The Cultural Value of Coastlines

A Toolkit for Assessing Cultural Ecosystem Services

IRISH RESEARCH COUNCIL
An Chomhairle um Thaighde in Éirinn

UCD DUBLIN

This toolkit has been produced by 'The Cultural Value of Coastlines' research team, and is intended to be used to develop the means to assess cultural ecosystem services in coastal environments by research teams, local councils, environmental management teams, NGOs, and community groups.

RESEARCH TEAM

The Cultural Value of Coastlines project team was based in University College Dublin, and was supported by UCD Earth Institute, UCD Humanities Institute, UCD School of English, Drama and Film, and UCD School of Biology and Environmental Science. The team consisted of Professor John Brannigan, Dr David Cabana Permuy, Professor Tasman Crowe, and Dr Frances Ryfield.

(L-R: Tasman Crowe, David Cabana Permuy, John Brannigan, Frances Ryfield)

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Atlantic Archipelagos Research Consortium

Introduction

This toolkit is one of the outcomes from a research project called 'The Cultural Value of Coastlines', which sought to understand and evaluate the cultural and historical value of the sea and coastlines to coastal communities around the Irish Sea. Over two years, we visited case study sites in Dublin Bay, Strangford Lough, and the Cumbria Coast, met with communities, researchers, environmental managers, and local authorities, mapped ecosystem types and features, surveyed local communities, and gathered evidence from cultural and historical sources. The project was devised to develop more inclusive ways of collecting information about the cultural benefits of coastal ecosystems, recognising that there are significant gaps and limitations in how coastal ecosystems are currently evaluated.

The toolkit is designed primarily to be used by research teams, but can also be used by a wide range of communities, from local authorities and environmental managers, to local interest groups and residents. It can help users to identify the key cultural benefits of coastal ecosystems, to plan and manage ecosystem change, and to ensure that communities are able to articulate and promote a diverse range of values. Cultural ecosystem benefits, such as aesthetic appreciation, inspiration, education, spirituality, and emotional well-being, are often not measurable in the same ways as we can measure economic benefits, yet they are central to how many people experience and value nature. This toolkit is designed to help achieve a more comprehensive approach to ecosystem evaluation and management, one that is based on participatory research and aims to improve decision-making.

CONTENTS

Ecosystem Approach

The UN Convention on Biological Diversity (1992) defined an ecosystem approach as 'a strategy for the integrated management of land, water and living resources that promotes conservation and sustainable use in an equitable way', and recognised that 'humans, with their cultural diversity, are an integral component of many ecosystems'. Ecosystem 'services' are understood to be the opportunities which nature provides for resources, activities or experiences which contribute benefits to human well-being.

The Millennium Ecosystem Report (2005) divided these services into four categories: Provisioning, Regulating, Cultural and Supporting. Provisioning services include food, water, and raw materials. Regulating services include natural processes of cleaning air and water, waste absorption, and pollination. Cultural services include aesthetic, educational, symbolic, spiritual, and recreational values. Supporting services include soil formation, water and nutrient cycling, and photosynthesis. To communicate the costs of damage to the ecosystem to the public and to policymakers, the ecosystem services framework has conventionally used economic means of valuation, such as market prices for fish catches, or the cost of replacing natural flood defences like saltmarshes with artificial sea walls. However, there are major gaps in the valuation of cultural services (as well as some regulating and supporting services) because some of the values we cherish most in our interactions with nature are not easily or appropriately measured in economic terms. As a result of this problem, many ecosystem assessments ignore cultural services altogether, or only include what can be easily measured. Yet, cultural services contribute vital elements of human well-being in terms of sense of place and identity, aesthetic and intellectual stimulation, spiritual and mental resources, and emotional resilience.

Cultural Ecosystem Services

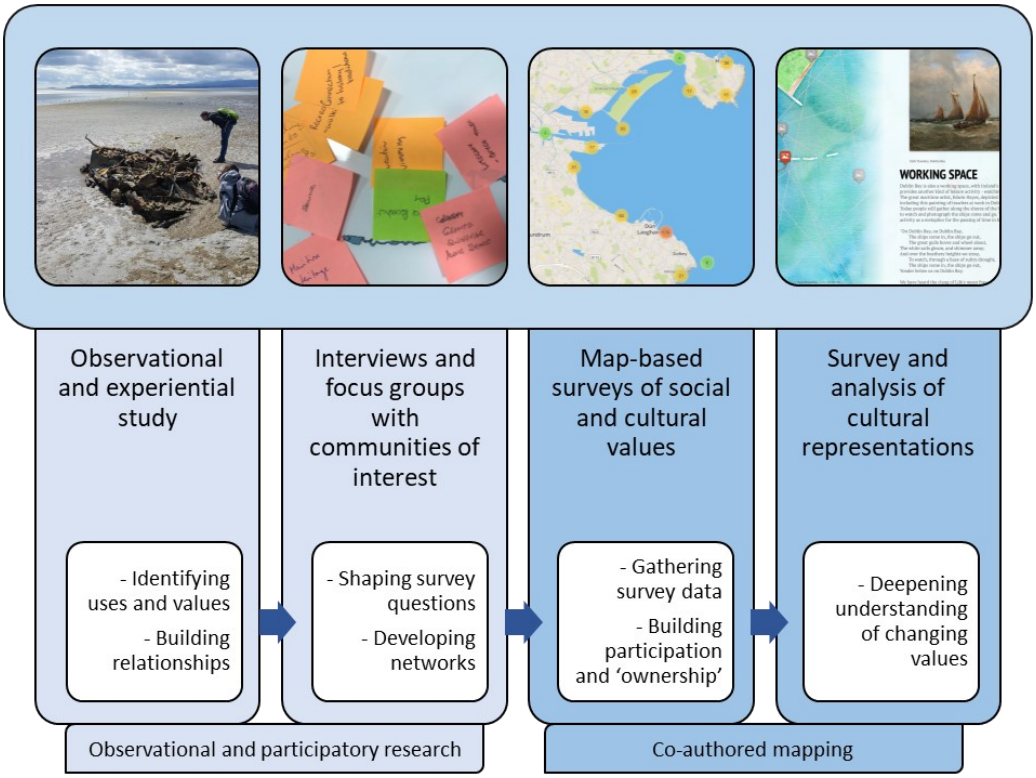
Group	Class
Physical and experiential interactions	Activities through active or immersive interactions
	Activities through passive or observational interactions
Intellectual and Representative interactions	Scientific investigations or the creation of traditional ecological knowledge
	Education and training
	Culture or heritage
	Aesthetic experiences
Spiritual, symbolic and other interactions	Sacred or religious meaning
	Entertainment or representation
Other biotic characteristics that have a non-use value	Existence value
	Option or bequest value
Other	Other

CICES classification of Cultural Ecosystem Services, V.5.1 (www.cices.eu)

At the heart of the 'Ecosystem Services' concept is the recognition that human well-being is fundamentally dependent upon biodiversity. The distinct category of 'Cultural Ecosystem Services' further recognises that human well-being is not just a matter of food, water, and air quality, but also of opportunities for education, place-attachment, personal and cultural identity, recreation, and feelings of connection or belonging to specific environments. In the Common International Classification of Ecosystem Services (CICES), developed for the European Environment Agency, a distinction is made between those cultural services which occur through direct contact (e.g. sailing, or walking along a beach) and those services which are experienced remotely or passively (e.g. watching a nature documentary on television, or appreciating a seascape painting). There is also a distinction made between 'use-values' and 'non-use values': we may wish to preserve a particular place for future generations without visiting that place ourselves. Assigning values to the cultural benefits of ecosystems can be a difficult matter. While clean water is a universal good, the identities, feelings, and meanings we might associate with particular environments vary widely, change over time, tend to be context-dependent, and are not easily expressed or measured. For this reason, this toolkit focuses on describing the strategies and the resources we might use to identify and assess the cultural benefits of ecosystems.

How to use the Toolkit

This toolkit includes detailed guidance for research teams to collect evidence of cultural ecosystem services in coastal communities. It can be adapted for use by other groups, and in relation to other ecosystem types. It consists of four steps:



The toolkit can be used as a modular add-on to ecosystem assessments using conventional economic valuation methods, in order to capture quantitative and qualitative information regarding those cultural ecosystem services which are not measurable by monetary units. It can also be used as a stand-alone project for those groups and communities wishing to contest or complement ecosystem assessments which have neglected the cultural values and activities of their areas.

The toolkit emphasises three core principles as a basis for assessing cultural ecosystem services: 1) **Participation:** the people who live in and visit the area being assessed should be at the heart of the assessment, and invited to engage and participate in the research and caring for their environment as much as possible; 2) **Mapping:** as a common language between different disciplines and sectors, using maps as the basis for assessment and presentation of results can help to bridge the gaps created by technical vocabulary, and to focus attention on the locations and places where ecosystem benefits are received, have been lost, or are at risk; 3) **Integrated Research Team:** as much as possible, research teams should function as a cohesive, integrated unit, to overcome disciplinary boundaries, and to bring together multiple areas of expertise and skill.

Research Teams

Whether your research team is a group of academics based in a university, or a community-based group of volunteers, there are clear benefits to integrating the team as much as possible and agreeing a common framework for the research. The following steps are intended to help to do this:

- Plan for a diverse range of expertise and skills: to assess cultural ecosystem services, the team should consist of members with a range of expertise encompassing cultural and ecological knowledge. This expertise might be through formal training (e.g. academic qualifications in the arts, social sciences, or natural sciences), or through particular interests, community work, or experience. Attention should also be given to the range of skills necessary to complete the project, including organisational, communications, and research skills.
- Agree goals and objectives: the project team should have a kick-off meeting to define the aims and limits of the project, and to identify the tasks necessary to achieving the project's goals and objectives. There should be clear agreement about roles, timelines, geographical scope, and the methods to be used to complete tasks. The team should identify whether to assess all cultural ecosystem services, or to target particular services.

- Build good team relations: the strength of diverse expertise is best realised when the team works closely together. As much as possible, all team members should be co-located (if based in an institutional setting), hold regular meetings to review progress, and conduct field research, project presentations, and community engagement meetings together.
- Plan for communication and engagement: the project team should take some time to identify who are the key communities-of-interest with which to engage, and which should be involved in the research and/or outcomes. This might include local authorities, volunteer groups, or special interest groups, residents associations or amenity user groups. The project team should aim to communicate regularly with these communities-of-interest, and agree a strategy for how to get more people involved. This might be done through face-to-face meetings, 'town-hall' style meetings, social media, a website, email or mail. Assessing cultural ecosystem services depends heavily upon engaging public participation, so the more groups of people you can involve in your project, the better the outcomes are likely to be.

Understanding Place

"What begins as undifferentiated space becomes place as we get to know it better and endow it with value". Yi-Fu Tuan

Place is a key concept in understanding how people benefit from cultural ecosystem services. While other services are not dependent upon an association with a particular location, the values people associate with such cultural benefits as aesthetic appreciation, inspiration, bequest, and spirituality are usually bound very closely to sense of place. It is therefore very important for research teams to get to know and understand the relationship between cultural ecosystem services and place.

Walking the Land

One simple way of doing this is for research teams to walk together around as much as possible of the area to be assessed. This is beneficial even if the research team is already familiar with the area, as walking together enables the research team to share expertise and different perspectives about specific locations. It allows the research team to experience the landscapes and seascapes first-hand, to sense and observe the ways in which human communities make use of and benefit from local ecological conditions and services, and to speak with local people about the cultural activities they are engaged in. The nature writer, Barry Lopez, describes getting to know a place in this way as 'an old business, walking slowly over the land with an appreciation of its immediacy to the senses and in anticipation of what lies hidden in it'. In coastal and marine environments, it may equally be valuable to sail around the area to be assessed. This phase of the research can be described as 'observational and experiential study', as it involves gathering information about how people interact with and experience their environment. It will not be comprehensive, of course, and evidence of cultural benefits will vary considerably upon the season, time of day, weather conditions, and other factors. But it helps to build knowledge of local values, potential conflicts, and possible networks or community groups with which to engage.

Understanding Place

Collecting Information from Observational and Experiential Study

The research team should aim to keep a record of observations and experiences from walking the land, speaking to local people, and getting to know the place. Describing the place in notes is a useful exercise, as is taking photographs, and making a map of the features of the landscape and the activities observed along the way. Aim to record what evidence exists to corroborate the benefits associated with particular places. You might observe, for example, that lots of people seem to use a particular location for walking, jogging, or cycling. The aesthetic appreciation of the coast might be evident from curated beaches, promenades, coastal caravan parks, and shops selling ice cream. You might encounter school groups on field trips, indicating educational interactions with nature. Make a note of the landscape features that people stop to photograph. You should also observe for less obvious cultural interactions with the landscape. We found that some people associated their local beach mostly with memories of learning to drive there, for example, and the sand dunes were known as covert spaces for a range of private activities. These may not seem to be direct benefits of ecosystems, but their value would be missed if the beach or sand dunes were degraded or lost. The emotional attachment to place may also be evident from other observed features, such as memorial plaques on park benches, or community funding of a restored jetty. Make a note of any signs of particular interest groups or community organisations—are there boating clubs, or birdwatching groups, for example? Look for any signs that community groups meet to pick up litter or clean up amenity areas. Members of such groups may be willing to meet and perhaps also to walk with the research team to help to identify key features, resources, or issues. They will also help to identify key conflicts and hazards. Birdwatchers may resent dog-walkers, for example, whose dogs when unleashed can disturb important nesting sites. A beautiful scenic view may be unused by local people because of an unpleasant smell from a nearby rubbish dump. Such conflicts can be revealing about what people value in their environment, and provide a way of framing engagement with local communities (although care must be taken not to imply that research teams can resolve them!).

Local Networks and Experts

The project team may already include many people with local expertise and good contacts with the local community, but cultural ecosystem services research should aim to be as inclusive and transdisciplinary as possible. It is also useful to involve as many local experts as you can in order to raise awareness both of the ecosystems approach, and also of the aims and intended impact of your research. There are a number of activities which may be appropriate for you to invite local networks or experts to participate in.

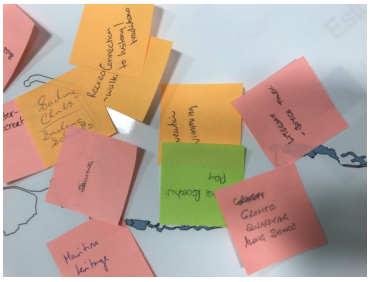
Interviews

As cultural values of place and environment tend to be bundled and interdependent, interviews which elicit more expansive discursive responses can be useful ways of identifying values and benefits not captured fully in the ecosystem services framework, and also of addressing management and policy contexts in more detail. Interviews might be conducted with local environmental managers, heritage professionals, council officials, or network leaders. Open interviews are more likely to address information gaps, but interviews may also benefit from being structured with the use of maps or situational questions.

Advisory and Focus Groups

Advisory and focus group meetings can help to deepen understanding of local values and problems, shape the aims and objectives of the project, and build contacts and trust with local communities-of-interest. These groups can be organised to target individual sectors—e.g. one focus group might bring together environmental managers from the area—or to bring together people from different sectors (business, academic, governance, heritage, and special interest groups). If the latter approach is preferred, then the group should represent a balanced mix of sectors and interests. The venue for meetings should also be as neutral as possible, and should be informed by your knowledge of possible conflicts. It can be helpful in designing this phase to make a diagram which shows the relationship between the different actors in your area.

Local Networks and Experts

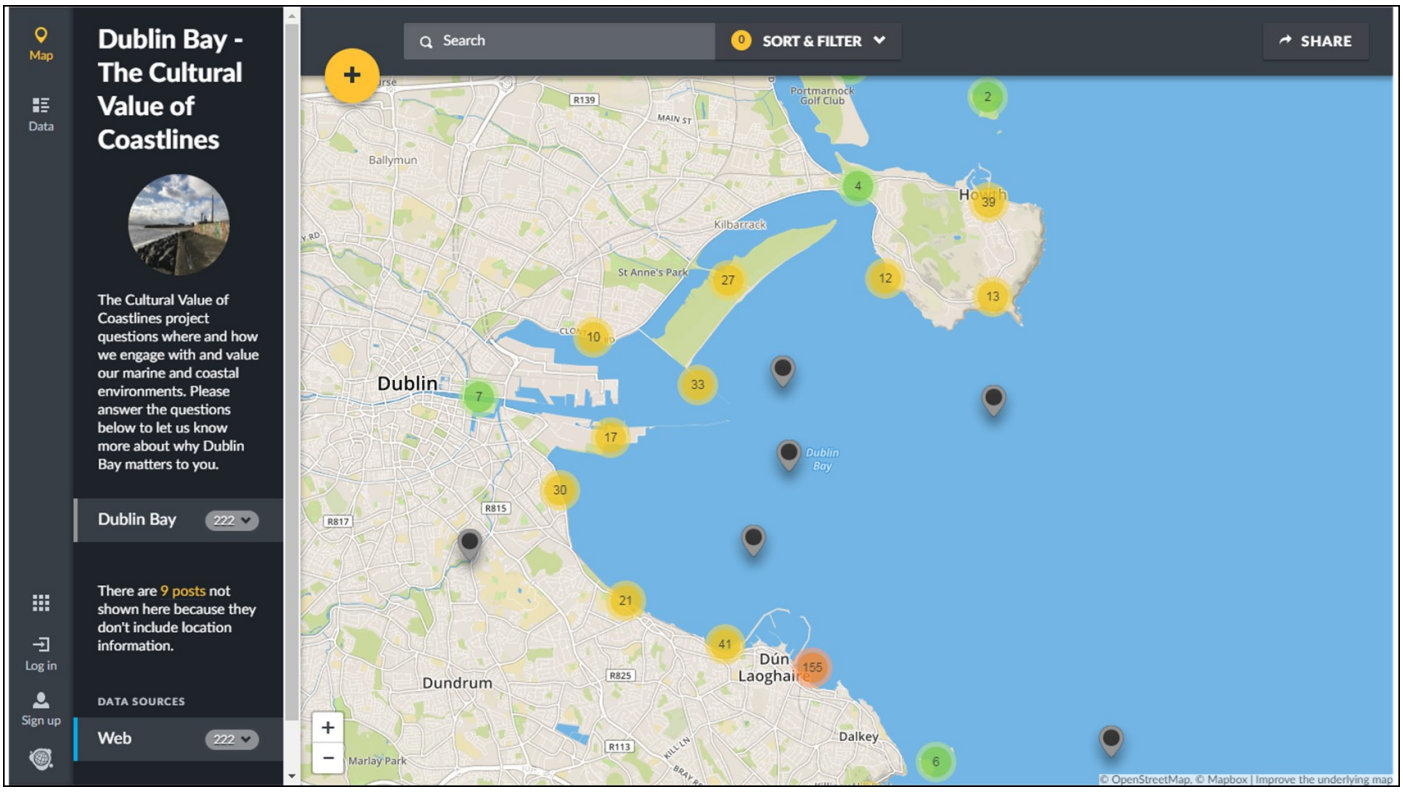


Structuring Advisory and Focus Group Meetings

It is helpful to structure the group meetings with local experts around an introductory presentation which sets out the aims and objectives of your project, and explains key concepts and perhaps even preliminary research findings or impressions. The concept of ecosystem services, and the particular issues about collecting accurate information about cultural ecosystem services may not be familiar to all of them. It is also useful to define the parameters of your research, such as the area you have identified for assessment, which may not map directly on to existing administrative boundaries. The introductory presentation should be followed by an open discussion inviting feedback on the design of your project. It is helpful to provide participants with a form on which to give written feedback, so that they can summarise their views, and so that everyone has an opportunity to contribute. After the feedback section, participants might be invited to identify the key cultural benefits they associate with the environment being assessed. To aid this discussion, maps of the area should be provided, in as large a scale as possible, and participants invited to mark the places on the map associated with key benefits. Give ample time for participants to mark the map as fully as possible, as this information will help to inform how you engage the public more widely. Mapping the cultural benefits of local ecosystems should be followed by a discussion about the pressures and hazards faced by those ecosystems, and the impact upon cultural benefits. It might be useful to stimulate discussion with reference to possible future scenarios, such as sea level rise, increasing levels of tourism, or unplanned urban development. The final section of the meetings might focus on identifying the priorities and challenges of managing cultural ecosystem services in the area, and devising strategies for adaptation, mitigation, or protection. As the next phase of your research will roll out a public survey, the advisory and focus group meetings should also be used to enlist the help of participants in distributing the survey as widely as possible.

Participatory Surveys

The principal method for collecting information about cultural ecosystem services should be a public survey. It is useful to conduct the survey on paper in targeted locations, and also to conduct an online survey to elicit wider participation. The paper version has the advantage of engaging participants in face-to-face discussions which can help to inform participants directly about your project. It can also be beneficial to target particular constituencies of people, if you can identify gaps in online participation. However, the paper version requires a significant investment of time and energy from your project team, and may yield relatively small numbers of participants. Online surveys are relatively simple to construct through map-based platforms such as www.ushahidi.com (shown below). Online surveys are easy to disseminate through a project website and social media, and with help from your communities-of-interest can generate relatively high volumes of participation. They are also easy for participants to use and complete at their own convenience, rather than being stopped on the street. However, there can also be a higher rate of incomplete surveys, and of course, it is more likely that people already positive about the cultural benefits of ecosystems will complete the survey. For this reason, it can be useful to conduct some face-to-face surveys after you have identified the demographic groups which are not engaging with your online survey. For example, if people aged over 65 are less likely to know about your survey through social media, they will not be adequately represented in your results. So some specific measures to target this group for engagement with the survey would be advantageous.



Participatory Surveys

Designing the Survey

For cultural ecosystem services, it is important that the survey is map-based, to enable participants to link the cultural benefits they identify directly to specific locations. The paper version of the survey should therefore include a map, on which participants should be invited to indicate their preferred locations for the cultural activities they associate with this environment. The online version should also be map-based (the platform we used allowed users to see what locations were preferred by other users also). The survey should begin with a section inviting anonymous data about the participant (age, gender, area of residence, etc) which allows the project team to identify any significant trends both in survey participation, and in the results. In the next section, participants could be asked to tick the boxes beside the cultural activities they most associate with the area being assessed. The list of activities should be informed by the project team's observations and also by consultation with local experts and networks. Participants should also be asked in this section how often they visit the places they have identified, and the reasons why they visit. An open question might also be added to elicit more detail, such as 'why is this place special to you?' The third section of the survey encourages participants to link the cultural activities and values they have identified to perceptions of environmental change. It includes questions about how much cultural activities depend upon the health of the ecosystem, what changes have affected or might affect their use of cultural ecosystem services, and what future scenarios they envisage as changing the availability of those services. The final section addresses perceptions of management. Are participants aware of who makes decisions that affect the health and sustainability of their environment, and the availability of cultural ecosystem services? Do participants take an active part in such decision-making, or take steps themselves to care for the environment?

Encouraging Participation

Obviously the survey will have more weight as a research tool, and more significance for your outcomes, if you can show a high volume of participation, and show that participation is representative of a significant sample of users, visitors, or residents. Participants are more likely to share the online survey with others if your results are displayed, as those taking part in the survey can learn what others in their community value about their environment. The online survey that we used also allows participants to share photographs, stories, and comments, which encourages participants to feel a sense of ownership. This is their place, and they are happy to share their feelings, memories, and stories about it. If there are low numbers participating, however, the project team might consider organising 'town-hall' meetings with local networks to inform them about the project, and invite them to complete the survey at the meeting.

Cultural Representations

Joseph Malachy Kavanagh, *Dublin Bay Cockle Pickers* (1895)

Cultural representations of the environment being assessed can provide useful indicators of what landscape features or cultural activities have been valued over time. Such representations might include works of literature, theatre, painting, sculpture, music, photography, and film. There may already be well known examples of artists or writers who represented places in your area, but it can also be helpful to search for other less known works, to gain a sense of whether particular features or cultural benefits have attracted more attention than others. Searching for cultural representations of particular places does not have to be laborious. For example, there are websites such as www.archive.org or Google Books which contain millions of books which can be searched for place names. Paintings can be searched using image search engines such as Google Images or Bing Images, again using place names in the search terms. You might also consult local and national library websites for online resources, and for guidance about researching local cultural history. The results of your searches should be filtered to identify only those works which make substantial reference to, or depiction of, a particular place, and the extent to which they meaningfully associate that place with particular traits, values or feelings. Another source of cultural representations of environment is postcards. Postcards can reveal much about the places people associate with leisure and scenic beauty, and about the activities associated with those places. They can be sourced relatively easily from local shops, or if historical postcards, from antiques and memorabilia sellers. The number of such representations of a specific place can vary widely, but if there is a dearth of cultural representations of the place you are assessing, it might be useful to organise a competition to invite local people to write stories, or take photographs, on the theme of what is special about their place. The submissions can be analysed for your project, and published on the project website.

Cultural Representations

Using Cultural Representations

It can be useful to some extent to quantify and map the number of cultural representations of particular locations within the area being assessed, and also to quantify and map the cultural values or activities associated with those places. This will indicate 'hot spots' which have attracted more interest for certain benefits. For example, artists may appear to be drawn more frequently to a particular view, indicating a greater scenic value. You might find several short stories feature walks along the same beach. Surveying cultural representations from the past can reveal some interesting trends or changes. For example, the poem shown on the left, by William H. Drummond, is the first poetic depiction we found of crowds gathering on a beach in Dublin Bay for 'health and recreation'. This seems to confirm a more general trend identified by Alain Corbin in his book, *The Lure of the Sea,* that recreational pleasures of visiting the seaside are a relatively modern phenomenon, developing particularly since the eighteenth century. In addition to quantitative information, cultural representations can also help to show the qualitative ways in which places are associated with feelings, identities, and heritage. Some cultural representations may indicate that certain locations are repeatedly associated with feelings of tranquillity, for example, or that particular landscape or seascape features appear to be iconic of a sense of place or belonging. In much the same way as charismatic species can help to mobilise public care for ecosystems or habitats, identifying iconic natural features or favoured views can help to engage wider public support for the environment. It can be much easier to engage people about environmental issues through stories or images, than scientific facts.

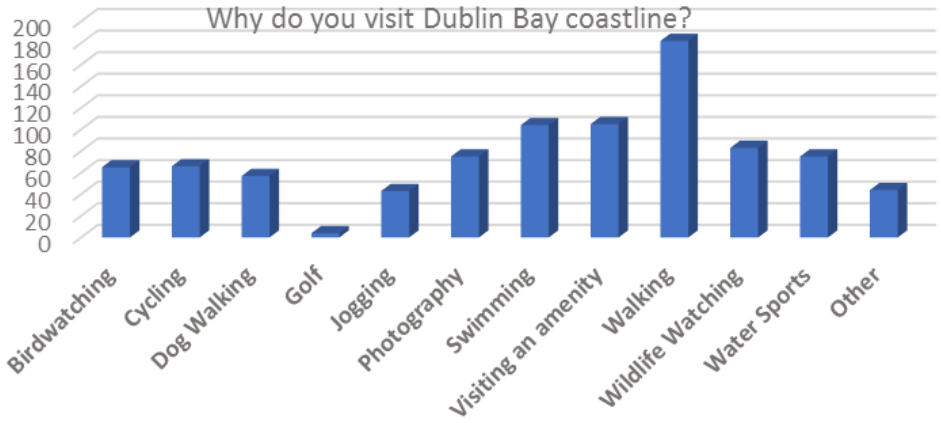
Hither, as oft as summer suns glow bright,
Swarms forth the city hive, to taste the sweets
Of rural life. Then fervid grows the beach
Wheels smoke on wheels, and crowds amid the waves
Seek health and recreation. To the eye
Of poet, all the ocean deities
Seem congregating here.
W.H. Drummond, *Clontarf: A Poem* (1822)

Edwin Hayes, *A View of Dublin Bay* (National Gallery of Ireland)

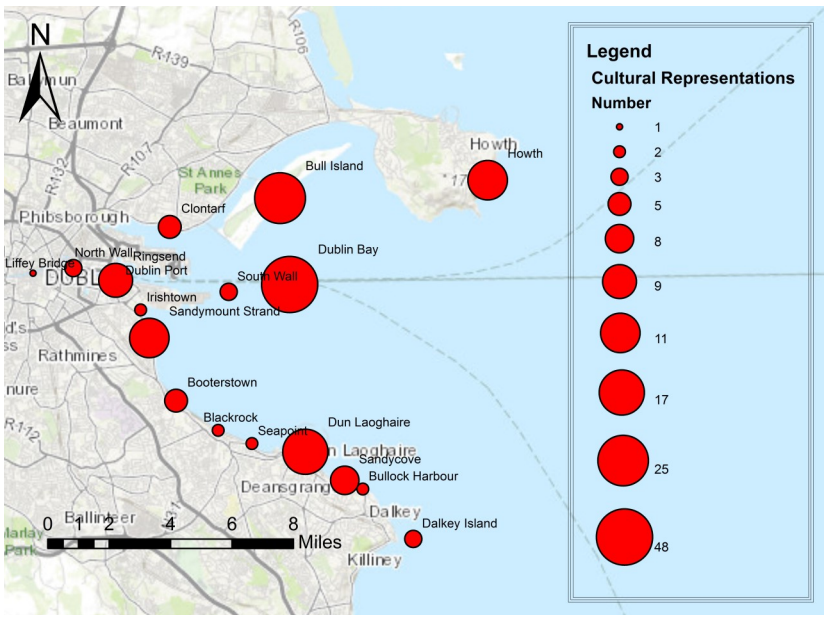
Results and Actions

Summarising the Cultural Benefits of Local Ecosystems

In order to summarise the cultural benefits which ecosystems contribute to the place being assessed, it is helpful to use an ecosystem services classification system, such as CICES or the Millennium Ecosystem Assessment Report, to codify cultural ecosystem benefits with consistency. For each method of data collection you have used—observational study, local advisory groups, participatory survey, and cultural representations—you should make a table listing the cultural benefits provided, and the evidence (both quantitative and qualitative) of those benefits. From those tables, you can generate graphic representations of your results (such as bar charts, or pie charts), which are useful for communicating with others in project publications, reports, or presentations. The more detailed data from the



local advisory groups and expert interviews, and from your participatory survey, will also provide indications of how people perceive the relationship between these cultural benefits and ecosystem change, and the possibilities of sustaining and managing cultural benefits. Your results might show, for example, that some benefits are endangered by pollution or erosion, or that access conditions have changed for better or worse. Mapping your results can also be a good way of representing the value of your local environment according to different metrics. In the map shown right, for example, a simple count of the number of paintings and literary works that have been set in each location reveals which parts of the area have been valued most consistently by artists and writers. Overlaying the maps from different sources of data can reveal if there are strong and definite patterns of some places being valued more than others, and for what reasons.



Results and Actions

Project Report

A project report, either in print or online, can provide the project team, the local community, and decision-makers with valuable information on which to base decisions about managing and protecting cultural ecosystem services in your area. The report should summarise the findings of your research, and identify key recommendations and guidelines. It should also indicate how your research was conducted, and emphasise its strengths and limitations. The report should also identify conflicts between different services or users, and the possible consequences for cultural benefits of the future scenarios envisaged by local experts and participants. The report might also consider some practical steps for improving the availability or sustainability of cultural ecosystem services.

Engagement Plans

The findings of your research will provide a good basis for engaging the community, policy-makers and other researchers about key issues raised, and the measures which might help to address them. As engagement with local people is a key element of cultural ecosystem services research, the project team should already have good networks and contacts through which to disseminate the research findings, and promote solutions and plans for management. 'Town-hall' meetings, exhibitions, a project report launch, or a festival event are all possible ways of engaging the community in a discussion of findings and ways forward.

Planning the Future

In the engagement and dissemination process at the end of your project, you should consult with your advisory groups and participants to identify what priorities should be set for future action. What risks or threats to cultural ecosystem services in your area have been identified, and how might they be mitigated? Are there policies or practical measures which might be taken by landowners or local councils to help? What amenities might be introduced to improve access to cultural ecosystem services? Are there current plans for development which might be guided by your findings? How might the community take ownership of responsibility for managing and protecting the habitats upon which our cultural ecosystem services depend? Make sure your findings are easily accessed by others in the community now or in the future so that the information you have collected continues to influence decision-making.

Appendices

Appendix A: Advisory Meeting—Participants Form

Irish Research Council New Horizons

The Cultural Value of Coastlines

THE QUESTIONS BELOW ARE INTENDED FOR DISCUSSION AT THE ADVISORY MEETING. WE WOULD VERY MUCH APPRECIATE IF YOU WOULD SHARE YOUR WRITTEN RESPONSES, SO THAT WE CAN COLLECT THEM AS A RECORD OF YOUR CONTRIBUTION TO THE MEETING.

LUNCHTIME PRESENTATION

Thank you for listening to the project presentation. Please provide any feedback below.

PRIORITIES AND CHALLENGES

What are the key cultural benefits of the Dublin Bay coastline? By cultural benefits, we mean the benefits people can enjoy or use which derive from the bay and shores – these can be recreational, aesthetic, spiritual, educational, etc.

What are the key challenges and conflicts in managing those cultural benefits?

NAME:

How well protected or managed are those cultural benefits in Dublin Bay?

Future Scenarios

What are the most likely changes to occur to the coastline in the Dublin Bay area?

How do you think those changes will impact upon the cultural benefits derived from the coast?

Planning future stakeholder engagement

Please share with us your advice about who (individuals or groups) we should include as part of our stakeholder engagement strategy, and if possible advise us how we should engage (event, meeting, interview, email).

NAME:

Appendices

Appendix B: Participatory Survey Form for Dublin Bay

Interview ID:	Interviewer:	Site:
Entered in database:	Date:	Time:

The Cultural Value of Coastlines

ABOUT YOU

Age: ☐ 0-25 ☐ 26-45 ☐ 46-65 ☐ 66+ Gender: ☐ Male ☐Female ☐ Prefer not to say

Where do you live? ☐ Dublin City ☐ Dublin County ☐ Elsewhere in Ireland ☐ Abroad

ABOUT YOUR VISIT

1. How often do you visit the Dublin Bay coastline?

☐ Daily ☐ At least once a week ☐ At least once a month ☐ At least once a year ☐ This is my first time
☐ Other [Please describe] _____

2. Why do you visit? [Please tick all that apply]

☐ Bird Watching ☐ Golf ☐ Swimming ☐ Water Sports
☐ Cycling ☐ Jogging ☐ Visiting a place or amenity ☐ Water Sports
☐ Dog walking ☐ Photography ☐ Walking ☐ Other [Please describe]: _____

3. What values do you associate with the Dublin Bay coast? [Please tick all that apply]

☐ Contact with nature ☐ Leisure ☐ Sanctuary ☐ Other [Please describe]: _____
☐ Educational ☐ Physical exercise ☐ Scenic

4. Please give a bit more detail about the values you have ticked above:

5. What is special about the Dublin Bay coast?

ENVIRONMENTAL CHANGE

6. Do you think the health of the coastal and marine environment in Dublin Bay is important for the way you use the Bay? [1 to 5]

☐ 1 Very unimportant	☐ 2 Quite unimportant	☐ 3 Neither important or unimportant	☐ 4 Quite Important	☐ 5 Very Important

7. How healthy do you think the coastal and marine environment is in Dublin Bay? [1 to 5]

☐ 1 Very Unhealthy	☐ 2 Quite Unhealthy	☐ 3 Neither Unhealthy or Healthy	☐ 4 Quite Healthy	☐ 5 Very Healthy

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8. What influences the health of the coastal and marine environment in Dublin Bay? Why is this happening?

9. Over the past 10 years, have you noticed any changes in the coastal environment? If so, when and why did this happen?

10. Have any of these changes affected the way you use Dublin Bay? *(about question 9)*

11. Select the 3 future scenarios below which would most affect the way you engage with Dublin Bay?

☐ Changes in biodiversity	☐ Land reclamation	☐ Oil spill
☐ Climate Change	☐ Flooding	☐ Sea level rise
☐ Coastal erosion	☐ Increase in recreational use	☐ Unplanned development
☐ Drilling	☐ Litter	☐ Other[please describe]:_____

MANAGMENT

12. Who do you think is responsible for looking after the coastal and marine environment in Dublin Bay?

13. What do you currently do to protect the bay?

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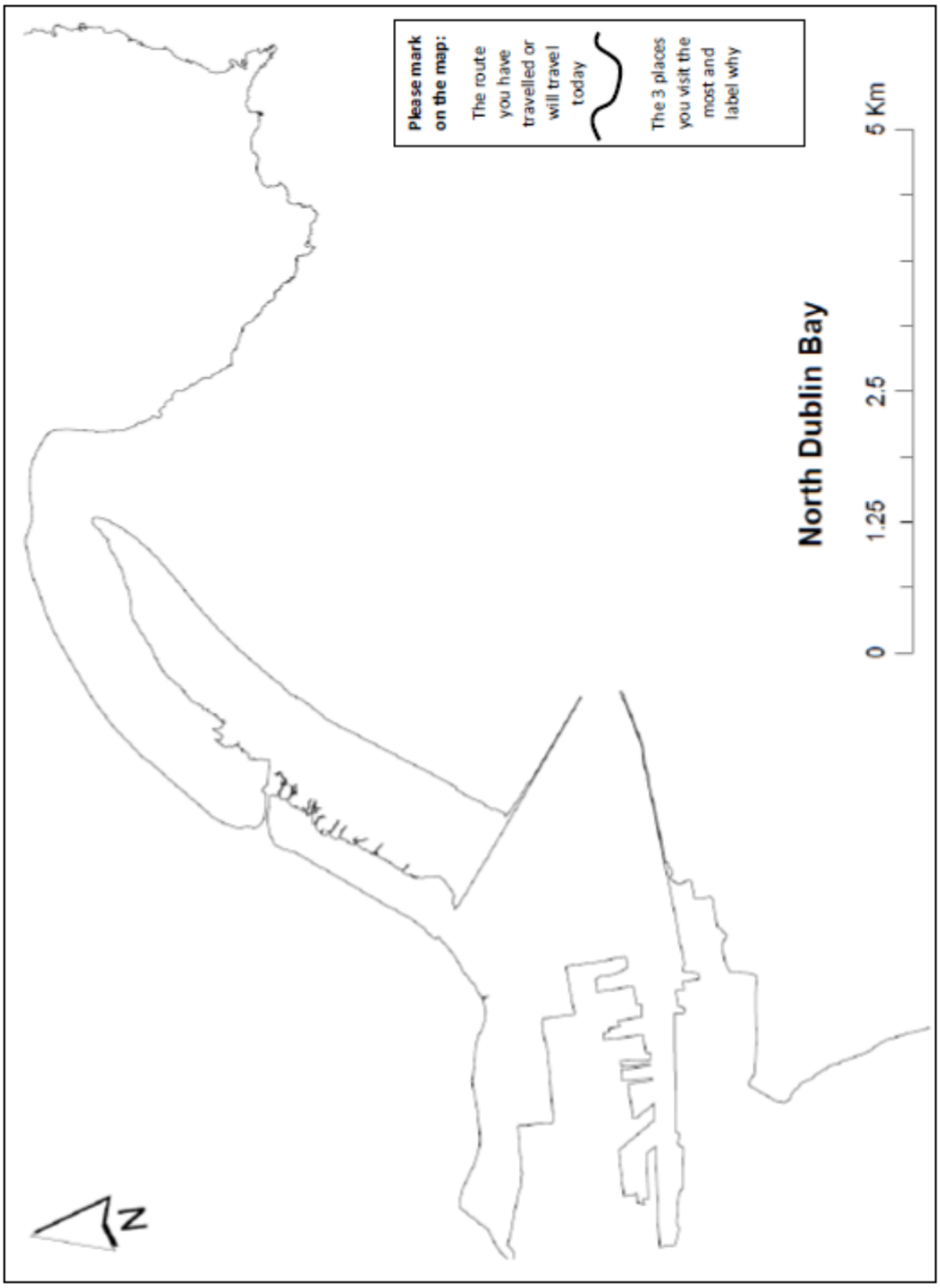

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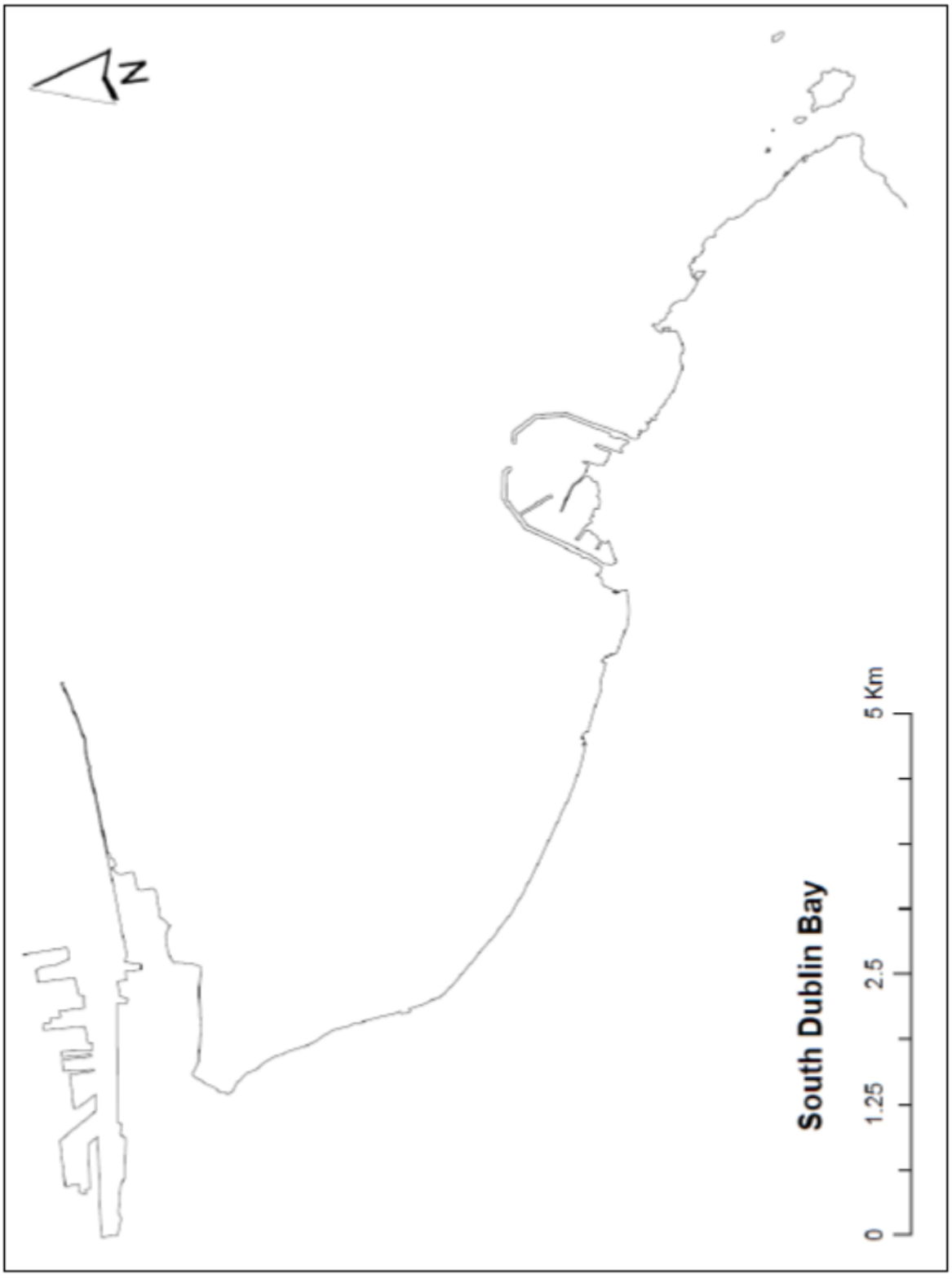

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