerns about the dune systems and development of new car park (Skreen Dromard, Co. Sligo). Participants identified ongoing motivations, including: keen interest to connect with community on issues linked to the coastal health, coastal change and wildlife (Dun Laoghaire and Rathdown, Dublin); provide public access to the beached and coastal areas (Castlegoland, Co. Donegal); support the holistic design for coastal management to mitigate the loss of a blue flag beach and deteriorating water quality in rivers and streams (Courtown, Co. Wexford); and support a community-led effective marine management plan (Fenit, Co. Kerry).

**Q6.** How many people (approximately) are actively involved in planning and organising your group's activities?



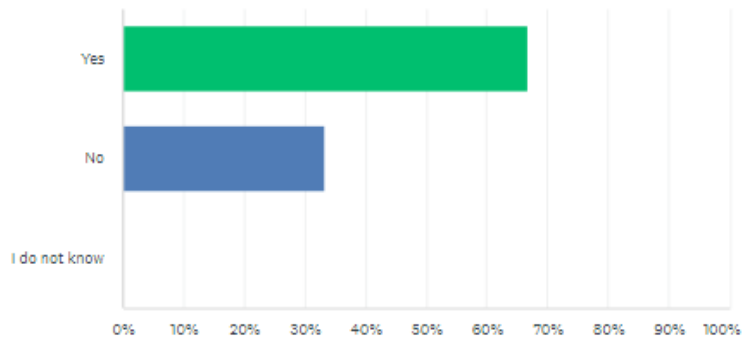
Answer choices	% Responses	Number
1	9.68	3
2 - 5	29.03	9
6 - 10	41.94	13
> 10	19.35	6
<b>Total</b>		<b>31</b>

**Q7.** How many people (approximately) are actively involved in your group's activities?  
Active is defined as partaking in a community group activity at least once per year.



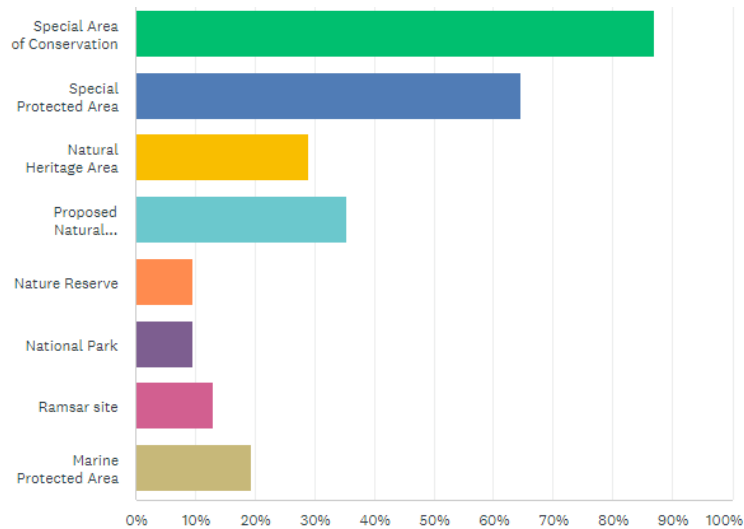
Answer choices	% Responses	Number
<10	19.35	6
10 - 30	29.03	9
31 - 50	29.03	9
51 - 100	9.68	3
> 100	12.9	4
<b>Total</b>		<b>31</b>

**Q8.** Does your area have a Blue Flag beach at which your group carries out activities?



Answer choices	% Responses	Number
Yes	67.74	21
No	32.26	10
I do not know	0	0
<b>Total</b>		<b>31</b>

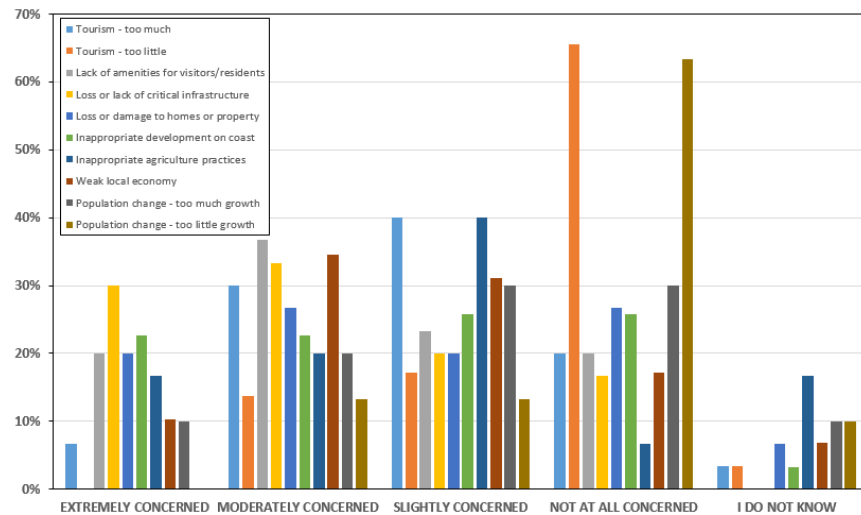
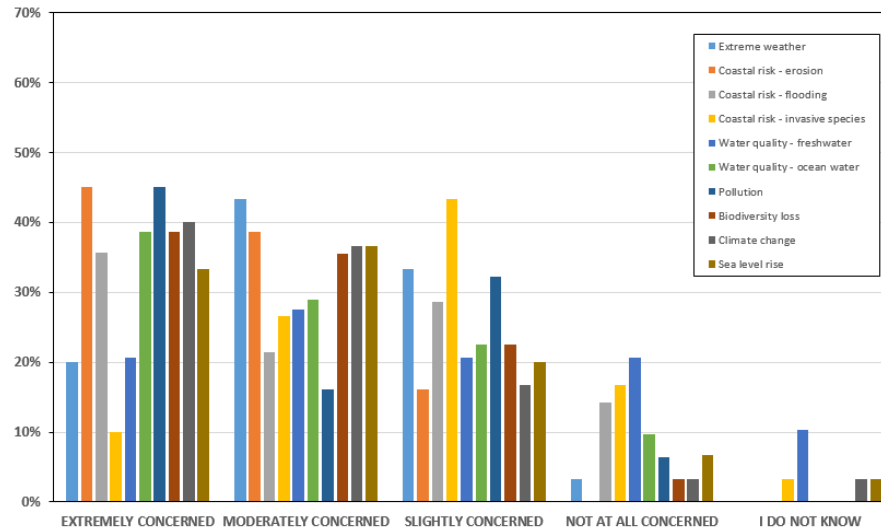
**Q9.** Are the following designated environmental areas in your location?



Answer choices	% Responses	Number
Special Area of Conservation	87.1	27
Special Protected Area	64.52	20
Natural Heritage Area	29.03	9
Proposed Natural Heritage Area	35.48	11
Nature Reserve	9.68	3
National Park	9.68	3
Ramsar site	12.9	4
Marine Protected Area	19.35	6
<b>Total respondents (31)</b>		<b>83</b>

**Q10.** In your opinion, what is the general level of concern in your community about the following potential stressors on the community during the next decades?

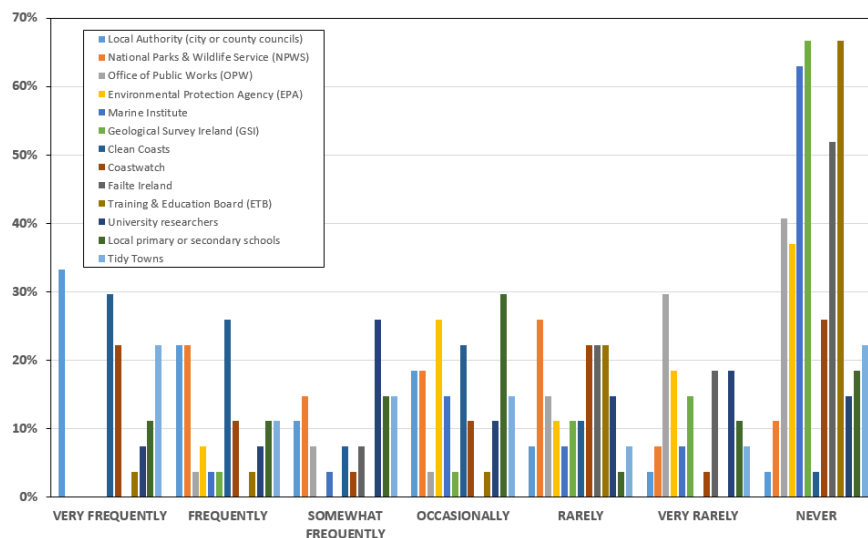
We acknowledge the individual levels of concern vary greatly within communities and sometimes people might not agree with your group's activities or opinions.



	EXTREMELY CONCERNED	MODERATELY CONCERNED	SLIGHTLY CONCERNED	NOT AT ALL CONCERNED	I DO NOT KNOW	TOTAL
Extreme weather	20.00%	43.33%	33.33%	3.33%	0.00%	
	6	13	10	1	0	30
Coastal risk - erosion	45.16%	38.71%	16.13%	0.00%	0.00%	
	14	12	5	0	0	31
Coastal risk - flooding	35.71%	21.43%	28.57%	14.29%	0.00%	
	10	6	8	4	0	28
Coastal risk - invasive species	10.00%	26.67%	43.33%	16.67%	3.33%	
	3	8	13	5	1	30
Tourism - too much (e.g., in summer)	6.67%	30.00%	40.00%	20.00%	3.33%	
	2	9	12	6	1	30
Tourism - too little (e.g., in summer)	0.00%	13.79%	17.24%	65.52%	3.45%	
	0	4	5	19	1	29
Lack of amenities for visitors/residents	20.00%	36.67%	23.33%	20.00%	0.00%	
	6	11	7	6	0	30
Water quality - freshwater	20.69%	27.59%	20.69%	20.69%	10.34%	
	6	8	6	6	3	29
Water quality - ocean water	38.71%	29.03%	22.58%	9.68%	0.00%	
	12	9	7	3	0	31
Pollution	45.16%	16.13%	32.26%	6.45%	0.00%	
	14	5	10	2	0	31
Biodiversity loss	38.71%	35.48%	22.58%	3.23%	0.00%	
	12	11	7	1	0	31
Loss or lack of critical infrastructure	30.00%	33.33%	20.00%	16.67%	0.00%	
	9	10	6	5	0	30
Loss or damage to homes or property	20.00%	26.67%	20.00%	26.67%	6.67%	
	6	8	6	8	2	30
Inappropriate development on coast	22.58%	22.58%	25.81%	25.81%	3.23%	
	7	7	8	8	1	31
Inappropriate agriculture practices	16.67%	20.00%	40.00%	6.67%	16.67%	
	5	6	12	2	5	30
Weak local economy	10.34%	34.48%	31.03%	17.24%	6.90%	
	3	10	9	5	2	29
Population change - too much growth	10.00%	20.00%	30.00%	30.00%	10.00%	
	3	6	9	9	3	30
Population change - too little growth	0.00%	13.33%	13.33%	63.33%	10.00%	
	0	4	4	19	3	30
Climate change	40.00%	36.67%	16.67%	3.33%	3.33%	
	12	11	5	1	1	30
Sea-level rise	33.33%	36.67%	20.00%	6.67%	3.33%	
	10	11	6	2	1	30

**Q11.** Since your group formed, how frequently have you worked with the following state and public bodies, research agencies, NGOs and other organisations?

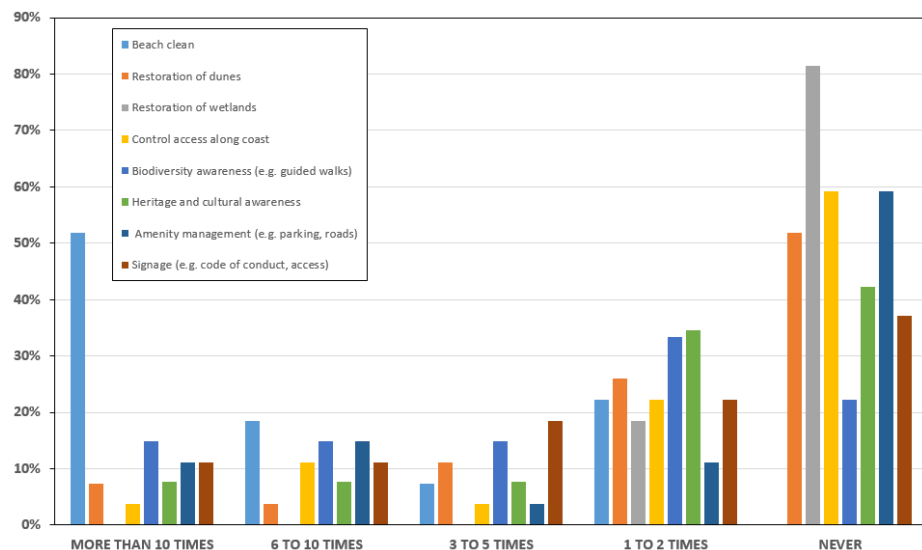
Very frequently (i.e. once a week); Frequently (i.e. once a month); Somewhat frequently (i.e. every 3 months); Occasionally (i.e. every 6 months); Rarely (i.e. every 1-3 years); Very rarely (i.e. every 5 years); Never.



	VERY FREQUENTLY	FREQUENTLY	SOMEWHAT FREQUENTLY	OCCASIONALLY	RARELY	VERY RARELY	NEVER	TOTAL
Local Authority (city or county councils)	33.33%	22.22%	11.11%	18.52%	7.41%	3.70%	3.70%	
	9	6	3	5	2	1	1	27
National Parks & Wildlife Service (NPWS)	0.00%	22.22%	14.81%	18.52%	25.93%	7.41%	11.11%	
	0	6	4	5	7	2	3	27
Office of Public Works (OPW)	0.00%	3.70%	7.41%	3.70%	14.81%	29.63%	40.74%	
	0	1	2	1	4	8	11	27
Environmental Protection Agency (EPA)	0.00%	7.41%	0.00%	25.93%	11.11%	18.52%	37.04%	
	0	2	0	7	3	5	10	27
Marine Institute	0.00%	3.70%	3.70%	14.81%	7.41%	7.41%	62.96%	
	0	1	1	4	2	2	17	27
Geological Survey Ireland (GSI)	0.00%	3.70%	0.00%	3.70%	11.11%	14.81%	66.67%	
	0	1	0	1	3	4	18	27
Clean Coasts	29.63%	25.93%	7.41%	22.22%	11.11%	0.00%	3.70%	
	8	7	2	6	3	0	1	27
Coastwatch	22.22%	11.11%	3.70%	11.11%	22.22%	3.70%	25.93%	
	6	3	1	3	6	1	7	27
Failte Ireland	0.00%	0.00%	7.41%	0.00%	22.22%	18.52%	51.85%	
	0	0	2	0	6	5	14	27
Training & Education Board (ETB)	3.70%	3.70%	0.00%	3.70%	22.22%	0.00%	66.67%	
	1	1	0	1	6	0	18	27
University researchers	7.41%	7.41%	25.93%	11.11%	14.81%	18.52%	14.81%	
	2	2	7	3	4	5	4	27
Local primary or secondary schools	11.11%	11.11%	14.81%	29.63%	3.70%	11.11%	18.52%	
	3	3	4	8	1	3	5	27
Tidy Towns	22.22%	11.11%	14.81%	14.81%	7.41%	7.41%	22.22%	
	6	3	4	4	2	2	6	27

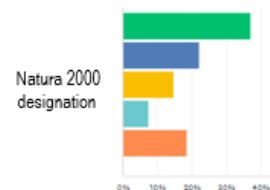
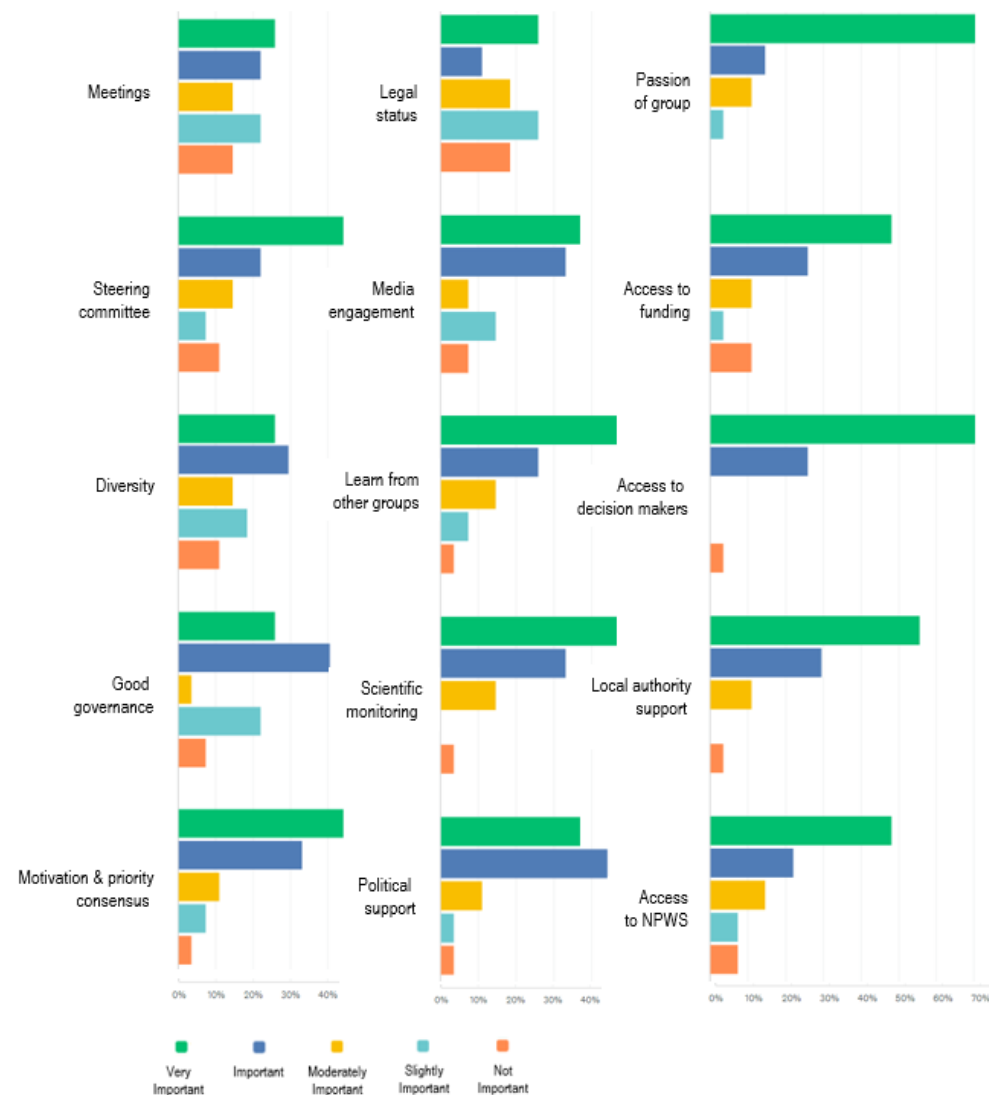
**Notes.** Coastal groups identified other organisations, including: Coillte; LAWPRO; the Lighthouse Commission; BIM and Fisheries Local Action Groups, SEAI, Local Development Companies (LDCs); Local heritage groups and businesses; conservation, management and education organisations (Coomhola Salmon Trust; The Environmental Forum Wild Derrynane, Beara Rainforest, Wexford Walking Trails, Native Woodland Trust, Seal Rescue Ireland; Banna Rescue; Sea Synergy; aquariums; Irish Ocean Literacy Network); and organisations with a scientific observation remit (MarineGEO; SeaSearch; FairSeas; and the Irish Whale and Dolphin Group)

**Q12.** In the past twelve months, approximately how many times has your group carried out the following activities?



	MORE THAN 10 TIMES	6 TO 10 TIMES	3 TO 5 TIMES	1 TO 2 TIMES	NEVER	TOTAL
Beach clean	51.85%	18.52%	7.41%	22.22%	0.00%	
	14	5	2	6	0	27
Restoration of dunes	7.41%	3.70%	11.11%	25.93%	51.85%	
	2	1	3	7	14	27
Restoration of wetlands	0.00%	0.00%	0.00%	18.52%	81.48%	
	0	0	0	5	22	27
Control access along coast	3.70%	11.11%	3.70%	22.22%	59.26%	
	1	3	1	6	16	27
Biodiversity awareness (e.g. guided walks)	14.81%	14.81%	14.81%	33.33%	22.22%	
	4	4	4	9	6	27
Heritage and cultural awareness	7.69%	7.69%	7.69%	34.62%	42.31%	
	2	2	2	9	11	26
Amenity management (e.g. parking, roads)	11.11%	14.81%	3.70%	11.11%	59.26%	
	3	4	1	3	16	27
Signage (e.g. code of conduct, access)	11.11%	11.11%	18.52%	22.22%	37.04%	
	3	3	5	6	10	27

**Q13.** How important are the following 'enablers' for supporting your group's activities and the success of your group?



	VERY IMPORTANT	IMPORTANT	MODERATELY IMPORTANT	SLIGHTLY IMPORTANT	NOT IMPORTANT	TOTAL
Frequent, organized (agenda; chair; inclusive) public meetings	25.93%	22.22%	14.81%	22.22%	14.81%	
	7	6	4	6	4	27
Steering committee to organise actions	44.44%	22.22%	14.81%	7.41%	11.11%	
	12	6	4	2	3	27
Steering committee members have diverse backgrounds	25.93%	29.63%	14.81%	18.52%	11.11%	
	7	8	4	5	3	27
Good governance arrangements of group	25.93%	40.74%	3.70%	22.22%	7.41%	
	7	11	1	6	2	27
Motivation & priority consensus, e.g., protection land or lives, conservation, socio-economic well being	44.44%	33.33%	11.11%	7.41%	3.70%	
	12	9	3	2	1	27
Legal status for group	25.93%	11.11%	18.52%	25.93%	18.52%	
	7	3	5	7	5	27
Strong presence on print, broadcast, social media	37.04%	33.33%	7.41%	14.81%	7.41%	
	10	9	2	4	2	27
Learn from other coastal communities successfully adapting or "making changes"	48.15%	25.93%	14.81%	7.41%	3.70%	
	13	7	4	2	1	27
Scientific monitoring of your coast	48.15%	33.33%	14.81%	0.00%	3.70%	
	13	9	4	0	1	27
Support from local political representatives	37.04%	44.44%	11.11%	3.70%	3.70%	
	10	12	3	1	1	27
Passion of the group members for the coast and/or community	70.37%	14.81%	11.11%	3.70%	0.00%	
	19	4	3	1	0	27
Access to funding	48.15%	25.93%	11.11%	3.70%	11.11%	
	13	7	3	1	3	27
Access to decision makers in Local Authority	70.37%	25.93%	0.00%	0.00%	3.70%	
	19	7	0	0	1	27
Support from 'champions' within Local Authority and other management agencies	55.56%	29.63%	11.11%	0.00%	3.70%	
	15	8	3	0	1	27
Access to decision-makers in NPWS	48.15%	22.22%	14.81%	7.41%	7.41%	
	13	6	4	2	2	27
Natura 2000 designation (SAC; SPA, pNHA)	37.04%	22.22%	14.81%	7.41%	18.52%	
	10	6	4	2	5	27

**Notes.** Community groups highlighted other 'enablers' including: support from local businesses, sponsors, donors and local fundraising events; support from scientists in third level institutes; support from An Garda Síochána; support from state agencies (NPWS, Coillte, Irish Coastguard and the Forestry Division in DAFM); support from other organisations with interests (to varying levels) in education and conservation (LAWPRO; Irish Native Woodland Trust, Wexford Walking Trail, Coastwatch, Coillte, Wexford Walking Trail, Sport Ireland); and impact of collecting evidence for proposals and new synergies from working as a group.

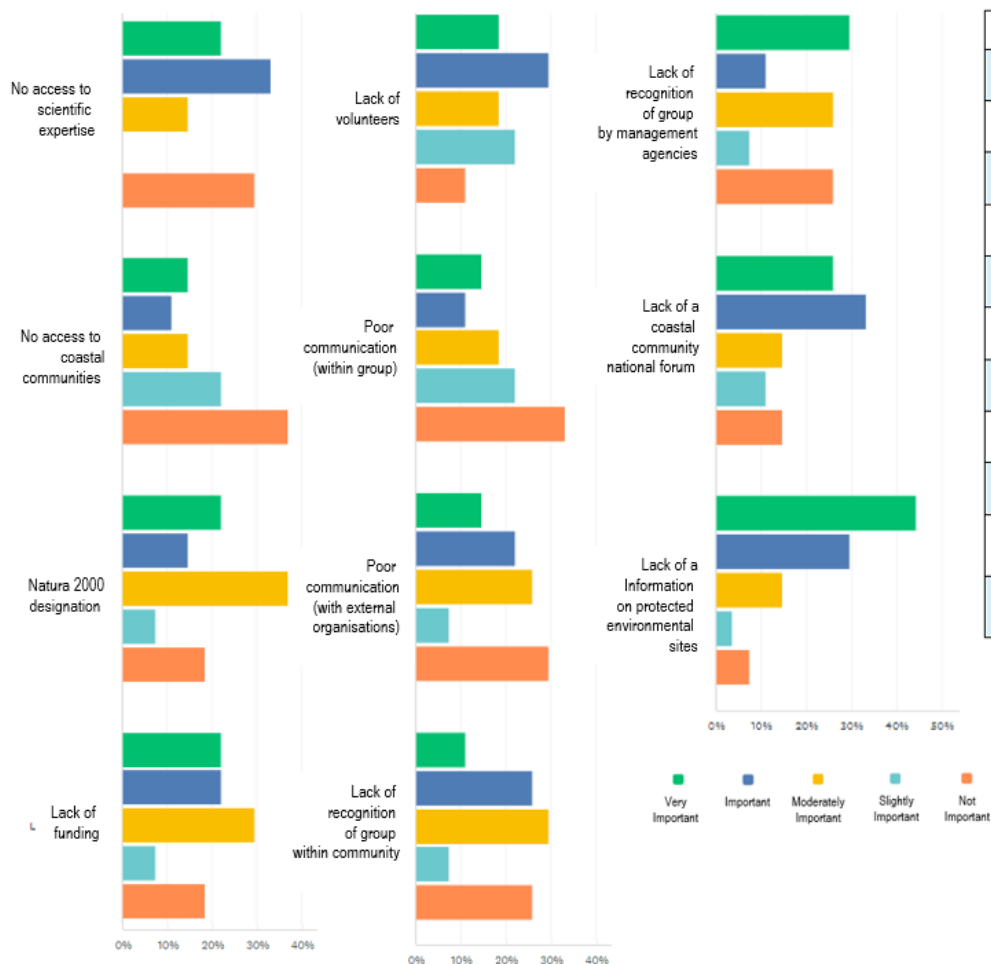


**Q14. Part 1 of 2.** How important are the following 'barriers' for hindering your group's activities and the success of your group?



	VERY IMPORTANT	IMPORTANT	MODERATELY IMPORTANT	SLIGHTLY IMPORTANT	NOT IMPORTANT	TOTAL
Competing values and priorities within the group	3.70%	22.22%	3.70%	22.22%	48.15%	
	1	6	1	6	13	27
Competing values and priorities within the community	18.52%	33.33%	29.63%	7.41%	11.11%	
	5	9	8	2	3	27
Disenchanted from past experiences; no appetite to (re)organize	11.11%	25.93%	25.93%	7.41%	29.63%	
	3	7	7	2	8	27
Lack of leadership in group	11.11%	18.52%	18.52%	11.11%	40.74%	
	3	5	5	3	11	27
Community is unaware of future climate risks	29.63%	33.33%	25.93%	11.11%	0.00%	
	8	9	7	3	0	27
Community is unaware of threats to biodiversity	37.04%	33.33%	18.52%	11.11%	0.00%	
	10	9	5	3	0	27
Community is not patient and want to see 'change' quickly	7.41%	22.22%	40.74%	14.81%	14.81%	
	2	6	11	4	4	27
Landowners unwilling to participate	11.11%	22.22%	33.33%	22.22%	11.11%	
	3	6	9	6	3	27
Commonage (>1 landowner)	11.11%	18.52%	11.11%	22.22%	37.04%	
	3	5	3	6	10	27
No access to Local Authority decision makers	37.04%	22.22%	7.41%	18.52%	14.81%	
	10	6	2	5	4	27
No access to NPWS decision makers	44.44%	22.22%	11.11%	11.11%	11.11%	
	12	6	3	3	3	27

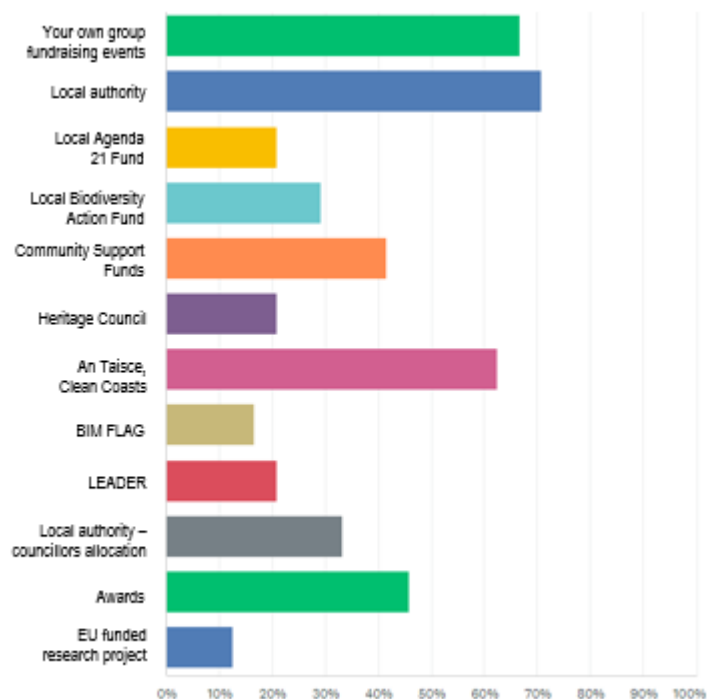
**Q14. Part 2 of 2.** How important are the following 'barriers' for hindering your group's activities and the success of your group?



	VERY IMPORTANT	IMPORTANT	MODERATELY IMPORTANT	SLIGHTLY IMPORTANT	NOT IMPORTANT	TOTAL
No access to scientific expertise	22.22%	33.33%	14.81%	0.00%	29.63%	
	6	9	4	0	8	27
No access to other coastal communities	14.81%	11.11%	14.81%	22.22%	37.04%	
	4	3	4	6	10	27
Natura 2000 designation (SAC, SPA, pNHA)	22.22%	14.81%	37.04%	7.41%	18.52%	
	6	4	10	2	5	27
Lack of funding	22.22%	22.22%	29.63%	7.41%	18.52%	
	6	6	8	2	5	27
Lack of volunteers	18.52%	29.63%	18.52%	22.22%	11.11%	
	5	8	5	6	3	27
Poor communication (within group)	14.81%	11.11%	18.52%	22.22%	33.33%	
	4	3	5	6	9	27
Poor communication (with other external organisations)	14.81%	22.22%	25.93%	7.41%	29.63%	
	4	6	7	2	8	27
Lack of recognition of the group within broader community	11.11%	25.93%	29.63%	7.41%	25.93%	
	3	7	8	2	7	27
Lack of recognition of the group by management agencies, e.g., local authority	29.63%	11.11%	25.93%	7.41%	25.93%	
	8	3	7	2	7	27
Lack of a national 'coastal community forum' to share experiences and access expertise, funding and other resources	25.93%	33.33%	14.81%	11.11%	14.81%	
	7	9	4	3	4	27
Lack of visible information of protected environmental sites (SAC, SPA, etc.) for residents and visitors to the coast	44.44%	29.63%	14.81%	3.70%	7.41%	
	12	8	4	1	2	27

**Notes.** Community groups highlighted other 'barriers' including: need for volunteer training; lack of enforcement with environmental protected sites (e.g., Natura 2000 SAC's, SPA's etc); lack of local NPWS Conservation Rangers (one ranger has to cover large areas and focus their time on needs of designated Parks); lack of consultation between local community groups and local authorities; lack of time to carry out the actions; lack of joined up thinking and cooperation by state agencies (e.g., poor inter-agency communication; inconsistent responses to local community groups queries); building consensus within communities; lack of facilities for visitors; ongoing supported online forums misinforming/promoting wild camping; any group subsumed within a Tidy Towns organisation becomes very constrained with potential actions; the Community Services Programme is, in practice, focused entirely on social issues; the administrative burden for submitting and managing grants; obtaining community group insurance (e.g., marine insurance is difficult); overlapping interests and management responsibilities of agencies (e.g., County Council, NPWS, Coillte); and private land ownership of coastal areas.

**Q16.** Have any of the following organisations funded (in any amount) your group?



Answer choices	% Responses	Number
Your own group fundraising events (e.g. table quiz; Go Fund Me projects)	66.67%	16
Local authority (city or county council) - general request	70.83%	17
Local Agenda 21 Fund	20.83%	5
Local Biodiversity Action Fund	29.17%	7
Community Support Funds	41.67%	10
Heritage Council	20.83%	5
Clean Coasts	62.50%	15
BIM FLAG Fisheries Local Area Development Scheme	16.67%	4
LEADER	20.83%	5
Local authority - councillors allocation	33.33%	8
Awards (e.g., Tidy Towns; Ocean Hero etc.)	45.83%	11
EU funded research project	12.50%	3

**Notes.** Community groups highlighted other organisations that funded their activities including: Local Authority Waters Programme; the Arts Council; Department of Rural and Community Development; Department of Housing, Local Government and Heritage; Creative Ireland programme (Department of Tourism, Culture, Arts, Gaeltacht, Sport and Media); Tús community work placement scheme; OPW; NPWS; Local Authority Heritage Officer; The Wheel; Community Foundation of Ireland; philanthropy; scientific organisations (Smithsonian; MarineGEO); local businesses and Industry (e.g., Brita Ireland; SSE Renewables; Salesforce).

## Appendix 2

### Workshop details

## WORKSHOP DETAILS.

Saturday 9<sup>th</sup> March 2024. Location: Harbour Hotel, Galway. The hotel is located on the docks in the city centre (5 min walk from bus and train stations). The address is HARBOUR HOTEL, BÓTHAR NA LONG, THE DOCKS, GALWAY. The eircode is H91 E9PR.

## WORKSHOP AGENDA [11:00 - 16:00].

- 10:30.           **Registration** and Tea/Coffee
- 11:00.           **Welcome & Overview** of day's proceedings [*Dr Eugene Farrell*]
- 11:05.           **Opening address:** what are the project objectives and who in Government will read/use the results? [*Dr Stephen Flood, Climate Change Advisory Council*]
- 11:15.           **Survey results:** review & perspectives [*Dr Eugene Farrell*]
- 12:00.           **Case study:** *Maharees Conservation Association CLG* [*Ms. Martha Farrell*]
- 12:30.           **Case study:** LAWPRO as a "forum": what can we learn? [*Mr. Ruairí Ó Conchúir*]
- 13:00.           **Lunch**
- 13:45 - 15:30. **Workshop activities** (small groups)
- 15:30.           **Wrap up session:** Q&A and key messages to Government; what next?
- 16:00.           **Close**

## **CONFIRMED ATTENDEES**

### **Coastal community groups** (location; group name; number of people attending)

1. Maharees, Co. Kerry (Maharees Conservation Association CLG; 2)
2. Fenit, Co. Kerry (Fenit Coast Conservation volunteer group; 1)
3. Liscannor, Co. Clare (Bannergleo: Liscannor Bay Association; 2)
4. Spanish Point, Co. Clare (Spanish Point Community Group; 3)
5. Quilty, Co. Clare (Seafield Conservation Forum; 2)
6. Gurteen Bay and Dogs Bay, Co. Galway (2)\*
7. Mulranny, Co. Mayo (Mulranny Environmental Group; 1)
8. Castlegoland, Co Donegal (Save Our Beach; 2)
9. Fanad, Co. Donegal (Fanad Coastal Group; 2)
10. Donabate, Dublin (Donabate Clean Coasts; 1)\*
11. Youghal, Co. Cork (Youghal Blue & Green Community Network; 1)

\*withdrew the morning of event due to unforeseen circumstances

### **Workshop presenters**

Ms. Martha Farrell | Maharees Conservation Association CLG, Co. Kerry

Mr. Ruairí Ó Conchúir LAWPRO | Community Water Officer, Limerick & Clare

### **Workshop facilitators**

Dr. Eugene Farrell (University of Galway)

Mr. Mark Higgins (MKO)

Ms. Auriol Considine; Ms. Madison Hedges; Ms. Laura Foster; Ms Maïlis-Marjary; Ms. Siobhan McLoughlin; Ms. Niamh Nolan; Mr. Sibi Selvaraj; Ms. Barbara Wadum.

### **In attendance**

Dr. Stephen Flood (CCAC)

Ms. Jodie Colgan (CCAC)