

# POLICY BRIEF

N°1, September 2015



## *The ResponSEAbLe journey in Ocean Literacy has begun!*

ResponSEAbLe is a Horizon 2020 project on Ocean Literacy, which aims at supporting the emergence of an effective and dynamic European ocean knowledge system that contributes to raising awareness on everybody's (individual and collective, direct and indirect) responsibility and interest in a healthy and sustainable ocean. It has a regional focus in all European regional seas: the Baltic, Black, Mediterranean, North seas and the Atlantic ocean.

On board are experts from fifteen countries, representing various organizations, including researchers with expertise in marine sciences, environmental policy and communication, social-economic tools, artists, and multi-media.

*Trim your sails to the wind!*

### **Why do you want to read this policy brief?**

One of our stops is a series of Policy Briefs, in which we will define the place and role of Ocean Literacy, its position within the policy context, and begin the discussion on what kind of knowledge we need to ensure that Ocean Literacy supports change in behavior and in the implementation of marine policies. The policy briefs will allow following the project process and results for policy makers, and wider audience. Published every six months, ResponSEAbLe Policy Briefs will take you on a journey where you will explore with different regional issues and policies, follow testing of ocean literacy products and their efficiency to find the most cost effective ones and put them to practice.

### **Human-ocean relationships: who is responSEAbLe?**

In the past, the sea was for many people a remote place, used mainly as a source of food and as a means of travel and transport. The last centuries, however, have recorded a dramatic increase in the use of the seas and oceans. The sea is now also a place where we explore for oil and gas, locate wind farms, develop aquaculture, and relax during the summer. More is to come as emerging maritime sectors present important potential future benefits for human activities, as illustrated in the EU strategy for Blue Growth.

**As the pressures on the sea continue to increase, it is essential that we also protect the seas from the consequences of human use.**

Current socio-ecological theories consider humans as part of the marine ecosystem, and knowledge and initiatives to foster understanding of the ocean-human relationship has improved during the last decades. Still, understanding the relationships between human activities and their various impacts on marine ecosystems represents a grand challenge.

**It is more important than ever that people know and care about the links between societal stakeholders, their decisions and behavior, and their impacts.**

There is a growing need to understand better not only the state of our oceans but all the complexity of the human-ocean relationships, so the humans' pressures on the marine ecosystems can be reduced and the development opportunities offered by the ocean duly seized

### **Ocean Literacy and behavioral change**

Ocean literacy is a recent term in the European context. The diversity of languages in Europe brings a first light on what we mean by (ocean) literacy. Depending on languages, it is translated with words that are no direct equivalent and that might refer to different roots, concepts and issues. Despite the conceptual linguistic differences, most of these terms refer to some sort of environmental education or awareness raising with a marine dimension.

In the **U.S. context**, it was first defined as “an understanding of the ocean’s influence on you—and your influence on the ocean”<sup>1</sup>. Ocean literacy was defined primarily in an educational context as the understanding of the ocean’s influence on the individual, and the individuals influence on the ocean. While this definition describes a generally applicable and desirable individual condition for global improvements in the marine environment, current social and economic developments call for an expansion of the approaches and means to build ocean literacy.

In the **context of ResponSEable**, an ocean literate person is a person who: is aware of the importance of the ocean; Understands the ocean’s influence on humans, and the influence of humans on the ocean; and, knows what to do to protect the ocean, and to seize opportunities the ocean offers. Overall, an ocean literate person is a person who must understand the essential principles and fundamental concepts of the ocean and its resources, be able to communicate them, and be in a position to make informed and responsible decisions regarding the ocean and its resources.

### Moving towards behavioral change

There are two distinct approaches towards behavioral change (Barr, 2008): an information intensive approach, which focuses on how raising awareness will result in the transformation from attitudes to behavior; and the deliberate approach, which places emphasis on contested meanings, institutional and social barriers to behavioral change, thus arguing for deeper ‘civic approach’. These approaches reflect methodological issues concerning how environmental knowledge is produced, disseminated and interpreted. The contrast between these two approaches reflects issues how environmental action (behavior/policy) is framed, interpreted and changed.

In the last decades, ocean literacy has been seen through the lenses of the first approach (information intensive), with a lot of information and knowledge on marine issues already in existence and more being produced every day. Many marine issues have been also analysed via the social and institutional lens. However, the way it is used and translated to users and whether they can actually make a change is not yet much explored.

When we talk about Ocean Literacy we also need to stress that **establishing conditions for individuals and organized groups to develop their knowledge, and potentially empower them regarding their roles and responsibilities in protecting the ocean and seizing the development opportunities it offers.**

Identifying organizations and people, whose behavior will motivate behavioral change (response), so that more people will become responsible, is one of the keys to ocean literacy being effective.

### Who can become “ocean literate”?

There is much attention given to children and to the youth as priority target group in ocean literacy initiatives. Enhancing ocean literacy for this group is likely to contribute to change in behavior once children become adults in 10 to 15 years. However, there is clearly a much wider range of potential “target groups” that could become “ocean literate”:

- The professionals and sectors which activities are directly putting pressures on the state of the ocean: fisheries, agriculture, energy, maritime transport, tourism..., with assumption that if they become “ocean literate”, they will “know more”, “care more”, or “be capable of acting responsibly”;
- Economic operators that are part of the “value chain” of these sectors, and which change of practice might support changes in practice in the activities putting direct pressures sectors directly, including economic operators (e.g. companies producing fishing nets or boats that are better performing from an environmental point of view) that develop technologies and solutions that help reducing pressures on marine ecosystems :
- Policy makers, who take the lead in developing new regulation and ensure current regulation is adequately implemented;
- Society at large, including consumers which consumption choices have many direct and indirect connections to the seas, or voters which can influence political groups in giving due attention to marine issues.

### How does knowledge travel?

In order to understand what knowledge we need to ensure so that Ocean Literacy supports change in behavior, we need to understand how knowledge travels.

What kind of knowledge does a particular decision maker need to ensure their awareness and responsible behavior? Where does this knowledge have to come from? Does the knowledge that is produced about the oceans reach the users who can change the behavior of actors?

<sup>1</sup> West, R.D., 2004. Ocean literacy is key to preserving our oceans and coasts. *Marine Technology Society Journal*, 38 (4): 68–69.

The scientific understanding of marine systems is constantly evolving and there remain considerable uncertainties in the basic characterization of marine ecosystem structure and function, as well as in key physical and biological drivers. Policy-making and policy implementation must recognise these uncertainties and drive efforts to address them.

In the last few years, the DPSIR approach (EEA, 1995) has been developed to be used in environmental policy to analyse not only the state of marine environment, but also what are the drivers, pressures, what ecosystem goods and services humans derive from the oceans and what should be the response.

Existing knowledge on marine environment (data and information) is very much focused on marine science and education. The link between who has the knowledge and who is responsible, and must change behavior, is missing. To support changes in behavior, we need knowledge about the complex connections and linkages between different drivers and pressures, as well as between impact and response.

Further, it is essential to identify not only of citizens (as consumers, users of ecosystem services, of different age/social groups), but all actors in the market economy/value chain (VC) to look at who best can act in the value chain. Be it individually or collectively, so that ocean health is preserved – and then prioritize communication and ocean literacy to those that have “the most at stake” - whose change in behavior is key to the future of our oceans.

## Ocean Literacy role in achieving marine policies

The European Union (EU) Member States are responsible for more than half of the regional seas surrounding the European continent and outermost regions, an area of more than 5 700 000 km<sup>2</sup>. Moreover, 206 million people, or 41 % of the EU population, lived in Europe's coastal regions in 2011 (EEA, 2014). Therefore, the EU has — and is undertaking — the responsibility to face the environmental challenges influencing its seas (EEA, 2014).

There are several EU level and regional level policies, implementation of which can be improved by increasing ocean literacy: the Marine Strategy Framework Directive (MSFD), the Common Fisheries Policy (CFP), the 7th Environment Action Programme, the 2020 Biodiversity Strategy, and legislation such as the Birds Directive, Habitats Directive and Water Framework Directive.

The MSFD, as the environmental pillar of the Integrated Maritime Policy (IMP), is the key component of the EU's policy response to achieve healthy, clean and productive seas. The objective of the MSFD is for European marine waters to achieve ‘good environmental status’ (GES) by 2020. It aims to promote the sustainable use of the seas and conserve marine ecosystems through the implementation of an ecosystem-based approach (EBA) to the management of human activities in the marine environment.

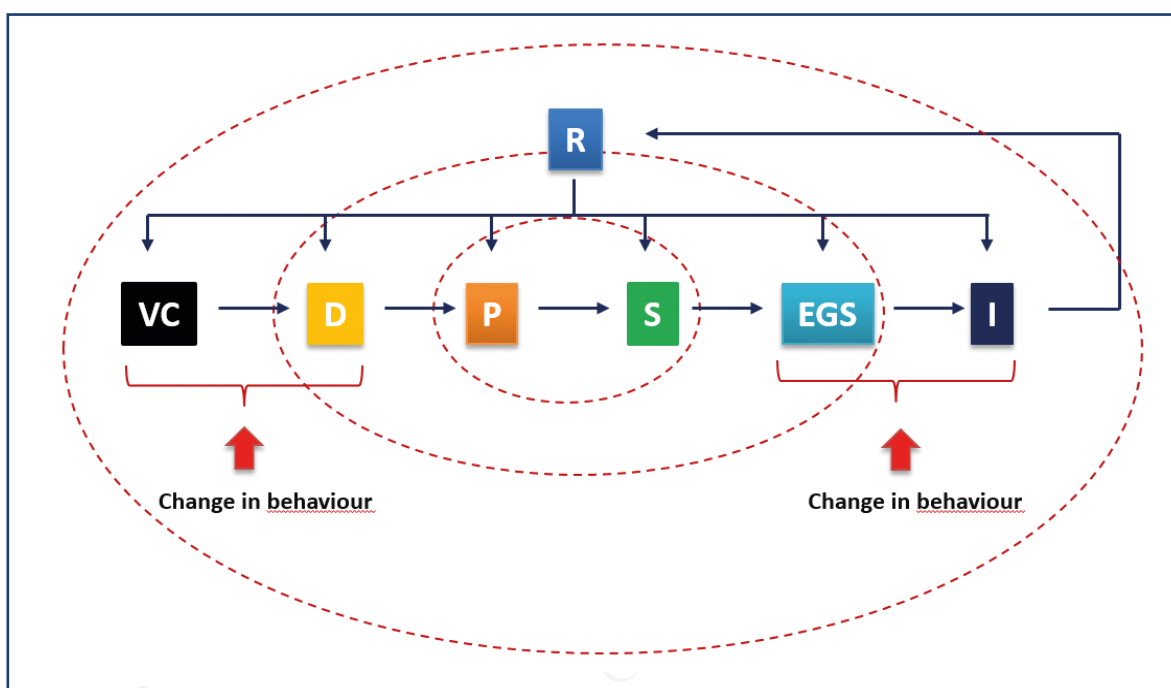


Figure 1. Knowledge production, DPSIR and change in behavior

The EU Integrated Maritime Policy (IMP) and Marine Strategy Framework Directive (MSFD) use an ecosystem approach for the integrated management of human activities. Ecosystem-orientated perspectives are used in the policy show the interconnected character of physical, biogeochemical and ecological processes in the sea and human interactions with them (Berg et al., 2015).

Common Fisheries policy (CFP) aims at a progressive implementation of an EBA<sup>2</sup> to fisheries management addressing the wider environmental effects of fisheries on marine ecosystems (e.g. non-target species, marine habitats). Following its EBA objective, provision of the knowledge base needed is one of the points looked at in the review process of the data collection framework under the CFP. The need for improved availability of ecosystem data to help the CFP to reach its objectives of an ecosystem approach has been recognized in the current discussions on the future regulation<sup>3</sup>.

There are growing number of initiatives and forums which closely relate and are supported by Ocean Literacy, following are just some examples where Ocean literacy and knowledge production is essential.

Thus, there is a strong link between ocean literacy and how it can contribute to better implementation of marine policies. However, meanwhile many marine related policies already include/ require knowledge production and dissemination to stakeholders, public participation and raising awareness, the challenge still remains in how these policies can better support ocean literacy on the EU and regional levels, so that right information would reach relevant users and empower behavioral change.

<sup>2</sup> <http://www.cbd.int/decision/cop/?id=7148>

<sup>3</sup> [http://ec.europa.eu/fisheries/cfp/fishing\\_rules/data\\_collection/doc/20140116-dcf-stakeholder-workshop-minutes\\_en.pdf](http://ec.europa.eu/fisheries/cfp/fishing_rules/data_collection/doc/20140116-dcf-stakeholder-workshop-minutes_en.pdf)

### Follow our journey with the next policy briefs

N1	First issue, description of a project, need for innovation
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