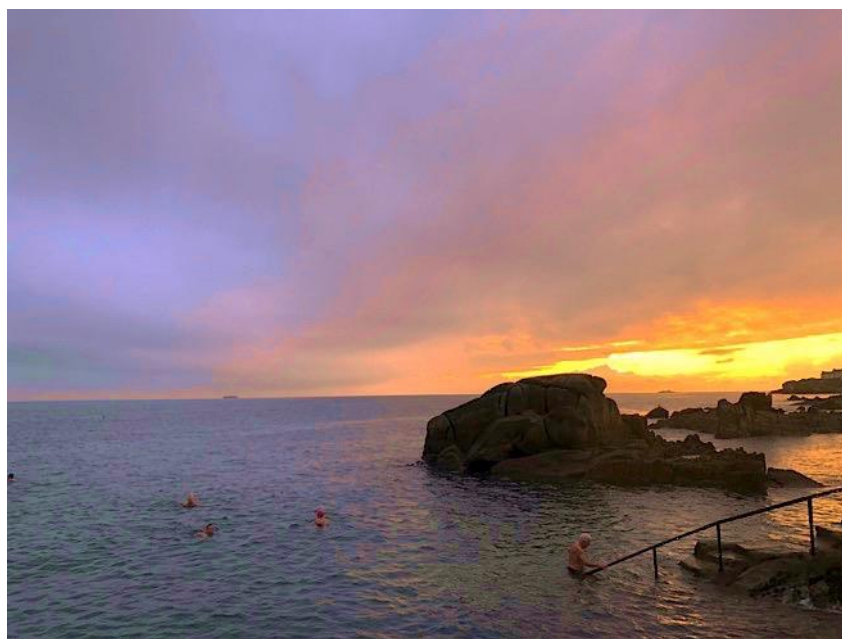


# Our Ocean & Human Health Citizen Conversations Summary Report



*Swimmers at sunrise at the Forty Foot, Dublin.*



**Seas, Oceans & Public  
Health in Europe**  
Linking oceans and health research



**OÉ Gaillimh**  
NUI Galway



@OceansHealthEU



*View from workshop venue, Royal Marine Hotel, Dun Laoghaire*

### Acknowledgments:

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**DISCLAIMER**

**PLEASE NOTE: CONCLUSIONS REGARDING PRIORITIES AND ACTIONS ARRIVED AT BY THIS PROCESS WERE GENERATED BY MAJORITY VOTE OF THE OVERALL PARTICIPANT GROUP AND MAY NOT NECESSARILY REPRESENT THE VIEWS OF INDIVIDUAL GROUP MEMBERS**

# The Context

**Seas, Oceans and Public Health in Europe (SOPHIE for short) is a 2.5 year EU Horizon 2020 funded pan-European research project working towards protecting both human health and the health of the marine environment.**

Whilst the ocean can benefit human health and boost wellbeing via activities like recreation and relaxation, it can also pose risks to human health – through factors such as flooding and pollution. This complicated mix of threats and opportunities interact in ways we don't fully understand. Exploring these relationships is the basis for an emerging scientific discipline called "Oceans and Human Health" (OHH). As a maritime continent, conducting research in this area is important for Europe, its inhabitants, and it's Ocean. SOPHIE is addressing this need by gathering information from many different sources: from citizens; from societal stakeholders, from research findings; from data repositories; and from existing European policies. SOPHIE brings marine and environmental scientists together with medical and social scientists, public health and other experts to tackle these complicated issues in a unique forum. SOPHIE is creating a network of people and organisations interested in the links between ocean and human health; and exploring how marine tourism and citizen science can contribute to this growing discipline. The ultimate aim of the project is to produce a Strategic Research Agenda – a road map that sets out the priorities for Oceans and Human Health research over the coming decade.

## Key Research activities of the SOPHIE project

SOPHIE is conducting several small-scale projects, which will feed into a final Strategic Research Agenda (see Figure 1).



**Figure 1:** Summary of key research activities and actions in SOPHIE.

# Our Ocean & Human Health Conversations: A Stakeholder Engagement Process.

*How do we understand the links between oceans and human health? What are the top priorities for oceans and human health in Europe? How do we protect public health and the health of the marine environment for a more sustainable future?*

These are just some of the questions our stakeholder conversations, including citizens, in SOPHIE are trying to answer. Every person in Europe has a stake in promoting and protecting the benefits to health and wellbeing provided by the marine environment, whether it is high on their agenda or not. Through stakeholder discussions, we are bringing together a network of people interested in the links between oceans and human health, and exploring how public health, marine sectors and citizen science can contribute to this exciting area of research.

The purpose of our OHH Citizen Conversations is to engage and listen to citizens from across Europe, to **define future Oceans and Human Health research priorities**. Our OHH Citizen Conversations are about collaboration, empowerment and direct active engagement with citizens who are interested in, but do not have expertise or professional employment, in the marine environment and public health.

Our OHH Citizen Conversations are about speaking and listening to people on their own terms. Our conversations go significantly beyond just asking people for their opinions or what might be called 'participation by consultation'. It gives invited participants a voice about the priorities for change and ownership and responsibility for solutions to influence their welfare, together learning how to protect the health of the marine environment and public health for a sustainable future [1].

This summary report describes the key findings from Our OHH Citizen Conversations that took place in Ireland in November 2019. Our OHH Citizen Conversations aimed to:

- 1. Discover the top priorities for oceans and human health in Europe.**
- 2. Learn from others about the pathways forward to protect the health of the marine environment and public health for a sustainable future.**
- 3. Inform the Strategic Research Agenda for Oceans and Human Health in Europe**

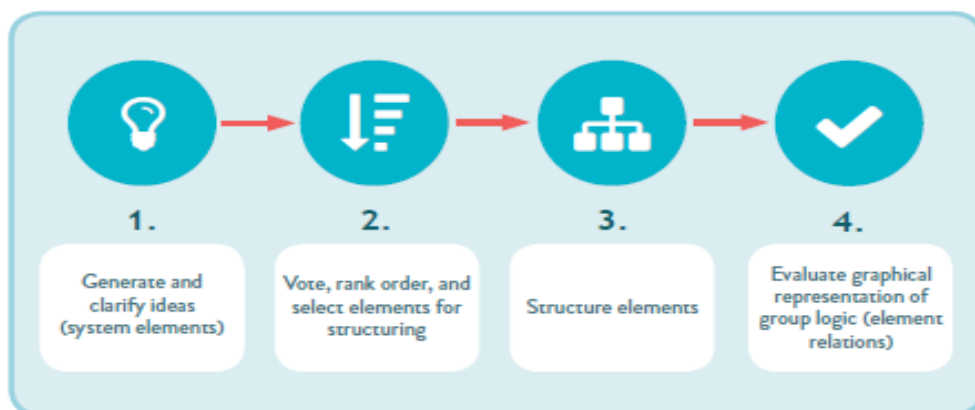
# Our Citizen Conversations Process

Collective Intelligence (CI) is a methodology that facilitates group discussion and consensus building [4,5]. Within conversations, participants from different backgrounds and sectors work collaboratively to reach a consensus on how best to address a complex issue, in this case the priorities for protecting public health and the health of the marine environment for a sustainable future.

CI encourages participants to design resolutions through reflective negotiations and voting for strategies that are perceived to have the greatest impact and influence.

In a typical CI session, participants engage in: (a) developing an understanding of the situation, (b) establishing an integrative basis for thinking about the way forward and (c) producing a strategic framework for effective change [2]. The facilitation of CI conversations takes into account the contextual factors that may impact on group work by integrating the influence of culture into the discussion. It also benefits the researcher, as the sessions provide deeper insights into how attitudes are influenced by group work itself [3]. This conversation was conducted with 14 invited citizens from across Europe.

The CI conversations process centred around four stages, used to collect data and are summarised in Figure 2.



**Figure 2:** Summary of the Collective Intelligence Conversation Process

## (1) Online Priority Generation

In an online, pan-European survey, over 14,000 citizens in 14 European countries were invited to have their say by identifying their top priorities to our trigger question:

***What, in your opinion, are the top priorities for protecting public health and the health of the marine environment for a sustainable future?***



This open-ended question gave participants the opportunity to reflect on the question and most citizens responded with more than one priority, with the help of suggested 'starter phrases' (see Appendix One), generating over 14,000 priorities for OHH. Participants were then given the opportunity to clarify each priority using a clarification statement. A random sample of 700 responses, 50 from each country, was selected for further analysis. Workshop participants were also invited to contribute their top 3 priorities, resulting in a total of 758 priorities. A word cloud representing responses (n=758) is illustrated below.

**Figure 3:** Illustrated ‘word cloud’ summary of OHH priorities identified by EU citizens

Once priority generation was completed online, the CI facilitation team began the categorisation process. The first eight priorities (of 758 priorities) were placed separately on boards and all other priorities were compared with them. In this process, referred to as paired comparison, priorities that were deemed similar to each other were grouped together. Once at least eight priorities were grouped together, the internal working group labeled the category. In total, **23 priority categories** were generated (see Appendix Two), with *protection of the marine environment* and *preventing pollution* among the most frequently cited citizen priorities for OHH. On the day of the workshop, the participants became involved in the categorisation process when they were asked to review the priority category headings and their respective priority statements (Fig. 4). An example of a priority category heading and its respective priority statement:





**Figure 4:** Participants reviewing priorities for OHH

Following the review, if participants felt that some category headings and statements should be amended, the proposed category amendments were discussed with the group and the re-naming of individual category headings and/or category statements were made when a group consensus was reached. Once idea categorisation was complete, participants engaged in a voting process to identify the most important priorities.

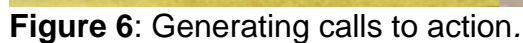
### **(3) Structuring Priority Categories**



**Figure 5:** Participants voting during the structuring process.

The 10 priority categories that received the highest votes were entered into the Interpretative Structural Modelling (ISM) software, where a series of relational questions, “Does Priority A significantly impact Priority B?” were asked to the stakeholders. A yes/no vote was taken. In order for a yes or no vote to be entered into the ISM software at least 60% of the group must vote that way (Fig. 5). Structuring continued until all relational priorities were voted upon and structural priority maps were generated.

To conclude the CI conversations, stakeholders were divided into sub-groups, to generate calls to action for the top voted OHH priority categories from stage 2. They were provided with the facilitation question: “*What are the options for realising the priorities in the [category title]?*” and asked to explain their proposed actions with the entire group. All stakeholders then discussed and voted for the proposed actions they perceived to be the most feasible, impactful, and timely, with an identified champion to lead the call to action in each category (Fig. 6).



## Diverse Priority Pathways for OHH

A map of Europe with 12 countries highlighted by red dots. The highlighted countries are: Iceland, Ireland, United Kingdom, France, Spain, Portugal, Netherlands, Belgium, Germany, Italy, Poland, and Estonia. The map also shows other European countries including Sweden, Norway, Finland, Denmark, Lithuania, Latvia, Belarus, Ukraine, Romania, Bulgaria, Greece, Turkey, Austria, Czechia, Slovakia, Hungary, Serbia, Croatia, and Moldova. The Baltic Sea, North Sea, and Tyrrhenian Sea are labeled.

6

The aim was to continue to gain a deeper insight into citizens' priorities for OHH by building consensus around priorities and solutions for OHH. These diverse perspectives impact on group work by integrating the influence of culture into the discussions. This resulted in the co-creation of a structural map, or 'OHH Priority Pathways', which identifies the significance of the relationships between top priority areas for OHH (see below, Fig. 3). This outcome emphasises the complexities of OHH and the interrelationships between priority areas and forces at play within a dynamic OHH system.

## **Priorities for OHH**

*The top ten most voted for OHH priorities were:*

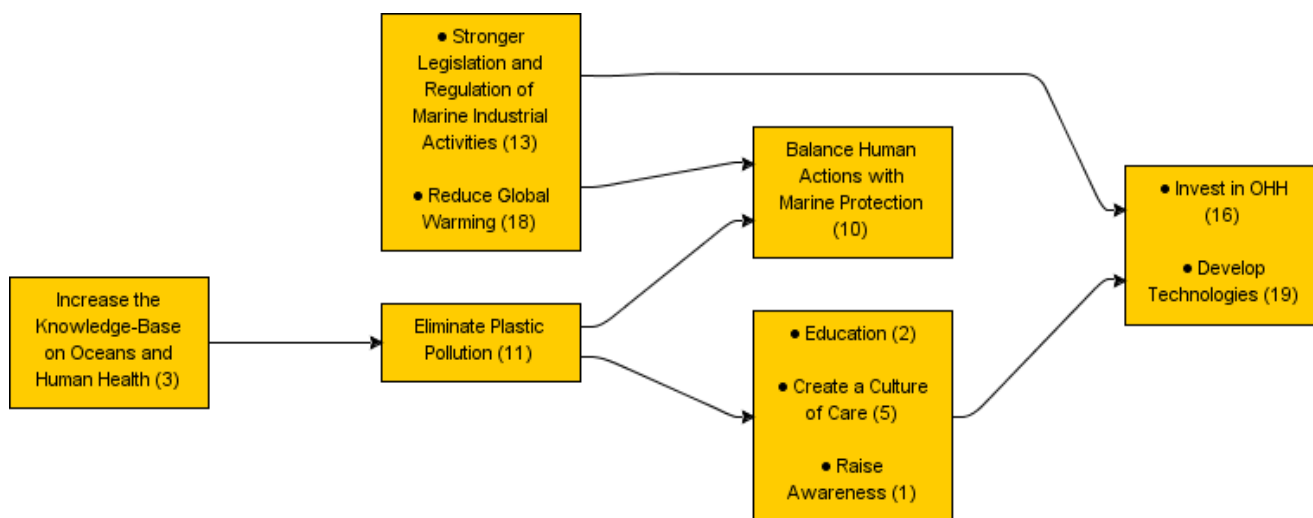
- Stronger legislation and regulation of marine industrial activities (23 votes)
- Education (20 votes)
- Create a culture of care (18 votes)
- Raise awareness (14 votes)
- Invest in OHH (11 votes)
- Balance human actions with marine protection (10 votes)
- Eliminate plastic pollution (10 votes)
- Develop technologies (10 votes)
- Reduce global warming (9 votes)
- Increase the knowledge-base on OHH (8 votes)

## **OHH Priority Pathways**

The structural priority map of OHH priority pathways developed during Step 3 of the workshop is shown in Figure 8. The structural priority map is the most tangible output from Our OHH Citizen Conversations.

This structural OHH priority map is read from left to right with the priorities to the left significantly impacting the priorities to the right. Four different priority pathways are evident in Figure 8, with directional arrows indicating pathways of influence. For example, on the left, the need to '*Increase the Knowledge-Base on Oceans and Human Health*' significantly impacts the need to '*Eliminate Plastic Pollution*', which in turn significantly impacts the need to '*Balance Human Actions with Marine Protection*'. The priorities grouped together in the same box, such as '*Education*', '*Create a Culture of Care*' and '*Raise Awareness*' are highly interdependent, reciprocally inter-related and any outcome in one will greatly impact the others.





**Figure 8:** Citizens' structural priority map of 10 top voted priority areas.<sup>1</sup>

The structural priority map also highlights challenges in the system. For example, if you are working to '*Eliminate Plastic Pollution*' and are not achieving key outcomes, this could be an indication of issues relating to the '*Knowledge-Base on OHH*'. It would also be a mistake to assume that the need to '*Increase the Knowledge-Base on OHH*' is the most important priority area. All the priorities are equally significant with upstream and downstream effects. The map highlights how, for example, '*Increasing the Knowledge-Base on OHH*' may influence the outcomes of other priority areas. Another example might be when trying to '*Balance Human Actions with Marine Protection*', it may prove unsuccessful if the necessary legislation and regulation is not enforced. You may find that the challenge in the system might come from the need to create a culture of care by supporting education and awareness raising initiatives, which in turn might lead to greater investments in OHH.

## Calls to Action for OHH

*The most voted for actions in Step 4, perceived to be the most feasible, impactful and timely were:*

Education – Educate about the importance of oceans for human health for all:

- Science-based summer camps for families and kids in ocean/marine, river and lake ecosystems (14 votes)
- "Save the Ocean" video game (13 votes)
- Integrate OHH across the school curriculum through film and other interactive mediums (5 votes)

<sup>1</sup> (The numbers beside each of the priorities corresponds to when it was inputted into the computer software).

Create a culture of care:

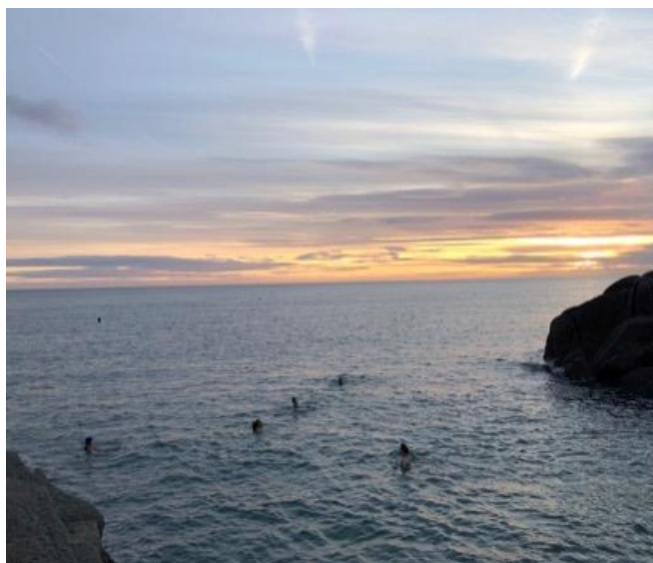
- Local group actions that involve communities and set examples of best practices (12 votes)
- Create an interactive art installation where participants swim in an aquarium full of plastic (12 votes)
- Create an app of augmented reality (like Pokemon-Go) where you learn about marine life (10 votes)
- Visual campaign – sharing images that transcend language and that say ‘Thank You’ to the ocean (9 votes)
- Create a business acceleration program dedicated to the blue bio-economy (6 votes)
- “We come from water” awareness campaign – highlighting our human connection no matter who we are or where we are from, “water is our first home.” (6 votes)

Although participants faced time constraints in this one day workshop, with limited time for the final group-work session of Step 4, the ideas shared highlight incredible creativity and imagination, in particular the need to bring together arts and sciences, in response to the challenges faced as well as practical, tangible actions at a community level.

## In Summary

Our OHH Citizen Conversations resulted in the generation of:

- Over 14,000 Priorities
- 758 Priorities included in the Collective Intelligence Conversation Process
- 23 Priority Categories
- 10 top voted Priority Categories
- 1 Priority structural map
- 9 top voted Actions



*Sea swimming at the Forty Foot, Dublin*

Most importantly, our OHH Citizen Conversations allowed space for everyone to connect, network and actively build collective leadership capacity, vision and commitment. The environment we live and work in matters and our workshops were held a stone's throw from the sea; where a few brave souls took a sunrise sea dip in the invigorating waters of the Irish Sea!

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# Appendix One

## **Starter Phrases to Generate Priority Statements.**

*Here are some helpful words to build your three priority sentences with:*

*Protect ...*

*Understand...*

*Build...*

*Lead...*

*Invest in...*

*Promote...*

*Manage...*

*Improve...*

*Deliver....*

*Reduce...*

*Enhance...*

*Develop...*

*Investigate...*

*Evaluate...*

*Remove...*



## Appendix Two

### 23 Priority Areas identified by citizens for Oceans and Human Health (in no particular order):

- **Raise Awareness** - *Improve awareness of the importance of oceans for human health.*
- **Education** - *Educate about the importance of oceans for human health for all.*
- **Increase the Knowledge-Base on Oceans and Human Health** - *Improve understanding of OHH in order to make informed decisions.*
- **Research OHH** - *Invest in research to better understand the links between Oceans and Human Health.*
- **Create a Culture of Care** - *Promote care and respect for the environment.*
- **Promote and Implement Sustainable and Environmental Practices** - *Empower sustainable actions to protect the marine environment and human health.*
- **Protect the Ocean for a Better Future** - *Recognise the importance of a healthy marine environment for future generations.*
- **Protect the Marine Environment** - *Protect all marine habitats, ecosystems and environments.*
- **Protect Marine Life** - *Protection and conservation of marine flora and fauna.*
- **Balance Human Actions with Marine Protection** - *Reduce human impacts and stressors on the marine environment.*
- **Eliminate Plastic Pollution** - *Tackle plastic waste as a major threat to healthy oceans and human health.*
- **Prevent Pollution** - *Prevent pollution from entering the marine environment.*
- **Stronger Legislation and Regulation of Marine Industrial Activities** - *Enforce effective and appropriate controls and regulations to protect marine environments and human health from harmful industrial activities.*
- **Prevent Harmful Shipping Practices** - *Stop unsustainable marine transport and shipping activities and practices.*
- **Sustainable Fisheries Management** - *Improve fisheries management to ensure sustainable use of oceans.*
- **Invest in OHH** - *Financial investments for the protection of the marine environment and public health.*
- **Alternative and Renewable Energy** - *Invest in alternative, sustainable and renewable energy to improve the environment.*
- **Reduce Global Warming** - *Recognise and reduce the impact of global warming on oceans and human health.*
- **Develop Technologies** - *Develop new technologies to improve the state of the marine environment and public health.*
- **Coastal Protection** - *Protect coastal areas from overdevelopment and enhance the resilience of coastal areas and communities.*

- **Healthy Oceans for Public Health** – recognise the importance and interdependence of a healthy marine environment for public health and the risks posed to human health from degraded and polluted marine environments.

## Appendix Three

### Participants at our OHH Citizen Conversation Workshop.



*(Front row L-R): Janelle Alexander, Easkey Britton, Virginia Vigliar, Christine Domegan; (2<sup>nd</sup> row, L-R): Ines Amorim, Olivia Van Riesen, Dzintra Grinsbergs, Wil Vos, Maud Sapene, Willem Van Breukelen; (3<sup>d</sup> row, L-R) Livija Uskalis, Molly Sterling, Lucy Gerber, Martin McGeough; (Back row, L-R): Gregory Laforge, Ciaran Sheridan.*