



Report of the Workshop on:

Transatlantic Ocean Literacy Workshop, 5th-6th September, Plymouth, UK



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*“A Learned Society
advancing marine science
through research, communication
and education”*

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1. Introduction

The Plymouth workshop on Transatlantic Ocean Literacy was held at the Marine Biological Association (MBA) Citadel Hill Laboratory and Plymouth University's Marine Institute at its Marine Building. The workshop followed the two day European Marine Science Educators Association (EMSEA) 2013 conference held in Plymouth and hosted by the MBA.

The workshop was attended by the following:

Waddah Saab	European Commission	Belgium
Paula Keener	NOAA	USA
Jon Parr	Marine Biological Association	UK
Fiona Crouch	Marine Biological Association/EMSEA	UK
Geraldine Fauville	University of Gothenburg/EMSEA	Sweden
John Spicer	University of Plymouth	UK
Peter Tuddenham	College of Exploration	USA
Margarida Suarez	Ciência Viva	Portugal
Luc Zwartjes	University of Gent	Belgium
Rita Rocha	MUNDO CIENTÍFICO	Portugal
Manuel Cira	Nausicaa	France
Susan Heaney	Titanic Belfast	Northern Ireland
John Joyce	Spindrift Press	Ireland
Jan Seys	Flanders Marine Institute	Netherlands
Mark Ward	Field Studies Council	UK
Steve Savage	Environmental Educator	UK
Ivvet Modinou	Natural History Museum	UK
Harry Breidahl	Nautilus Education	Australia
Ivor Grigorov	Technical University of Denmark	Denmark
Henriette Krimphoff	BILAT	Germany
Anne Stewart	Canadian Network for Ocean Education	Canada
Tina Bishop	College of Exploration	USA
Melissa Ryan	Ocean Technology Foundation	USA

The report sets the scene of the workshop, covers the discussion of activities and sets out the actions agreed (see annex 1 for workshop agenda).

2. Rationale of the Workshop

The workshop follows two successful interactions and discussion on Transatlantic cooperation. The first was the Galway Declaration (Annex 1) and the second the workshop held in Ostende in June 2013¹ on 'Defining an ocean literacy agenda for Horizon 2020 and transatlantic cooperation' organised by the Marine Board and Flanders Marine Institute (VLIZ). The workshop also followed immediately afterwards and built upon the EMSEA 2013² conference hosted by the Marine Biological Association in Plymouth. The first conference on European Ocean Literacy was held in Bruges in October 2012.

The workshop participants were supported by the European Commission and also BILAT (www.bilat.eu). Participants were from across Europe, United States, Canada and Australia.

The workshop objectives were:

1. Define Transatlantic Ocean Literacy
2. Plan for near term development of Transatlantic Ocean Literacy, identifying potential topics to develop.
3. Develop an action plan to develop Transatlantic Ocean literacy

The two day workshop considered the experiences of the participants in developing Ocean Literacy and marine education programmes both in Europe and in North America. Presentations were provided on project work in Europe, North America (Both US and Canada) and Australia.

BILAT provided a presentation of the work on bilateral EU co-operation in science, technology and innovation.

¹ <http://www.marineboard.eu/news-archive/167-defining-an-ocean-literacy-agenda-for-h2020-and-transatlantic-cooperation-25-26-june-2013-emb-offices-ostend>

² <http://www.emseaplymouth2013.org/>

The Galway Statement

The Galway Statement on Atlantic Ocean Cooperation was signed on 24 May 2013 by the EU, the United States and Canada. The Statement sought to stimulate a much closer cooperation between the EU, the US and Canada on transatlantic marine, maritime and Arctic research. Ocean Literacy was specifically identified in the statement as a key horizontal activity³. The relevant section reads:

“We further intend to promote our citizens’ understanding of the value of the Atlantic by promoting ocean literacy. We intend to show how results of ocean science and observation address pressing issues facing our citizens, the environment and the world to foster public understanding of the value of the Atlantic Ocean”

The Galway Statement provides an important starting point in recognising the importance of promoting Ocean literacy across the Atlantic.

The Ostende workshop

The expert working group met in Ostende on 25-26 June 2013. The workshop defined 10 marine topics for an Ocean Literacy call. The topics were published as:

No.	Topic + Lead Question	Challenge
1	Marine biodiversity What is marine biodiversity and how does it benefit society?	Understand the nature and extent of life in the oceans and what function it has in our everyday lives, how it is changing, and what the consequences of these changes are (and may be in the future).
2	The deep sea What is in the deep sea and why is it important?	Synthesize scientific knowledge and educate people on what we know (and don’t know) about the deep sea (which extend to more than 66% of the global surface area) and the implications of expanding commercial activity there.
3	Sustainable food from the sea Which foods originate in the sea, is it sustainable and is it an important part of my diet?	Know the origin of seafood (fisheries and aquaculture) the challenges and opportunities in moving towards a sustainable supply of protein from the sea (include health issues)
4	How oceans benefit people Why is the ocean important in my daily life?	Understand and respect the major life-supporting role of the oceans (primary production, oxygen generation, food & energy production, climate regulation/CO2 sink etc.) and the significant goods and services (bioremediation, recreation etc.) and the need to know more (science) and to protect this for future generations (management)

³ http://europa.eu/rapid/press-release_IP-13-459_en.htm

5	<p>Oceans and human health What is the link between the oceans and human health?</p>	<p>Understand and take account of the largely unrecognized but significant links between the seas (and their “health status”) and public health. On the one hand negative issues such as effects of chemical pollution, marine pathogens, HABS, radionuclides, contamination in seafood, extreme weather and geo-hazards. On the other hand benefits include a range of unquantified goods and services (climate regulation, bioremediation), blue growth opportunities (e.g. bioprospecting for discovery of new drugs) and cultural/recreational benefits (“blue gym”)</p>
6	<p>The need for ocean observation Why do we need to observe the ocean?</p>	<p>Educate the public on the rationale and benefits (societal & economic) provided by an improved knowledge and observation of our seas and oceans and in doing so justify in the minds of the public (and policy makers) the investment in ocean observations and associated research.</p>
7	<p>Ocean governance (How) do we manage the seas and oceans?</p>	<p>Synthesize and understand the current status and possible options for achieving an equitable system of ocean governance which is underpinned by sustainability and supports blue growth</p>
8	<p>Energy from the sea Can we provide sustainable energy from the sea?</p>	<p>Scientific synthesis and public outreach and education on the rapidly developing marine energy sector with a strong focus on renewables and sustainability and blue growth (employment)</p>
9	<p>Marine pollution Am I polluting the ocean and is it a problem?</p>	<p>Understand the causes and behaviours of marine pollution, how it impacts on environmental and human health and measures that people can take to reduce it.</p>
10	<p>Recreation & leisure How does the sea support recreation and can we make it sustainable?</p>	<p>Understand the recreation and leisure benefits provided by the seas and oceans and how their sustainability depends on protection, including some of the harmful effects of overuse of coastal zones.</p>

Theme to develop Transatlantic Ocean literacy

The Plymouth workshop was asked to consider themes to adopt to develop a European Ocean Literacy call for proposals over the next year with reference to transatlantic issues.

It was noted there was no similar mechanism for US or Canadian participants and yet any call would expect to have North American partners in place. Some consideration was given to a coordination call to allow the development of partnerships, the EMSEA network and conference meetings. EMSEA could also provide a strong link between Europe and North America, stimulating dialogue and fostering joint activities.

The workshop discussed the top ten issues identified and stressed the need for subjects that could be linked across the Atlantic.

Ideas for linking programmes included:

- using the deep sea as a linking subject effecting both North America and Europe, new and exciting areas of science but little understood by the public at large.
- The north Atlantic ridge – using the ridge, its geography, science and understanding as an engagement tool.
- the rise of areas of hypoxia zones
- public engagement through blue gyms, citizen science activities. Could joint activities take place on both sides of the Atlantic
- Ocean observations – public engagement perhaps building on US experience of live linkages with scientific research vessels.

It was considered that all of the Ostende topics could and should be taken up but it was felt important to recognise that topics that emotionally connect with people on both sides of the Atlantic were the most persuasive and have the ability to be framed into action. Citizen engagement or action was considered key.

Of the Ostende topics discussed three were considered as most relevant to the Transatlantic Ocean Literacy discussion:

- 1) **Sustainable food from the sea**
- 2) **How oceans benefit people**
- 3) **Oceans and human health**

Of these Oceans and Human Health was considered the most overarching topic that had high relevance to all participants. It was considered that Oceans and Human Health should be considered as 'Ocean Health, Human Health' i.e. without a healthy ocean we cannot achieve good human health.

The term 'Every Second Breath' was adopted by the workshop to encapsulate the importance of the ocean to human health and well being.

Public engagement – ideas for Ocean Literacy engagement

The workshop built on the Ocean Literacy themes to consider public engagement or citizen action that could be taken. Ocean Literacy should be relevant to all Oceans/Seas everywhere in the world. The principles however can be adapted and Oceans such as the Atlantic have a role in promoting specific or relevant action. Ocean Literacy and citizen action or engagement was linked but not necessarily the same thing.

Actions considered included:

- Using 'One Ocean' as a connector e.g. linking nature reserves (marine and terrestrial) on both sides of the Atlantic
- The Atlantic Current – using linked current species to engage – e.g turtles; Sargasso Sea eels; invasive species such as the Green Crab
- Twitter storm of events
- Twinning schools – collecting data and sharing (requires a common language)
- Ocean champions to take up Transatlantic Ocean Literacy
- A Transatlantic Day – a day of action/observations/celebration.

Outcomes and actions from the meeting

The Plymouth meeting on Transatlantic Ocean Literacy agreed a number of clear actions to implement Transatlantic Ocean Literacy.

1) Statement or declaration of Transatlantic Ocean Literacy. Following the Galway Statement the Plymouth meeting agreed to develop an associated statement on our intention to work together on Ocean Literacy across Europe and North America. The statement should be agreed and signed by the meeting participants and made open to the wider community to join.

2) Survey of Ocean Literacy should be considered, using the EMSEA conference as a starting point

3) Sharing event information 2014 to 2020. All participants were aware of relevant events/projects that could link into a Transatlantic Ocean Literacy campaign.

Participants were keen to consider how these might be linked and were supportive of an 'Atlantic Ocean Day'

4) Call for proposals. The workshop supported the EU Horizon 2020 programme efforts to include a call specific to Transatlantic Cooperation and Ocean Literacy. The workshop encouraged the call to be based on Ocean and Human Health, Oceans and the Deep Sea and the need for Ocean Observations.

5) The participants advocated meeting again using the EMSEA evolving structures and other relevant meetings. North American participants were to look at forthcoming meetings and where Transatlantic Ocean Literacy could be included.

Annex 1 Workshop Agenda

1. Welcome and introductions
2. Setting the scene – results of the EMSEA conference, Galway declaration and Ostend – overview of OL actions in the US / Canada and Europe.
3. Steps towards building a Common Vision for OL
 - a. What is TOL and agreed audiences?
 - b. Agree a stated vision for TOL (taking into account the political mandate given by the Galway statement)
4. What transatlantic issues can be used to advance TOL? (using the work done at Ostend and the Galway statement and report)
5. What instruments and funding sources do we have on both sides of the Atlantic? Can transatlantic cooperation on ocean literacy be more effective through cooperation with private sector?
6. Examples of success (are there any??)
7. Brainstorm for concrete proposals
8. How can transatlantic cooperation on ocean literacy support a global ocean literacy agenda?
9. Issues effecting delivery
10. Developing an Action Plan – steps to take at what levels.

Expected Outcomes:

- 1) An agreed definition TOL and vision for delivery agreed by all participants
- 2) Topics of collaboration
- 3) Examples of transatlantic cooperation
- 4) Concrete project proposals and actors to implement the new vision
- 5) Agreed actions to prepare the:
- 6) Publically available Action Plan of TOL over the next three years

Annex 2 Galway Statement

Galway Statement on Atlantic Ocean Cooperation Launching a European Union - Canada - United States of America Research Alliance

The Signatories of this Statement meeting on the occasion of the high level event

The Atlantic – a Shared Resource, held on

23 and 24 May 2013

at the Marine Institute, Galway, Ireland

Recognizing the importance of the Atlantic Ocean to our citizens, prosperity, human health and well-being, adaptation to climate and other environmental change, and security,

Cognizant of our reliance upon the best available science and knowledge to inform decisions affecting the Atlantic Ocean,

Realizing that our countries face similar challenges in promoting a healthy and well-understood Atlantic Ocean,

Acknowledging the critical interlink between the Atlantic Ocean and the portion of the Arctic region that borders the Atlantic,

Appreciating the value of our ongoing cooperation on ocean science and observation in the Atlantic Ocean, and

Valuing the essential role of international partnership to achieve our shared objectives and the potential of greater cooperation to advance our knowledge of the Atlantic Ocean,

Intend to advance our shared vision of an Atlantic Ocean that is healthy, resilient, safe, productive, understood and treasured so as to promote the well-being, prosperity, and security of present and future generations.

This cooperation is intended to increase our knowledge of the Atlantic Ocean and its dynamic systems - including interlinks with the portion of the Arctic region that borders the Atlantic - by aligning our ocean observation efforts to improve ocean health and stewardship and promote the sustainable management of its resources. Observation is fundamental to understanding the ocean and forecasting its future. Activities may include efforts to better coordinate data sharing, interoperability and coordination of observing infrastructures and seabed and benthic habitat mapping.

This cooperation may result in mutual benefits including better ecosystem assessments and forecasts and deeper understanding of vulnerabilities and risk, including those relating to the global climate system and climate change impacts. It can also help to generate new tools to increase resilience, conserve rich biodiversity, manage risk and determine social, environmental and economic priorities.

We further intend to promote our citizens' understanding of the value of the Atlantic by promoting oceans literacy. We intend to show how results of ocean science and observation address pressing issues facing our citizens, the environment and the world and to foster public understanding of the value of the Atlantic Ocean.

We intend to advance this agenda by

- taking stock of and utilizing existing bilateral science and technology cooperation (e.g. the U.S. - European Union Science and Technology Joint Consultative Group and the Canada - European Union Science and Technology Joint Coordinating Committee) and multilateral cooperation frameworks including those related to ocean observation, and ocean literacy initiatives;
- recommending priorities for future cooperation and, where possible,
- coordinating the planning and programming of relevant activities in these areas, including promoting researcher mobility.

This cooperation could potentially involve national partners and European Commission representatives, the private sector, and the scientific community to further our efforts by harnessing the value of public-private partnerships.

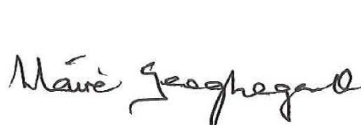
This initiative is also expected to reinforce existing international efforts to advance our knowledge of the ocean, including the World Ocean Assessment.

Signed in Galway on 24 May 2013 in three originals in the English language.

For the European Union

**For the Government of
Canada**

**For the Government of the
United States of America**



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