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Working Paper V – A Summary

Dublin Bay – A Case Study

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Citation

Kelly, C., Ellis, G., & Flannery, W. (2015) Working Paper V: Dublin Bay – A Case Study. Summary Report. IMMERSE Project.

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THE IMMERSE PROJECT

Integrated Management and Monitoring of Estuarine and Coastal Ecosystems (IMMERSE), is a research project aimed at informing an Integrated Environmental Management and Monitoring system (EMMS) for Irish estuarine and coastal ecosystems. It is funded by the Irish Environmental Protection Agency's Research Programme (grant no. 2013-B-PhD-11). The methodology for the EMMS will be applicable on a national scale, and will aim to align with the requirements of the Water Framework, Marine Strategy Framework, Habitats, Birds and Floods Directives.

Working Paper V: Dublin Bay - A Case Study

This is the fifth in a series of six working papers to be generated by the project. Each paper reports on the research findings to date and are available to access on the [IMMERSE website](#)¹. The purpose of this document is to summarise Working Paper V (*Dublin Bay – A Case Study*), and reflect upon the experience and lessons learned of exposing the proposed framework of EMMS to the critique of key stakeholders within Dublin Bay.

The main objectives of Working Paper V are to provide the following:

- An overall account of the workshop proceedings and key emerging themes in terms of estuary management;
- A summary of stakeholders' feedback and critique of how the proposed framework performed when applied within the context of Dublin Bay; and
- An overview of benefits and constraints of the framework as well as possible challenges to its future use and make suggestions on how such challenges might be overcome.

A copy of Working Paper V (*Dublin Bay – A Case Study*), the main report will be available to access on the [IMMERSE website](#).

It should be noted that Working Paper V is the second part of *Stage 2: Data Gathering and User Engagement*. This follows the publication of [Working Paper IV \(The Shannon Estuary – A Case Study\)](#). Completion of Stage 2 will lead into *Stage 3: Analysis, Synthesis and Dissemination*. Therefore this paper is an indication of where the research needs to go next and what are the key emerging themes to be explored.

Therefore Working Paper V is an initial description of the Dublin Bay workshop. A more detailed analysis of the Shannon Estuary and the Dublin Bay case studies will follow in the final working paper.

The need for an integrated approach to estuary management

Estuaries and coasts are important ecologically, economically and socially. They are amongst the most productive natural habitats in the world; have traditionally been important places of navigation; their land banks are prime locations for urban development; and historically, have been important areas for fishing and recreational activities. In more recent times, however, population

¹ <http://bit.ly/IMMERSE>

growth, food and energy requirements, increased economic activity and resource intensive lifestyles are resulting in unprecedented levels of demand for coastal and marine resources.

Given their important natural features, and the demands placed on them by human activities, estuarine and coastal resources must be managed in a way that facilitates sustainable development. Furthermore, it is important to acknowledge that it is not possible to plan and manage marine ecosystems or components of ecosystems, and that only human activities are 'manageable' (Ehler & Douvère, 2009).

Current governance frameworks, where management is fragmented among sectors and institutions with little attention to conflicts or complementarities among social, economic and environmental objectives, are insufficient to address the issues described above (Holden, 2012; Mitchell, 2005). Fragmented institutional arrangements complicate effective environmental management by: narrowing criteria in decision-making; encouraging competing and contradictory objectives; increasing duplication of effort; and introducing disconnects between national, regional and local-level activities (Edelenbos & van Meerkerk, 2015; Kidd & Shaw, 2007).

The adoption of more integrated approaches have been advanced as a way to manage the critical inter-relations amongst users, and between users and the environment. It also encourages greater synergies between different activities, leading to more effective spatial planning (Healey, 2006; Kidd & Shaw, 2007; Tewdwr-Jones & Allmendinger, 2006). Therefore in order to have a healthy and productive ecosystem in which human uses and the environment may be synchronised there is a need to move from the current sectoral approach to a more holistic one of integrated management (McLusky & Elliott, 2004).

Integrated environmental management (IEM) is one method to capture and deal with such complexities by providing a more coherent approach to environmental issues with increased coordination between different levels, sectors and resource users. In this regard, IMMERSE devised a proposed framework of integrated Environmental Management and Monitoring System (EMMS) for estuaries and coasts which was informed by:

- Principles of Integrated Environmental Management;
- A review of integrated processes related to estuarine and coastal management; and
- An analysis of the practical implementation of these integrated processes within multiple case studies.

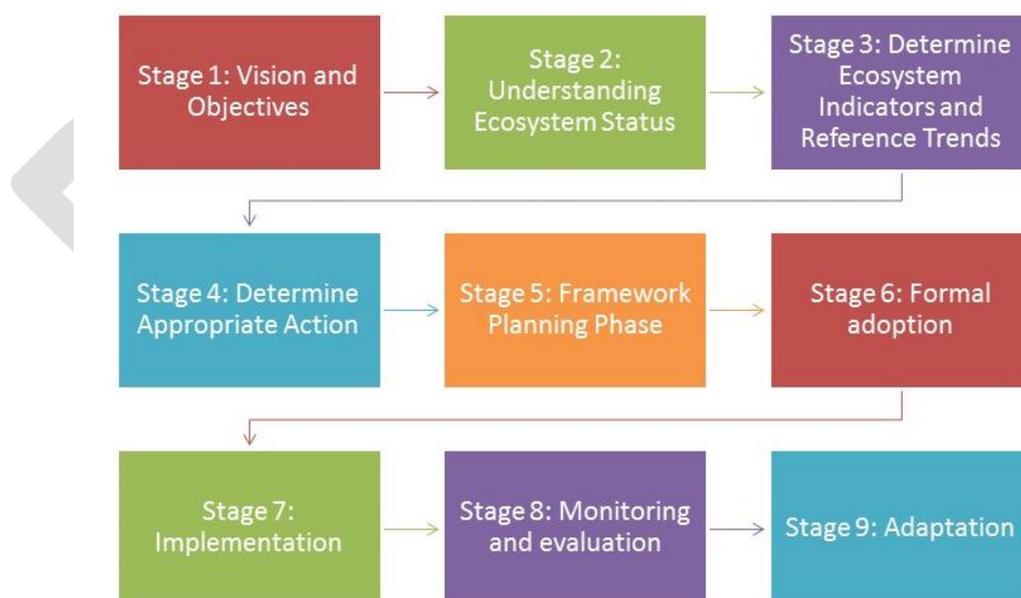
Progressing Stage 2 of IMMERSE

Stage 2 (Data Gathering and User Engagement), reported here, was the main empirical element and involved evaluating the proposed framework of EMMS, as illustrated in Figure 1, within two case study areas: the Shannon Estuary and Dublin Bay.

The IMMERSE proposed framework had to firstly undergo an experiential review which relied on actions, trial and error and feedback to identify potential benefits and constraints, with the input of a wide range of stakeholders being an essential component of judging the challenges and opportunities for an integrated approach to estuarine management.

The Shannon Estuary and Dublin Bay provide suitable case studies to test the proposed framework of EMMS. Both are multi-functional, with the waters and adjoining lands supporting a range of functions, uses and activities (Clare County Council et al., 2013; Dublin Port Company, 2012; Shannon Foynes Port Company, 2013). Both are important regions for tourism, leisure and recreation, fishing, aquaculture, heritage and landscape and support important habitats and species. Similarly, the landside of both estuaries accommodates extensive human settlements. All these changes have impacted on the functioning of the estuarine system. Future port expansion plans and emerging growth in the renewable energy sector also have the potential to cause additional pressures and conflicts in both of these areas. These case studies clearly share a number of similar characteristics and as two of the main estuarine and coastal resources in Ireland are considered ideal sites to test the framework.

Figure 1: The 9 steps involved in the IMMERSE proposed framework of EMMS



Dublin Bay

Dublin Bay is located on the east coast of Ireland, immediately adjacent to the city of Dublin. The bay comprises a shallow and sandy inlet rich in biodiversity. The mouth of the bay is approximately 10km wide from Howth Head in the North to Dalkey Point in the South. The intertidal region extends in a broad crescent-shaped arc round most of the bay, completely enclosing it to the north, west and south, making it an attractive natural harbour, encompassing a total intertidal area of approximately 20 km² (Roth & Wilson, 1998) as illustrated in Figure 2.

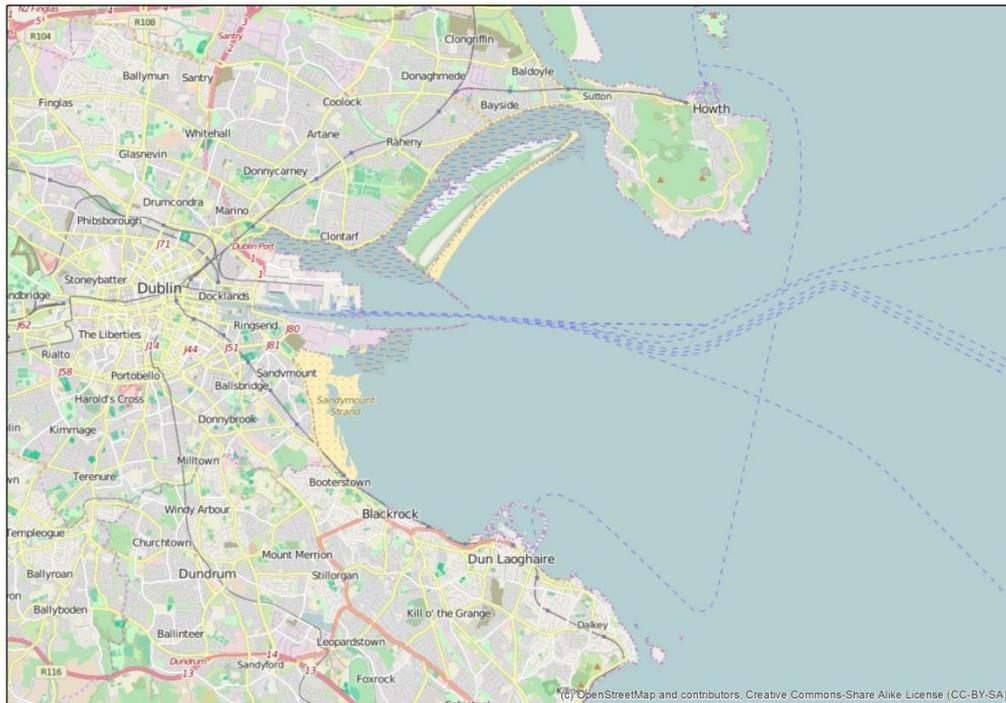


Figure 2: Location of Dublin Bay, east coast of Ireland

The bay is located where a number of significant river basins come together, in particular, the River Liffey which almost divides the bay symmetrically in two. The bay is recognised for its biodiversity and has been designated for its important species and habitats as part of the Natura 2000 network of Special Protection Areas for birds and Special Areas of Conservation; as well as receiving the recently expanded UNESCO Biosphere designation for most of Dublin Bay extending to 300km² (Dublin Bay Biosphere Partnership, 2015).

Dublin Port, the largest in Ireland, is located within Dublin Bay and comprises an area of reclaimed land. With planning permission to redevelop and extend the Alexandra Basin, it is likely to become an even busier port facility, handling increased imports and exports. The port also represents a gateway into the country for millions of visitors each year.

The ESB has three major power generating stations located at North Wall, Ringsend and most notably at Poolbeg with the highly visual chimney stacks a key feature of the area. The Ringsend

wastewater treatment plant is another major presence within the bay and is subject to future expansion proposals. Irish Water is currently developing a strategy for the expansion of the works at Ringsend which will involve the upgrading and expansion of the facility to its full intended capacity. This will involve ending the discharge of treated water at the Liffey River Estuary, moving it instead to a new point approximately 9 kilometres further offshore (Dublin City Council, 2015).

Other users of Dublin Bay include road hauliers, train, bus and car commuters, boat and air passengers, sporting, fishing, tourism, entertainment and recreational users (Brady, 1987). It is therefore an area of environmental and social importance and significant economic activity.

Dublin Bay Management Context

The management of estuarine and coastal resources in Ireland has until recently, been carried out in an ad-hoc manner. This can be explained by the current lack of an overall strategic policy for estuarine, coastal or marine spatial planning in Ireland. Consequently, estuarine and coastal management has been conducted on a sector by sector basis with responsibilities divvied up among a plethora of government departments and agencies. This fragmented approach has been reflected in the management of Dublin Bay for years (Brunton et al., 1987). In 1987 it was acknowledged at the time that the bay was being managed, but by 'default'; whereby a number of public agencies were responsible for various aspects.

A mixture of good luck, good decision-making, an alert public and a network of informal contacts between agencies, have prevented the bay being irreversibly destroyed as an amenity, while the essential commercial activities have been accommodated (Convery, 1987, p.10).

It would appear that this seems to be the case still at present. Currently, there is no person or body with sole responsibility for Dublin Bay. There is no integrated plan for the bay area. This is despite numerous plans having been prepared over the years including city and county development plans, regional strategies and specifically commissioned studies for the bay and surrounding region (CDM et al., 2007; O'Hagan, 2010).

The key agencies directly involved in the current management of Dublin Bay include the local coastal authorities in the Dublin Region i.e. Dublin City Council, Fingal County Council and Dún Laoghaire-Rathdown County Council; in addition to the Eastern and Midland Regional Assembly (EMRA); Dublin Port Company; ESB; Irish Water; Dun Laoghaire Harbour Company; Howth Harbour; EPA; Marine Institute; and the range of government departments: including the Department of Agriculture, Food and the Marine (DAFM); Department of Environment, Community and Local Government (DECLG); Department of Communications Energy and Natural Resources (DCENR); Department of Transport, Tourism and Sport (DTTAS); Department of Arts, Heritage and the Gaeltacht (DAHG); as well as Inland Fisheries Ireland (IFI) and the Sea Fisheries Protection Authority (SFPA). A more detailed diagram of the different bodies with responsibility for Dublin Bay is illustrated in Figure 3 – 'Dublinogram'. This represents an adaptation of the 'horrendogram' and 'organogram' developed by Boyes and Elliott (2014 and 2015) which was described in [Working Paper II \(Policy review and matrix of regulatory compliance\)](#).

At present there is no co-ordinating mechanism for all the responsible agencies to work holistically. Given the continued growth and development of the bay, it is essential that a management and monitoring system is established to deal with political, economic, social and environmental changes.

Work conducted as part of the [Dublin Bay Biosphere](http://www.dublinbaybiosphere.ie/)² project has shown the benefits of a partnership approach which has resulted in the extension of the UNESCO designation for environmental, economic, cultural and tourism importance. Additionally, the work being carried out by the [Celtic Seas Partnership](http://celticseaspartnership.eu/)³ in progressing the development of a new management framework for Dublin Bay in association with the Eastern and Midland and Regional Assembly (EMRA) has the potential to bring stakeholders together and explore options for a planning and governance framework. However, it is noted that a number of plans and strategies that were prepared for the bay were 'ignored and unexecuted' (Brady, 1987, p. 173). The importance of having a lead person or organisation and dedicated staff and resources to ensure the successful development, implementation and longevity of integrated management for estuarine and coastal areas should be highlighted.

A formal system of integrated estuary and coastal management would allow for the integration of both land and marine planning systems. While projects such as the Dublin Bay Biosphere and Celtic Seas Partnership are an indication that a co-ordinated approach to coastal management in Ireland is possible, a more formalised system is necessary to ensure vertical (organisational), horizontal (cross-sectoral) and territorial (land-sea) integration.

At a time of new emerging national coastal and marine legislation, it is opportune to reflect on the best and most effective ways of sustainably governing and harnessing our natural resources for the benefit of all. Dublin Bay as a case study is a valuable resource in terms of providing wide-ranging data and information on local environmental, economic and societal-related coastal issues. It is a well-researched area with previous attempts at integrated management (CDM et al., 2007; O'Hagan, 2010). It is therefore regarded a practical case study to expose the proposed framework of EMMS to the critical evaluation of stakeholders who have experience in attempting an integrated approach at this scale. This will help to inform the development of a general template that can be transferable to any national estuarine and coastal environment.

Workshop Design and Application

The methodology for Stage 2 of the research was agreed in consultation with the IMMERSE Steering Group (ISG), and involved data collection, interviews and facilitating workshop events in both case studies to present and critique the proposed framework of EMMS among future potential users.

A specific aim of the stakeholder workshop events was to re-examine the purpose of the framework and how it could be used to achieve environmental sustainability and compliance. Following on from a successful Shannon Estuary stakeholder workshop held in June 2015, the Dublin Bay workshop presented another opportunity to reflect and build on the issues raised and the critique received from stakeholders at this event. This would ensure a more comprehensive evaluation of the EMMS framework in terms of its applicability and usability.

² <http://www.dublinbaybiosphere.ie/>

³ <http://celticseaspartnership.eu/>

Data and information collection

Information relating to Dublin Bay was gathered from journal articles, environmental reports, spatial plans, Dublin Bay studies and mapping related to the Liffey and Dublin Bay. The proposed framework of EMMS sought to build on the information gathered and experience gained from previous attempts at integrated approaches to management within Dublin Bay. The Dublin Bay stakeholder engagement workshop was an opportunity to ask the stakeholders how a framework might be populated in terms of data and information needs, actions required and stakeholder participation which will be explored further as part of the IMMERSE research.

Stakeholder Scoping Interviews

At the start of 2015, interviews were conducted with key national and local stakeholders to scope issues around estuarine and coastal management in Ireland. Those interviewed included local authority planners and ecologists, NPWS officers and national marine policy and licensing professionals.

The interviews were informative in identifying pertinent topics for discussion and helping to design interactive workshop tasks. The key issues raised during the interviews related to: identifying opportunities for integrated management; challenges in implementing integrated management such as governance and resources; stakeholder engagement; data and information collection; indicators and monitoring; and framework adoption and implementation.

Dublin Bay Stakeholder Engagement Workshop

The Dublin Bay stakeholder engagement workshop was held in the Ballymun Civic Centre, Dublin on 9th September 2015 and was a one-day event attended by 19 participants. A list of attendees is available in the Appendix. The main aim of the workshop was to present the proposed framework of EMMS to key stakeholders and seek their feedback and critique of how it performed when considered within the context of Dublin Bay.

Figure 4: Dublin Bay Workshop on 9th September 2015



The participation of key stakeholders in the workshop helped to identify the potential benefits and constraints of the framework as well as considering possible challenges to its future use. This feedback will contribute to future suggestions on how such challenges might be overcome.

The workshop event comprised the following key stages:

- Briefing participants on the purpose and scope of the workshop;
- Presentation by Walter Foley, Celtic Seas Partnership in Dublin Bay and Eastern and Midland Regional Assembly;
- Overview of IMMERSE progress to date;
- Tasks A - B Presenting, discussing and applying the proposed framework of EMMS using small group tasks;
- Open discussion on refining the proposed framework going forward; and
- Wrap-up to confirm workshop outcomes and outputs.

A more detailed account of the workshop proceedings and tasks is included in the main report available on the [IMMERSE website](#).

Case Study Initial Outcomes

A number of key questions were raised by participants in the workshop which will need to be addressed before the framework can be progressed any further.

What is the framework?

The workshop highlighted that the aims of the framework need to be more clearly articulated. Therefore it will be imperative to refine the purpose of the framework and its expected audience. In particular, one participant remarked 'it sounds like it's all things to all men at the moment.....I think it's far too wide ranging'. The focus of the framework needs to be narrowed and given more detail.

It was also proposed that the framework could be used to bring terrestrial and marine stakeholders together. Conversely, it was also questioned why different sectors needed to be brought together. One participant insinuated that this would be impossible: 'you will never get everybody in the room from different sectors wanting to have a meeting together because they are going to want to meet in terms of their own sector'. Integration will require a co-ordinated and holistic approach to management.

Resourcing the framework

The way the framework is resourced and who is responsible for its implementation were key issues discussed during the workshop. In terms of overseeing the framework, there were debates around who could take responsibility for the framework and how this could be resourced.

A number of suggestions were provided in relation to who would be responsible for the management of the framework. These included the local authorities, the EMRA and the EPA; while other ideas included the establishment of a new independent body or partnership. With this type of partnership, it was proposed that you could have one lead authority. A planning authority was considered the most suitable to take the lead given its competency in planning and community engagement. Participants also recommended a community-focused approach as a pre-requisite to setting up any partnership.

With regards to resourcing the framework, this would be dependent on the governance structure put in place. It was suggested that a single entity was needed that is democratic and included a mixture of people who avail and use of the bay. The funding would be in accordance with the

normal taxation structure of that body. It was noted however, that Ireland has a centralised governance structure and as a consequence, local authorities are limited in what they can do with regards raising revenue. It was also acknowledged that any funder would inevitably become a key stakeholder and was therefore likely to shape and direct the philosophy of the framework.

Stakeholder participation

It became apparent from the workshop that there are a wide range of stakeholders with an interest in the management of Dublin Bay, as evident in the work of the Celtic Seas Partnership and Dublin Bay Biosphere. For the future application of the framework within this area, a number of sectors would need to be engaged including the general public and marine economic, environmental and social sectors. These would be in addition to the relevant government departments and agencies with responsibility for coastal issues.

It was highlighted on a number of occasions that local residents and community groups within Dublin Bay tend to be quite active in planning and development consultations. Some examples provided were in relation to particular developments within Dublin Bay i.e. Alexander Basin Redevelopment, the proposed incinerator at Poolbeg and the development of flooding infrastructure at Clontarf. This type of active engagement indicates the value placed on the environment by the local community and their interest in its management.

It was suggested that stakeholders needed to be informed from the beginning of the process and 'kept in the loop' on progress. One participant indicated that people not being informed was one of the most regular reasons for planning objections: 'if people feel they are not involved, they react and that applies to...everything, virtually.' Worse still, it was perceived by a participant that Dublin Bay at the moment was controlled by the institutions and 'it seldom seemed to be owned by those for the benefit of the people of Dublin'. By involving stakeholders at the beginning of the framework in setting out a shared vision and goals, it was suggested that this would build commitment to the process as well as providing ownership.

Status of the framework

Once the purpose of the framework is defined, issues around its implementation were a recurring issue within the workshop. Some participants were mindful of adding another layer of administration to an already complex governance structure for estuarine and coastal management. It had been noted on several occasions that legislation already exists under the WFD, MSFD, Floods and Habitats Directive and this should be used; or the bodies utilised to prevent creating additional governance and institutional layers. Otherwise it had been implied that you would end up with 'a mish-mash of everybody and without any clear governance'.

It had been suggested that the development of the framework could be an iterative process whereby it is introduced as a voluntary instrument to get stakeholders on board; and then implemented on a statutory basis, similar to the Shannon SIFP.

Data and information

Participants felt that there was good availability of data on Dublin Bay uses, users and environmental status. A number of on-going projects were mentioned in relation to data gathering and included a

marine heritage study being conducted by Trinity College Dublin as well as the Celtic Seas Partnership and Dublin Bay Biosphere work. This was useful in terms of providing information on historical as well as current uses within the bay.

In terms of environmental status, there was general consensus that sufficient information was being collated as part of the compliance process for the EU Directives i.e. WFD, MSFD, Floods and Habitats Directive. Many participants recommended availing of this information and adapting it for use within the framework to avoid duplication of effort and ensure efficiency in monitoring and reporting.

With regards to data gaps, it was highlighted that information on social and economic conditions was lacking as well as data on recreational or non-monetary uses of the bay. Notwithstanding, it was noted that international research was ongoing in relation to socio-economic profiling of marine goods and services which could prove useful. This was a requirement of the MSFD and likely to be a parameter within any pending marine spatial planning transposition into Irish law.

Whilst not considered as a data gap *per se*, it was recognised that there was little guidance available on addressing cumulative impacts and in-combination effects for coastal developments. This was more of a lack of expertise and knowledge, rather than a lack of data. The use of best practice from other estuarine and bay areas was recommended to assist with these types of assessments.

Communication

Communication between the various stakeholders was considered imperative to integrated management. It was felt by a number of participants that government departments and agencies were operating within silos, with little interaction with each other. In particular, it was implied that there was a lack of consultation between the departments and local authorities. One participant stated '*...they didn't even talk to the staff who were managing on the ground. So don't make out it's integrated because it's not*'. However, as another participant noted: '*It becomes a thing of coordination and about integration and they are easy words to say and harder words to achieve*'.

Communication between planning officials and the general public was also considered weak as residents felt that they were kept poorly informed (as noted above) regarding developments within the bay area. Therefore communication and raising awareness of Dublin Bay matters with all stakeholders will be an important consideration in the development of the EMMS framework.

Conclusions

The aims of this working paper have been to: provide an overall account of the workshop proceedings and key emerging themes; summarise stakeholders' feedback and critique of the proposed framework; and identify potential benefits and constraints of the framework as well as possible challenges to its future use and suggestions on how to overcome these. The exposure of the framework to the Dublin Bay stakeholders at the workshop generated significant and valuable feedback in terms of determining what elements worked, did not work and where additional research is required.

As highlighted in the research so far, the development of integrated coastal management within a national policy vacuum may prove challenging. Without appropriate legislation and designated governance and institutional responsibilities, it will be difficult to facilitate a joined-up approach to

management and monitoring within a shared resource such as Dublin Bay. The potential to continue the fragmented approach becomes a real risk. In the past, previous attempts at developing management frameworks for Dublin Bay were unsuccessful due to a lack of implementation, as happened with the Dublin Bay Task Force (O'Hagan, 2010).

The workshop highlighted a number of emerging themes, in particular, the resourcing of the framework. This will be dependent on who takes responsibility for overseeing its preparation and implementation. The preparation of the framework could encompass a partnership approach with one body taking the lead responsibility, similar to the Shannon SIFP. A bottom-up approach which involved the engagement of a Public Participation Network might be worth exploring further as an alternative to the coastal partnerships which exist in the UK.

Stakeholder participation will be key in developing the framework. Stakeholders should be identified and informed as early as possible in the process. They should also be involved in sharing a vision and objectives as this builds commitment and acceptance of the process as well as providing ownership. It is recognised that 'a shared vision is the first step in encouraging people who may not have trusted each other, or who protected their turf, to begin to work together. It creates a common identity and a platform of understanding' (Kolzow, 1999).

Generally, it is acknowledged that local authorities and local citizens want the same for their coastal areas i.e. a healthy, safe and sustainable resource. This could be the basis of a shared vision or goal. Stakeholders should also be enabled in terms of capacity and resources to ensure adequate engagement in the process. Through the availability of funding and resources, citizens can actively contribute to the stewardship of the bay.

It is evident that there are a number of emerging issues which need to be examined further. Indeed the title of 'framework' at this stage of the research is ambiguous and means different things to different stakeholders which can lead to further complications. The focus of the framework needs to be narrowed and fleshed out with more detail. For example, if it only concentrated on monitoring, it could be used as a 'health-check' on who is monitoring what and how the bay is faring in sustainability terms. This could encompass information on socio-economic conditions as well as environmental status.

An alternative purpose of the framework might be to inform the plan-making process. With the pending transposition of the Marine Spatial Planning Directive, there may be an opportunity to become a bridging instrument between the land and sea interface. This could also assist with the preparation of the new Local Economic and Community Plans (LCEPs) in association with the Public Participation Networks (PPNs) for coastal communities.

Therefore it may be more appropriate to explore a number of transition pathway options which considers delivering integrated management within: the current status quo; short-medium term transitions in national legislation and governance arrangements; and within the longer-term as part of a visioning exercise including significant legislative, institutional, environmental, economic, technological and societal change.

It should be noted that this paper is the second part of *Stage 2: Data Gathering and User Engagement* and will lead into *Stage 3: Analysis, Synthesis and Dissemination*. Therefore this paper is

an indication of where the research needs to go next and what are the key emerging themes to be examined.

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Appendix

Dublin Bay Stakeholder Workshop Attendees on 9th September 2015

	Surname	First Name	Representation
1	Bradley	Malachy	Eastern and Midland Regional Assembly
2	Conway	Jim	Eastern and Midland Regional Assembly
3	Cronin	Richard	DECLG
4	Dempsey	Suzanne	Irish Water
5	Dineen	Karen	EPA
6	Down	Marie	Fingal County Council
7	Foley	Walter	Eastern and Midland Regional Assembly
8	Freeman	Nuala	SWAN
9	Harris	Maryann	Dublin City Council
10	Healy	David	Councillor
11	Lacey	Dermot	Councillor
12	Lally	Mary	DTTAS
13	Maitra	Raja	Howth Fishery Harbour
14	Moran	Suzanne	ESB
15	Nairn	Richard	Natura Consultants
16	Nixon	Eugene	Marine Institute
17	Roche	Jenni	Dublin City Council
18	Ronan	Marisa	Trinity College Dublin
19	Edward	Hanlon	DECLG
QUB Facilitators			
20	Flannery	Wes	QUB
21	Jenkinson	Karen	QUB
22	Ellis	Geraint	QUB
23	Kelly	Christina	QUB
24	Muinzer	Tom	QUB