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Digital report on output/lessons learnt from science & sailors cafés & intergenerational events



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1. INTRODUCTION

The Sea Change project aimed to establish a fundamental “Sea Change” in the way European citizens view their relationship with the sea by empowering them, as Ocean Literate citizens, to take direct and sustainable action towards a healthy ocean and seas, healthy communities and – ultimately – a healthy planet.

Sea Change used the concept of “Ocean Literacy” to create a deeper understanding among European citizens of how their health depends on the health of our seas and ocean. This was pursued based on the latest social research on citizen and stakeholder attitudes, perceptions and values. Mobilisation activities and resources were developed and implemented targeting three key focus areas: Education, Public Engagement, and Marine Governance.

The Need for Ocean Literacy among European citizens

Not all European citizens are aware of the importance of the ocean and seas in terms of economic, societal, environmental and human well-being benefits. Moreover, many citizens are not aware of how their day-to-day actions can have a cumulative effect on the health of the ocean – a necessary resource that must be protected for all life on planet Earth to exist. In other words, there is a need for greater “Ocean Literacy” - the understanding of the ocean’s influence on humans and humans’ influence on the ocean, among European citizens.

In order to fundamentally change the way European citizens understand their connection with the seas and the ocean, citizen engagement had to evolve beyond the narrow forms of interaction that are common today such as consuming fish, enjoying the beach or visiting aquaria. Work Package 4, the Sea Change public engagement mobilisation component, used innovative social and behavioural methodologies in order to deliver empowering events and activities that help citizens become more Ocean-Literate.

An Ocean-Literate citizen:

- Understands the importance of the ocean to humankind,
- Can communicate about the ocean in a meaningful way, and
- Can make informed and responsible decisions regarding the ocean and its resources.

This report is a deliverable of Work Package 4 Task 4 (“Public engagement across Europe through innovation”). Its contents cover the outputs developed (in terms of activities and events) and lessons learned by the Sea Change partners and Third Parties while experimenting with innovative social and behavioural methodologies under this project task. It also captures their advice towards institutions wanting to embark on a similar journey towards “Sea Change” and offers an in-depth look at six case studies from across Europe and Latin America.

2. SEA CHANGE PUBLIC ENGAGEMENT: VISION, MISSION, VALUES

Work Package 4, the Sea Change public engagement mobilisation component, built on existing knowledge and best practices and methodologies to explore existing successful formats, target specific audiences and use innovative approaches, combining top-down and bottom-up perspectives.

As far as it was possible, tasks call for action and change were scalable and interconnected, and mobilised to ‘co-create’ and ‘co-deliver’ ideas with wider audiences and specific subgroups.

General objective

To mobilise/engage the wider public and target various subgroups on how the seas and ocean affects our daily lives and on how we citizens also have an impact on the health of the seas and the ocean

Specific objectives

Objective 1: Develop tools and activities that stimulate high-profile information exchange and engage target audiences in the links between the marine environment and human health

Objective 2: Explore how societal change in people's attitude, behaviours, values and attitude towards the seas can be brought about by identifying/testing innovative formats, including Citizen Science

Objective 3: Create interaction among different groups in society with the aim of multiplying and transferring knowledge and stories on how a more ocean literate society could look like

Task 4.4 Public engagement across Europe through innovation

Under Task 4.4, the Sea Change project challenged partners and Third Parties (selected science centres and aquaria) to upgrade Ocean Literacy and share ocean knowledge in a better way by working together with certain audiences which have great environmental knowledge which is often underexplored and underused in science engagement with the wider public.

In particular, two angles were explored:

- **Inter-generational events** that involve senior citizens sharing their knowledge and experiences from living and working on the coast with young people, imparting facts, culture and history, and
- **Inter-stakeholder events** that bring together water users such as water sports enthusiasts (divers, sailors, kite-surfers) and scientists and science communicators in relaxed and informal settings to exchange knowledge with the wider public.

Additionally, partners and Third Parties were encouraged to experiment with the **Sea Change Co-Creation Principles**, the social and behavioural methodology insights which form the subject of the next section.

“By ‘injecting’ Ocean Literacy into Science Centres which have vast experience in science outreach and education, we hope to expand the levels of Ocean Literacy amongst the public.”

Dr Jan Seys, Head of Communication at the Flanders Marine Institute (VLIZ) and Work Package 4 leader

3. DELIVERING OCEAN LITERACY THROUGH THE FIVE SEA CHANGE CO-CREATION PRINCIPLES

While education and traditional advertising can be effective in creating awareness, numerous studies document that behavioural change rarely occurs as a result of simply providing information, but through initiatives delivered at the community level focusing on removing barriers to an activity while simultaneously enhancing the activity's benefits.

An essential feature of the Sea Change project was the co-creation of Sea Change principles and protocols. Based on global best practices and original research on Ocean Literacy, behavioural change and social innovation, lead methodologists and social innovation experts Dr Christine Domegan and Dr Patricia McHugh from National University of Ireland at Galway, Ireland, proposed a set of behavioural and social change methodologies: the 5 Sea Change Co-Creation Principles for Ocean Literacy and an accompanying practical toolbox of protocols to put these principles in practice.

These methodologies formed the basis for large scale “experiments” in science centres and aquaria across Europe and in Latin America. As this report will demonstrate, they proved essential in guiding successful Sea Change public engagement interventions. By injecting these methodologies into the established way of working of networks of aquaria and science centres and museums, Task 4.4 contributed to the development of a network of change agents for “Sea Change”. The project encouraged collaboration and cooperation to add value, share knowledge and build trust in innovative, scaled-out ideas and solutions to social challenges, with the aim to spread a “Sea Change” movement across Europe.

As the diagram below illustrates, the principles are mutually reinforcing and centre upon the key principle for Ocean Literacy, the Change Principle. The next section will allow you to explore more in depth each co-creation principle¹ and find out how it manifested in the Sea Change public engagement events. An “advice corner” captures the advice Sea Change partners and Third Parties had to offer to institutions wanting to embark on a similar journey.

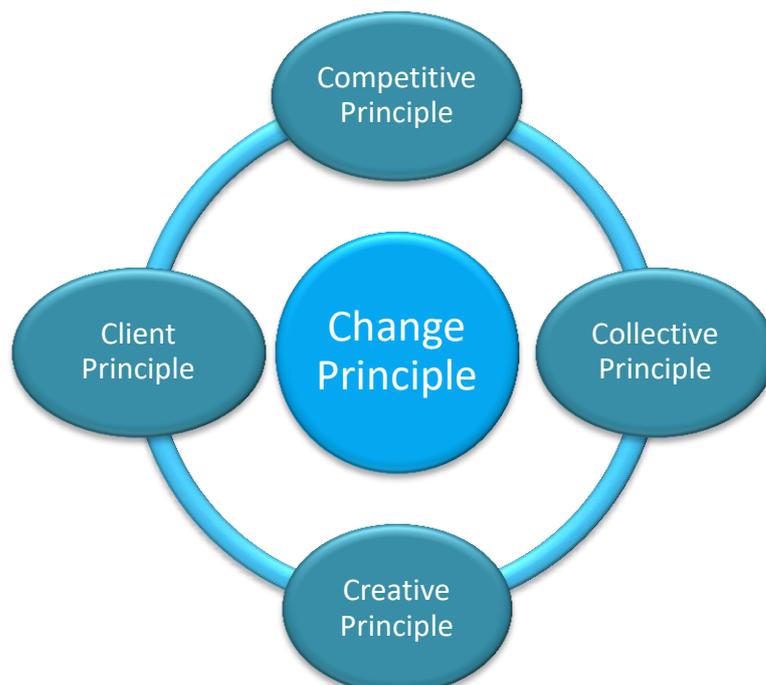


Figure 1. The Five Sea Change Co-Creation Principles¹

Focus on

THE CLIENT PRINCIPLE

In short

“Know, really know, your target group!”

What it is

The Client Principle is based on the idea of putting one’s target audience at the heart of co-creation. For an effective Sea Change, change agents must understand current behaviours and the people engaged in them, including their needs, values and motivations. Task 4.4 also asked Sea Change parties and Third Parties to encourage two forms of interaction: inter-generational (e.g. grandparents, grandchildren) and inter-stakeholder (e.g. water sports enthusiasts) exchanges.

What partners and Third Parties had to say

This principle was consistently rated as very or extremely present in the organisations’ way of working, allowing partners and Third Parties to build upon existing practices in order to understand their target audiences. The science centres and aquaria’s institutional experience with key audience groups such as children, teenagers and families proved essential in delivering awareness programmes that target the youth as important sources of social influence and the adult population and decision-makers of tomorrowⁱⁱ.

Sea Change partners and Third Parties accepted the challenge to bring extended family members such as grandparents, and water sports enthusiasts or professionals on board, endeavouring to do so explicitly or more implicitly through the nature of the programming and activities. This focus proved to be valuable institutionally for the organisations involved as it allowed them to develop or strengthen collaborations with stakeholders linked to water and the sea, and delivered more attractive and creative programmes for the wider public.

Advice corner

- As you venture into Ocean Literacy, build first upon your existing experience with key target audiences
- Research your demographics’ experience with Ocean Literacy – the Sea Change website has resources which could be helpful
- Don’t be afraid to trust your instinct – you know your core audience best

Focus on

THE COMPETITIVE PRINCIPLE

In short

“Pay attention to other choices and alternatives!”

What it is

The Competition Principle highlights the need to seduce people and divert them from other activities they are accustomed to do. It requires an understanding that the Sea Change mission and messages represent only a fraction of the choices available to the target group and compete for the public’s attention and engagement with other messages.

What partners and Third Parties had to say

Rated consistently as very or extremely present in their organisation’s established way of working, the Competition Principle led partners and Third Parties to consider how alternative behaviours, from the act of choosing to come along to a Sea Change public engagement event to taking action for “Sea Change” in one’s everyday life, could be made more attractive to target audiences. Emphasis tended to be placed on two aspects: removing barriers to event participation and increasing the appeal of the event.

Barriers to event participation were addressed through simple participation protocols, free-of-charge and well-advertised events that took place on school breaks and holidays so as to be available to public of all ages. Some Third Parties went as far as to bring their enticing offer closer to an environment frequented by target audiences: proposing science experiments and water shows in a picnicking area on sunny summer day.

In terms of appeal, organisers chose novel experiences such as hands-on activities, experiments and water shows and cooking workshops and introduced technologies such as filming and social media. According to Sea Change findings, especially among younger audiences, such practical approaches to marine education tend to improve knowledge of marine conceptsⁱⁱⁱ.

Advice corner

- Offer your audience the chance to try novel experiences and get out of their comfort zone – it works well both in terms of the content you can address and from the perspective of marketing the event
- Involve public figures from the fields of sport, culture or the arts for more attractive events
- Be sure you’ve eliminated or minimised all barriers to participating in your event

Focus on

THE COLLECTIVE PRINCIPLE

In short

“Remember we cannot separate ourselves from our environments!”

What it is

The Collective Principle encourages greater awareness of the system around us, of influences in our immediate environment which are so ubiquitous and powerful that they are taken for granted. These system characteristics need to be uncovered and addressed by adopting “the habits of a systems thinker”.

What partners and Third Parties had to say

Sea Change partners and Third Parties rated this principle as very present in their established ways of working. However, due to the short-duration nature of the Sea Change intervention, they were not always able to explore to the fullest wider-scale change and transformation. In line with the habits of a systems thinker, they considered how their audiences and the system conditions would change over time (i.e. their focus on young becoming adults who make decisions, the evolution of local environments).

In their interactions with audiences, they pointed out how the Ocean’s health is connected in a myriad ways with different social, cultural and economic elements of the system, via the topics of consumer behaviour, sports and recreation, food and local traditions, sought to point out ways the system could be helped and refrained from assigning blame.

In the long term, several expressed the interest in building upon the results of this experience to get better and better at bringing about change.

Advice corner

- Spell out powerful influences that are taken for granted
- Work with the tools found in your near environment to point out interconnections between human health and the ocean
- Don’t allow complexity to overwhelm you: it is possible to keep your message simple, playful and close to people’s lives

Focus on

THE CREATIVE PRINCIPLE

In short

“Seek imaginative and innovative solutions!”

What it is

Via elements of imagination and innovation, the Creative Principle encourages a move away from serious, moralising calls to action and towards compelling new visions of alternative futures that encourage participants to dream!

What partners and Third Parties had to say

This principle reflects in the range of tools and approaches Sea Change partners and Third Parties selected or developed to share the Ocean Literacy message with their different target audiences: an array of media, hands-on activities and ways to connect the ocean with people’s daily experiences, be it with food, leisure or health.

One consistent observation was that working in collaboration and co-creating felt particularly suitable for arriving at innovative solutions.

Advice corner

- Don’t hesitate to play with ideas to get around the issue of limited finances – there is always a way to do something fun for a reasonable amount of money
- Bringing new collaborators or co-creators on board can be a fresh source of ideas
- Have at least one eye-catching component in your activity or event – it helps to draw people in

Focus on

THE CHANGE PRINCIPLE

In short

“Aim for highest probability that your event will change behaviour and co-create value to close value-action gaps”

What it is

A value-action gap is a mismatch between a person’s values and attitudes and behaviour or, put another way, the difference between what people say and what people do. Co-creation

What partners and Third Parties say

The Sea Change partners and Third Parties’ experience shows that this principle was only moderately or somewhat present in their way of working before joining the Sea Change project. Whether it remained simply at the level of more traditional collaborations or implemented a fully-fledged co-creation process, the implementation of this principle imparted new energy and motivation among the organisers.

Inducing social and behavioural change was perceived as a difficult task. Understanding that each of the other 4 co-creation principles contributes to bringing this prospect closer lead, nevertheless, to a more optimistic outlook where partners and Third Parties took several measure they felt were in their power in order to aim for a high probability of change.

Advice corner

- Empowering messages on such a complicated issue as keeping the marine environment clean and safe are a very productive approach
- Share simple solutions the public can make here and now and reinforce their feeling of agency
- Giving interested stakeholders responsibility and a sense of ownership over events makes them engage more fully

To receive a methodology guide adapted to the needs of science centres and museum and aquaria, get in touch with us at: info@ecsite.eu, mentioning the reference McHugh, P., Domegan, C., Seys, J., Sterken, M. and Rehacek, T. (2016) Sea Change Protocol for Sea Change Third Parties in Work Package 4 – Where Society and Science Meet, EU Sea Change Project, Whitaker Institute, NUI Galway, Ireland.

4. SIX CASE STUDIES OF PUBLIC ENGAGEMENT THROUGH INNOVATION

Between October 2016 and November 2017, Sea Change partners and Third Parties carried out a wide range of “experiments” under Task 4.4 “Public engagement across Europe through innovation”. The activities were highly diverse, ranging from a transnational online photo competition to a youth science camp held in the middle of a swamp.

This section explore more in depth six case studies and delves into what the science centres and aquaria learnt in the process of giving the **5 Sea Change Co-Creation Principles** shape on the ground.

IN SHORT

10 PUBLIC ENGAGEMENT EVENTS

13 COUNTRIES IN EUROPE AND LATIN AMERICA

AS MANY AS 5,500 MEMBERS OF THE PUBLIC REACHED

OVER 400 EDUCATORS TRAINED WITH ACTIVITY GUIDELINES DEVELOPED UNDER
TASK 4.4

FOUR WORKSHOP GUIDELINES, ONE EDUCATIONAL ACTIVITY FOR LEGACY

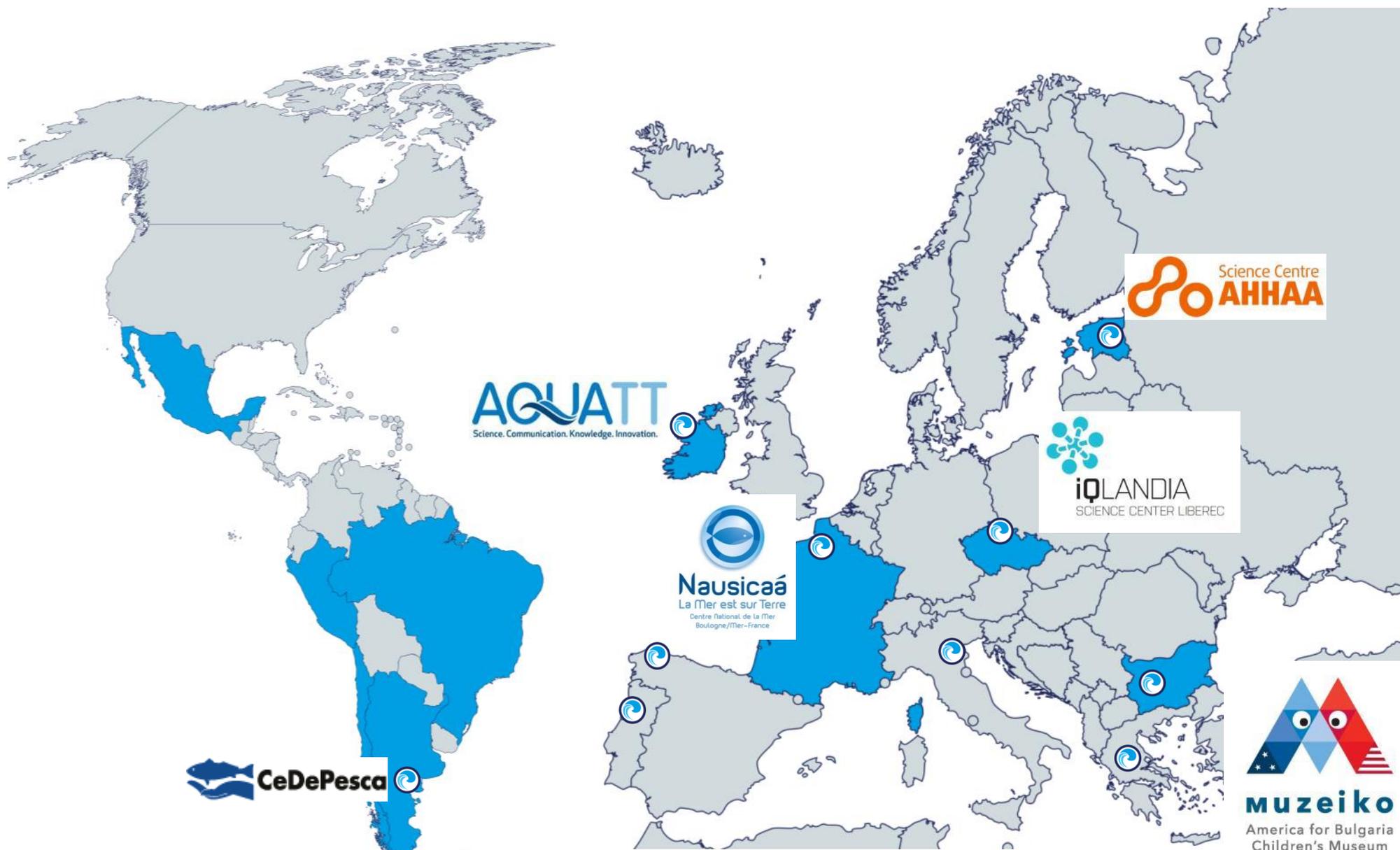


Figure 2. Map of locations of Sea Change public engagement events under Task 4.4. Institutions whose logos appear on the map are the subject of the case studies. Other locations can be explored in section 5.

4.1 SEA CHANGE YOUTH SCIENCE CAMP

Organiser: Ecsite Third Party AHHA Science

Centre Foundation

Location: Emajõe Suursoo wetlands, Tartu County, Estonia

Date: 22 – 24 April 2017

Target audience: teenagers (15 to 18 year olds)

Approach: inter-stakeholder event with water rescue professionals and volunteers

Key metrics: 15 teenagers, 3 camp instructors, over 400 educators trained to use camp workshops

For two and a half days, AHHA Science Centre invited 15 teenagers from Estonia, Germany and Argentina to experience an out of the ordinary stay on a floating raft accommodation complex in the middle of Emajõe Suursoo, one of the largest South Estonian wetlands.

In this novel setting, participants explored the ocean's influence on them and their influence on the ocean through the topics of marine biology, marine environment and marine rescue. New Ocean Literacy knowledge was presented in an engaging way during **four hands-on workshops** on making DIY toothpaste, upcycling juice and milk cartons into wallets, fish necropsy, and eliminating oil spillages. The camp instructors focussed on concrete ways in which how this knowledge can be applied in everyday behaviours.

What did you like the most about this event?

It was an interesting place for a stay and interesting workshops!

How do you plan to use what you have learned in your home, school or work life?

I will look more closely into the theme of plastics and what plastics are in what products and try to use as much harmless plastic materials as possible.

Youth camp participant, 17



Figure 3. Participants in the Youth Science Camp on the floating raft accommodation complex

Additionally, water rescue professionals and volunteers from the Estonian Maritime Rescue Organization taught the teenagers **rescue skills** in the icy waters of Lake Peipus, sharing essential knowledge for safe behaviour in water environments and empowering them to help others in the future.

Judging by the participants' feedback, the youngsters enjoyed the unusual location and the surrounding beauty and noted that they would share the knowledge gained with the friends and family and pay more attention to how their daily consuming habits influence the ocean.

SEA CHANGE PRINCIPLES IN ACTION

THE CLIENT PRINCIPLE

AHHA sought to make most of their extensive experience working with teenagers, in line with the project's finding that young people as important sources of social influence and the decision-makers of tomorrow^{iv}.

“Young people have the most time to make changes – they are the future generation bound to make important decisions about the health of the ocean in the near future.”

AHHA Science Centre

To better adapt their offer, AHHA sought to understand the teenagers' present and future engagement with marine topics, both in and outside the classroom. Estonian young people aged 15 to 18 have had the most classes on this topic (by the age of 15) and will continue to learn about the sea environment and its importance (e.g. its connections with climate, food, sustainability, global issues, transportation). It was hoped that an interactive camp would supplement the knowledge acquired from classroom education (using printed and online materials) with practical actions that enhance experience and make Ocean Literacy more memorable.



Figure 4. Youth Science Camp workshop on upcycling milk and juice cartons into wallets

In line with the Sea Change aims, it was very important to provide the teenagers with the chance of an inter-stakeholder dialogue. The process of recruiting water rescue stakeholders allowed AHHA to get to know the local scene of enthusiasts and professionals who deal with water safety and water sports issues and create collaborations with those interested in project activities.



Figure 5: Learning rescue skills with the Estonian Maritime Rescue Organization

THE COLLECTIVE PRINCIPLE

The youth camp activities focused on showing the connection between human behaviour (such as consumer behaviour and leisure activities in water environments) and the environment: what one flushes down the drain does not magically disappear but ends up in the ocean in the end! The organisers found this approach helpful in framing the activities and setting the tone of the discussions to follow.

THE CREATIVE PRINCIPLE

AHHA experimented with a twist on a classic engagement format that had proved popular with younger audiences in the past: an overnight science camp. This time, the camp encouraged teenagers keen for an adventure to take up the challenge of spending time in the middle of a swamp with no dry land in sight and with limited access to the internet and electricity.

“We learnt that putting people in unusual settings and taking them out of their comfort zone works very well both in terms of content as well as for the successful marketing of the event.”

AHHA Science Centre

THE CHANGE PRINCIPLE

The event formats and activities chosen were not preaching and warning-focused, but instead oriented teenagers towards simple, attractive steps they could take to make changes in their everyday behaviour. For instance, AHHA demonstrated how to make toothpaste from natural ingredients instead of buying microbeads-lead toothpaste and carried out a fish necropsy to delve into how micro beads negatively impact the health of sea creatures.

“This choice sparked a lot of discussions among the teenagers. We learned that behavioural change cannot be controlled but if there are simple and attractive options available, there is high probability that people will at least consider changing their behaviour.”

AHHA Science Centre



Figure 6: Youth Science Camp workshop on fish necropsy to better understand the damage micro bead plastics can cause to living organisms.

4.2 SEAWEED COOKING AND FILMING WORKSHOP

Organiser: Sea Change partner AQUATT

Location: Aris Inis Gluairra - The Civic Centre in Belmullet, Co. Mayo, Ireland

Date: 28 November 2017

Target audience: teenagers (12-19 year olds), general public

Approach: inter-stakeholder event with seaweed harvesters, chefs, filmmakers; inter-generational event with members of the wider community including parents and grandchildren

How do you plan to use what you have learned in your home, school or work life?

Bake the bread, make the crackers and spread the word!

Cook-off participant, 39

The event, co-organised by AquaTT, saw Transition Year students from Our Lady's Secondary School in Belmullet, Co. Mayo, Ireland, join celebrity chef Joe Shannon (Ireland's TV3) and renowned film-maker Richard O'Donnell ('The Atlantic') for an educational seaweed workshop held concurrently with a filming workshop focused on how marine resources such as seaweed can benefit human health, and why there is a great need to protect ocean health for all the benefits it provides.

Seaweed is a valuable and sustainable local resource for coastal communities in Ireland whose use in cuisine is being gradually lost. Students learned about how to identify, sustainably harvest, prepare, and cook sustainably-sourced seaweed, in an effort to help revive this tradition, and improve appreciation for coastal resources. Inter-generational and inter-stakeholder exchanges of knowledge took place as seaweed harvesters, students, and the public came together to discuss both the historical use of edible seaweeds for medicinal purposes and as a famine food, and the more on-trend, upcoming recognition of seaweed as a 'super-food'. The day ended with an entertaining cook-off competition, with students creating their own seaweed dishes and competing for a prize. The cook-off drew a general audience from the local community, interested in learning from celebrity chef Joe Shannon – and the students – about how to get the best out of local, sustainably-sourced seaweed using unique recipes.



Figure 7. Students try out seaweed recipes with celebrity chef Joe Shannon

In addition, students also learned about making short films using their mobile phones, an interactive and attractive element to generate awareness and engagement. Building on what they learnt, students themselves made short videos about their experiences learning about seaweed and interviewed members of the local community about their attitudes and perceptions around seaweed as a food source.

SEA CHANGE PRINCIPLES IN ACTION

THE CLIENT PRINCIPLE

In line with the project's Sea Change findings that young people as important sources of social influence and the decision-makers of tomorrow, the event focused on 12 to 19 year olds about the ocean. In particular, insights from Sea Change D3.2 and D3.3 'Our Ocean Conversations' were used to identify barriers to engaging this demographic group with Ocean Literacy as well as proposed solutions to be tested in designing the event.

The wider target audience were other members of the same community of Belmullet. To better understand any changes in attitudes that may result from the event itself, surveys and on-camera, qualitative interviews were carried out by transition year students with members of their local communities to investigate their attitudes towards seaweed as a food source. Survey forms were subsequently passed around during the event to investigate the audience's attitudes towards seaweed, and how this may have changed as a result of their experience. Students themselves made short videos about their experiences learning about seaweed.

Moreover, from an inter-generational aspect, the engaged and motivated participation of younger generations can help capture the attention of the entire community as parents and grandparents become more interested in their activities and learn more about the ocean as a result.

THE CREATIVE PRINCIPLE

Innovative formats are a key recommendation for engaging teenage audiences with Ocean Literacy and a diverse group of stakeholders, including teenagers themselves, had a say in choosing a format that they felt they would enjoy. The result was a dynamic mix of video production to practical cooking workshops to entertainment. These hands-on formats kept participants engaged throughout their learning experience, and delivered an entertaining final evening event for the broader audience.

THE CHANGE PRINCIPLE

AQUATT and its co-organisers aimed for a high probability of behavioural change by getting know their target audience via primary and secondary research prior to the event and identifying audience-specific

recommendations, including the use of a variety of methods to engage students and the audience in marine related content, thus catering for a variety of different learning styles.



Figure 8. Young people's motivated engagement can help capture the attention of the entire community, as seen during the Cook Off

Co-creation was another key element in securing a high probability of behavioural change. Along with the organisers and teachers, a film maker, a local seaweed harvester and a celebrity chef had input into the design and organisation of the event. The students themselves were co-creators of the event, fully engaging with the theme of the event and developing a sense of responsibility and ownership over its success, with great benefits in terms of overall engagement and enjoyment of the learning activities. Their engaged and motivated participation drew the attention of the entire community as parents and grandparents become interested in their activities.

4.3 SEA CHANGE PHOTOGRAPHY COMPETITION “SUSTAINABLE FISHING = HEALTHY OCEANS”

Organiser: WON Third Party CeDePesca

Location: Argentina, Brazil, Chile, Guatemala, Mexico, Panama and Peru

Date: 15 November 2016 to 26 May 2017; winners announced on World Ocean Day, 08 June 2017

Target audience: fishing communities, students, general public

Approach: inter-stakeholder event with seaweed harvesters, inter-generational event with members of the wider community including parents and grandchildren

Key metrics: 258 entries from 5 Latin American countries

The Sea Change photography competition “Sustainable Fishing = Healthy Oceans” organised by CeDePesca, an non-governmental organisation with twenty years of collective expertise working for sustainable fisheries in Latin America, aimed to show the strong link that exists between the health of our ocean and sustainable fisheries as a socioeconomic and cultural activity and source of food.

The competition was open to all photographers, both professionals and amateurs. Fishermen, fishing communities, students, general public were particularly encouraged to participate. Over 200 entries from 5 Latin American countries were submitted for three categories: “Fishing ports”, “Landscapes and Seafarers” and “Seafood Markets”. The winners, announced on World Ocean’s Day, were awarded cameras and photographic accessories for their captivating entries.

The accessibility of the topic and participation in the contest was decisive, as was the promotion of the event to certain remote communities by distributing printed materials and promoting the competition via local radio broadcasts.

“We were delighted to receive such a large number of photographs showing the enthusiasm of the photographers to provide insights into fishing from their point of view. It is a hopeful sign that the world is full of people who are betting on a sustainable future, with healthy oceans for the enjoyment of all.”

- Aleiandra Corneio. CeDePesca



¡Por la salud de nuestros océanos!



Figure 9. Sea Change photo competition banner

SEA CHANGE PRINCIPLES IN ACTION

THE CLIENT PRINCIPLE

CeDePesca relied on twenty years of collective experience working with the fishing communities of Latin America – its representation in 7 Latin American countries allowed a truly continental competition to be held.

Its knowledge brought into perspective the importance of easing participation in order to allow a wide range of stakeholders connected to the ocean to express their views. For example, no limit was set regarding the resolution of competition entries; photographs taken from a cell phone were equally eligible, and the message stressed that the works would also be assessed based on their ability to portray different ways of seeing the ocean and point out its interconnections with people's lives.

Consequently, the competition themes were equally accessible and chosen to resonate with diverse audiences. Fishermen could see the ocean as their source of work, artists as their source of inspiration, and ordinary people as the place they love. At the same time, each participant would be sharing their point of view with other stakeholders connected with the seas and the oceans, creating inter-stakeholder and trans-national links.



Figure 10. Winning entry, Mexico: Flor de Agua, mujer pescadora de la Ribera, by Roberto Reynoso Aran. This entry portrays Maria del Rosario Jimenez Silva, a 48 year-old fisherwoman from the Gulf of Mexico, who has been dedicated to fishing for over 20 years.

THE CHANGE PRINCIPLE

CeDePesca aimed for a powerful visual campaign based on the emblematic insight that an image says a thousand words. Making visible the problems of the ocean through an image in each particular region was a way to start looking for solutions and perceived to have great mobilising potential. Lines of action could be generated around the key issues chosen as competition categories.



Figure 11. Winning entry, Chile: *Pescador surrealista* by Manuele Turkieltaub del Fierro.



Figure 12. Winning entry, Brazil: *Trabajo de todos los dias 3/Everyday work 3*, by Claudio Vieira Rocha. “This photo represents the daily work of those who live from fishing with a sense of preservation for the sustainability of future generations.” – Claudio Vieira Rocha



Figure 13. Winning entry, Peru: Buenas sociedades/Good societies, by Alfredo Parra Prieto. The author sought to portray the mutual need between humankind and the ocean by capturing this common moment when fishermen are in the company of sea birds.

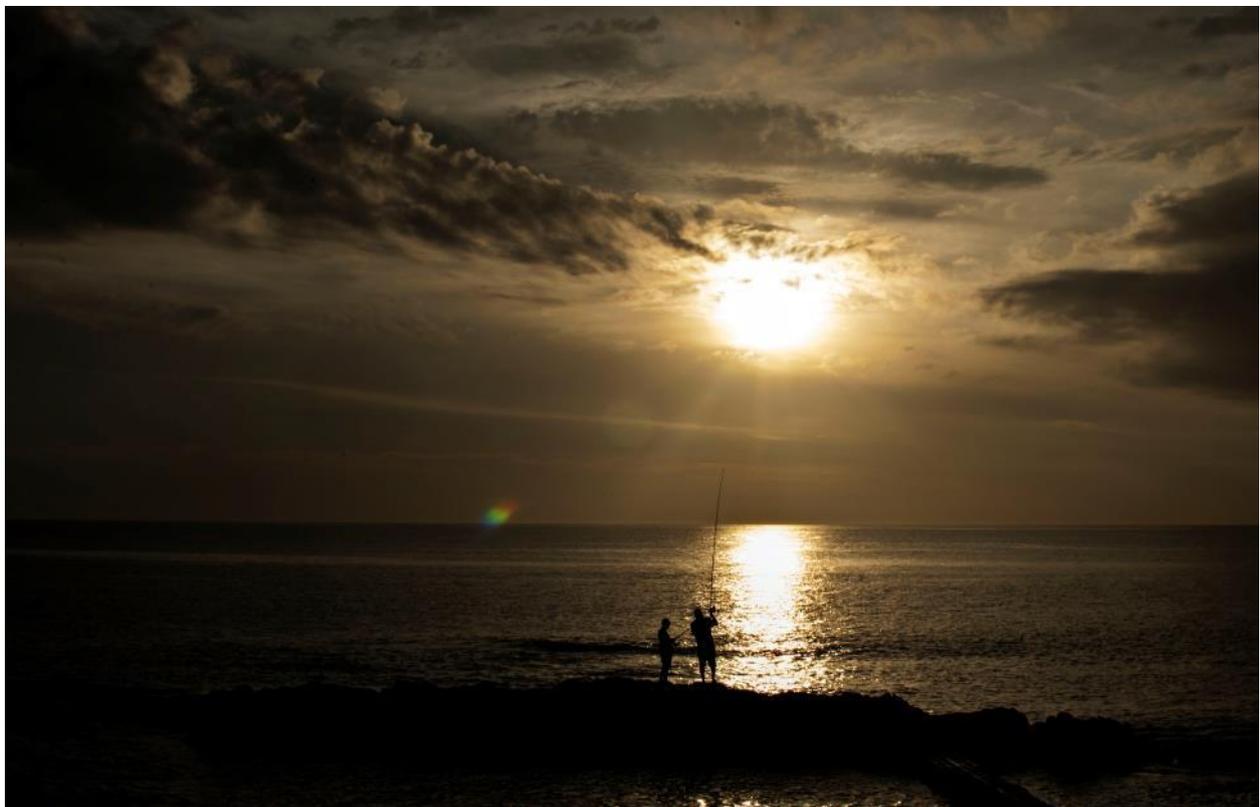


Figure 14. Winning entry, Argentina: La hora dorada/The Golden Hour, by Maria Soledad Pereira

4.4 SEA CHANGE AT THE NISA MARATHON 2017

Organiser: Ecsite Third Party IQLANDIA Science Center

Location: Liberec, Czech Republic

Date: 3 June 2017

Target audience: water lovers, families with children, general public

Approach: inter-stakeholder event held in cooperation with water sports professionals and enthusiasts

Key metrics: 200 participants

Why did you attend the event?

I wanted to diversify the day for my grandchildren.

Participant, 68

IQLANDIA's main Sea Change event took place in the context of the 17th edition of the Nisa Marathon, an annual canoe race on the river Nisa that attracts a large number of participants and visitors. A Sea Change stand was set up in the finish area. Visitors to the stand were invited to take part in water-related activities, received information about the Sea Change project and could discuss with iQLandia representatives and other members of the public issues of concern.

Throughout the event, IQLANDIA underscored the connections and our dependence on having a healthy ocean even in a country that has no access to the sea through various activities that brought this knowledge to life and closer to the audience: the microscopy of aquatic algae and small animals and the connection of these species to water quality, the measurement of water quality and its purification by various tools and a demonstrative river cleaning that revealed significant pollution by solid objects.

Additionally, a water science show for children with water rockets and scientific tricks was proposed to the public and drew quite the crowd. IQLANDIA also entered a team in the marathon who took a video recording from their canoe.



Figure 15. The Sea Change tent set up at the finish line of the Nisa Marathon is getting ready to welcome all generations

SEA CHANGE PRINCIPLES IN ACTION

THE CLIENT PRINCIPLE

IQLANDIA relied on its experiences from previous events and used the choice of venue and timing of the event to guide their client analysis, with the support of the organisers of the Nisa Marathon and of the water sport enthusiasts that took part in this race.

It is hoped that their viewpoints and interest will result in future collaborations that demonstrate both the beneficial “Blue Gym” effect of water-environments and that our health and wellbeing is connected to that of the Ocean. It was noted that their tough, persistent attitude and gratefulness for the leisure and sports opportunities provided by the natural environment meant they could become ambassadors for the ocean and Ocean Literacy.



Figure 16. The organisers and participants of the Nisa Marathon 2017, together with the team from IQLANDIA (in blue)

THE COMPETITIVE PRINCIPLE

IQLANDIA chose to take its activities outside its premises and go closer to the public, enticing those taking advantage of the beautiful day for being outdoors around the river with an exciting offering of activities. The chance to diversify their day out was appreciated by the participants, and the activity drew not just the attention of those attending the canoe race but also of passers-by or those picnicking in the area.

Attraction grabbing water shows and experiments drew the audience in, allowing science communicators from IQLANDIA to engage both younger and older audiences into discussions about the issue of the quality of water in the local rivers, the reasons for the current pollution and the possibilities for improvement, and what it all means for the ocean.



Figure 17. Attention grabbing water shows drew a large crowd at Nisa Marathon 2017 in a busy picnicking area

THE COLLECTIVE PRINCIPLE

The interconnections that emerge when one adopts a systems thinking approach were underscored by IQLANDIA by using the near environment: working with samples directly collected from the river, demonstrating river cleaning, participating in the marathon race and discussions over the quality of local waters in historical contexts took place, e.g. before and after the construction of a waste water treatment plant in the town of Liberec.

THE CHANGE PRINCIPLE

The organisers took all the opportunities available to discuss change and concrete solutions. With participants who opened up and wanted to know more, a deeper analysis of the situation was presented. In the evaluation questionnaire, participants referred unprompted to concrete actions in line with the Sea Change “Take Action” pledge such as avoiding the use of micro-plastics, recycling and paying greater attention to the health of the rivers, seas and the Ocean.



Figure 18. Water-related science experiments carried out with water samples from river Nisa

4.5 SEA CHANGE OCEAN WEEKEND

Organiser: Ecsite Third Party MUZEIKO, America for Bulgaria Children’s Museum

Location: Sofia, Bulgaria

Date: 7 – 9 October 2016

Target audience: water lovers, families with children, general public

Approach: inter-stakeholder event held in cooperation with water sports professionals and enthusiasts

Key metrics: 3,000 direct visits; 50,000 reached via social media

MUZEIKO’s main Sea Change event was a 3-day Ocean Weekend. The central theme of the event was “quality and safe family time in nature respectful of natural resources” with a particular focus on oceans, rivers and seas. This thematic highlighted the direct and mutually influencing link between our well-being and that of the ocean, the principle at the core of Ocean Literacy.

The festival featured activities designed to increase Ocean Literacy among children and their families, including: fun workshops and demonstrations related to water sports and resources; movies dedicated to water sports and marine adventures; and opportunities to meet ocean adventurers such as the Bulgarian diver Alexander Kirilov.



Figure 20. Bulgarian diver Alexander Kirilov shares his diving adventures

A special Sea Change game further increased the attractiveness of the Ocean Literacy message by challenging participants to consider information about the everyday presence of the ocean in our lives and collect stamps from ocean-related activities in a quest to win an award.



Figure 21. The Ocean Weekend proposed a mixture of indoor and outdoor activities

SEA CHANGE PRINCIPLES IN ACTION

THE CLIENT PRINCIPLE

To better understand who their clients and collaborators on the theme of seas and the ocean could be, Muzeiko carried out research through interviews on various topics, including literacy about ocean protection, and area research such as meeting up with sports clubs, researching their activities. 15 organisations clubs working directly with children took part in the event and brought experienced water sports enthusiasts and professionals in contact with families and younger visitors, enabling inter-generational and inter-stakeholder exchanges in a relaxed setting.

Placing the younger audiences and families at the core of their event was a helpful process for MUZEIKO as it directed them to focus on how to present complex, difficult and often abstract Ocean Literacy topics to younger audiences.

“The topic of the preservation of the water basin is somewhat abstract to younger children but, when related to a favourite sport or family time activity, becomes more understandable and a true priority.”

MUZEIKO

THE COMPETITIVE PRINCIPLE

The weekend programme combined free-of-charge indoor and outdoor activities which usually attract a lot of attention even among people who are not focused on nature and nature preservation. The Sea Change game built on that interest to draw attention to key messages of the project and the importance of ocean protection.

THE CHANGE PRINCIPLE

Through the organization of the event, MUZEIKO worked with different sports clubs as well as with an NGO that created the in-door programming. The involvement of other partners enriched the programme and brought new and exciting options for its audience. MUZEIKO has been actively working with partners in the past and the Sea Change collaboration further confirmed the importance of such collaborations.



Figure 22. The Ocean Weekend offered films dedicated to water sports and marine adventures

4.6 “OUR OCEAN OUR HEALTH” - A CO-CREATED SEA CHANGE EDUCATIONAL ACTIVITY

Organiser: WON Third Party NAUSICAA, French National Sea Experience Center

Location: Boulogne-sur-Mer and the region Hauts-de-France, France

Date: November 2016 – April 2017, development; April 2017 – October 2017, implementation

Approach: Inter-generational activities

Key metrics: 9 partners involved; 4 partner meetings; activity deployed at 11 sea and nature festivals such as “Ocean bien fait” (490 adults and 534 children), “Nature festival” (20 adults, 18 children), Sea Festival in Boulogne-sur-Mer (800 adults and children)

Together with eight partners of the World Ocean Network in Region Hauts-de-France, NAUSICAA embarked on an exciting journey of co-creation that resulted in the development of a new inter-generational educational activity: “Our Ocean Our Health”.



Figure 23. Partner meeting to co-create the educational activity “Our Ocean Our Health”

Four partner meetings (between November 2016 and February 2017) allowed educators, scientific explainers and information multipliers to work together on the content, educational approach and design of this tool and a complementary activity guide. A training session (24 March 2017) for local partners was followed by the active use of the “Our Ocean Our Health” educational activity at local sea festivals and nature festivals all around the coast Nord-Pas-de-Calais and beyond (between April 2017 and October 2017).

The audience is invited to throw a giant colourful dice in order to discover one of six key benefits of the ocean for human health. Children and adults can learn more about the benefit selected while having fun thanks to six related mini-games using formats such as bingo, snakes and ladders and domino, well loved by an inter-generational audience. These games show how the ocean is a source of food and medicine, leisure and well-being, and how it links human beings and lands, supplies oxygen, regulates the climate and participates in the water cycle.



Figure 24. A family tries out the educational activity during the International Kite Festival 2017 in Berck, France

From the 13th to the 16th of July 2017, the educational team of NAUSICAA presented their game to the public during the Sea Festival of Boulogne-Sur-Mer, actively engaging with over 800 adults and children over the four days of the festival.

SEA CHANGE PRINCIPLES IN ACTION

THE CLIENT PRINCIPLE

To put their target audience at the heart of their activities, NAUSICAA and its partners focused on the locations and moments they could use the educational tool and the kind of public that will be in the majority, concluding that their activity will need to work for multi-generational families (i.e. grandparents, parents and children). This early targeting meant that, when the game was tested and used, it matched the demand and expectations of the public encountered at different sea and nature festivals and delivered recreational, fun and surprising family time while at the same time imparting some new knowledge.

“We understood how important it is to work towards the target we will be dealing with and not just towards what we want to do. Without this focus, the educational tool would have never been as efficient as it is today.” – NAUSICAA

THE CREATIVE PRINCIPLE

“Several heads are better than one in coming up with innovative ideas! Our co-creation group was helpful in discussing creative matters and resulted in imaginative solutions for the design and visuals of the game.” – NAUSICAA

The eye-catching aspect of the educational tool is the giant colourful dice that allows players to select the ocean benefit they will learn about. It brings was attracting people to the stall, meaning it was easier to make them want to play the different games and as a result learn about the benefits of the ocean for humans. The diversity of the games, their intergenerational characteristics and their design were also making our educational tool different, simple to use and attractive. We learnt that having great visuals and attractive features are important if we want to touch the public in general and more specifically families.

THE CHANGE PRINCIPLE

The Sea Change project gave impetus to NAUSICAA to co-create for the first time an educational activity with other partners and organisations. NAUSICAA felt that this approach secured buy-in or appropriation from educators, scientific explainers and information multipliers, strengthened the links between them and was crucial in delivered a tool that could meet the demands of various audiences. The collaborative work in itself brought other benefits in terms of communication and dissemination.

“Co-creating brings new ideas, new perspectives and better input on the thematic chosen. Having advice from partners with different backgrounds enriched the design process. It might be sometimes more difficult to come to a common agreement but the struggle is always worth it.” – NAUSICAA

5. ...EVEN MORE PUBLIC ENGAGEMENT EVENTS

SEA CHANGE LIVE SCIENCE SHOWS

Organiser: WON Third Party **Museos Científicos Coruñeses - Aquarium Finisterrae**

Location: A Coruña, Spain

Target audience: general public, secondary and high school students

Approach: inter-stakeholder event

Key metrics: 3 days, approx. 220 participants

Description: Visitors to Aquarium Finisterrae could interact with marine biologists from the University of A Coruña in a fun and relaxed atmosphere, receiving information directly from the researchers through an interactive and attractive tool called “Sea Dance”.



Figures 25 and 26. Families and the general public take to the stage in order to bring marine science to life



SEA CHANGE FOR KIDS – MARINE POLLUTION

Organiser: Sea Change partner CIIMAR

Location: Núcleo Rural do Parque da Cidade, Porto, Portugal

Date: 16 November 2017

Target audience: children (6 to 12 year olds), teachers, local civil society

Key metrics: approx. 50 participants

Description: The Núcleo Rural from Parque da Cidade – Porto, invited the Sea Change team at CIIMAR to give a lecture about Marine Pollution for children (6 to 12 year olds). Several visual materials were used to call children’s attention to marine pollution. After the lecture a “mini-ocean” filled with microplastics was displayed. Participants were invited to clean the ocean with several tools (e.g. sieves, tweezers, catchers, gloves, fishing nets and pipettes). As the task was hard to accomplish, it opened up the discussion about the difficulty to clean the ocean and the importance of behavioural change and prevention.

SEA CHANGE PLASTIC FREE INITIATIVE

Organiser: Sea Change partner UNESCO

Location: UNESCO Office, Venice, Italy

Target audience: general public

Key metrics: approx. 50 participants

Description: The event included screening of thematic films and a presentation by Franco Borgogno, author of the book “A Sea of Plastic”, about the first investigation into the presence of plastic and micro-plastics in the Arctic Ocean (August 2016). Franco Borgogno’s presentation was followed by a debate with the public. With the patronage of the Municipality of Venice, it was decided that a clean-up event with Venetian citizens and tourists would take place on the occasion of the next World Oceans Day (8 June 2018).



Figure 27. Plastic Free Initiative promotional banner



Figure 28. Plastic Free Initiative event panel

SEA CHANGE AT EUROPEAN RESEARCHERS' NIGHT

Organiser: Sea Change partner Hellenic Center for Marine Research

Location: Anavyssos, Greece

Date: 29 September 2017

Target audience: general public

Key metrics: approx. 10,000 participants attended the European Researchers' Night event overall

Description: A Sea Change information stand distributed project materials and engaged the public, with the help of the Sea Change videos, with the project and the small changes they can implement in their daily lives to make a difference for the ocean.



Figure 29. Citizens engage with Sea Change project materials during European Researchers' Night

ⁱ Based on McHugh, P., Domegan, C., Devaney, M. and Hastings, G. (2015) A Set of Sea Change Guiding Principles and Protocols. EU Sea Change Project. Available at:

http://www.seachangeproject.eu/images/SEACHANGE/SC_Results//Deliverable-D.2.2.pdf

ⁱⁱ Eleiton, N.E., Corless, R. and Hynes, S. (2015) Public Perceptions of Marine Environmental issues: A Review. EU Sea Change Project. Available at: http://www.seachangeproject.eu/images/SEACHANGE/SC_Results//D2_1_public.pdf

ⁱⁱⁱ Eleiton, N.E., Corless, R. and Hynes, S. (2015) Public Perceptions of Marine Environmental issues: A Review. EU Sea Change Project. Available at: http://www.seachangeproject.eu/images/SEACHANGE/SC_Results//D2_1_public.pdf

^{iv} Eleiton, N.E., Corless, R. and Hynes, S. (2015) Public Perceptions of Marine Environmental issues: A Review. EU Sea Change Project. Available at: http://www.seachangeproject.eu/images/SEACHANGE/SC_Results//D2_1_public.pdf