A learning game for Blue literacy

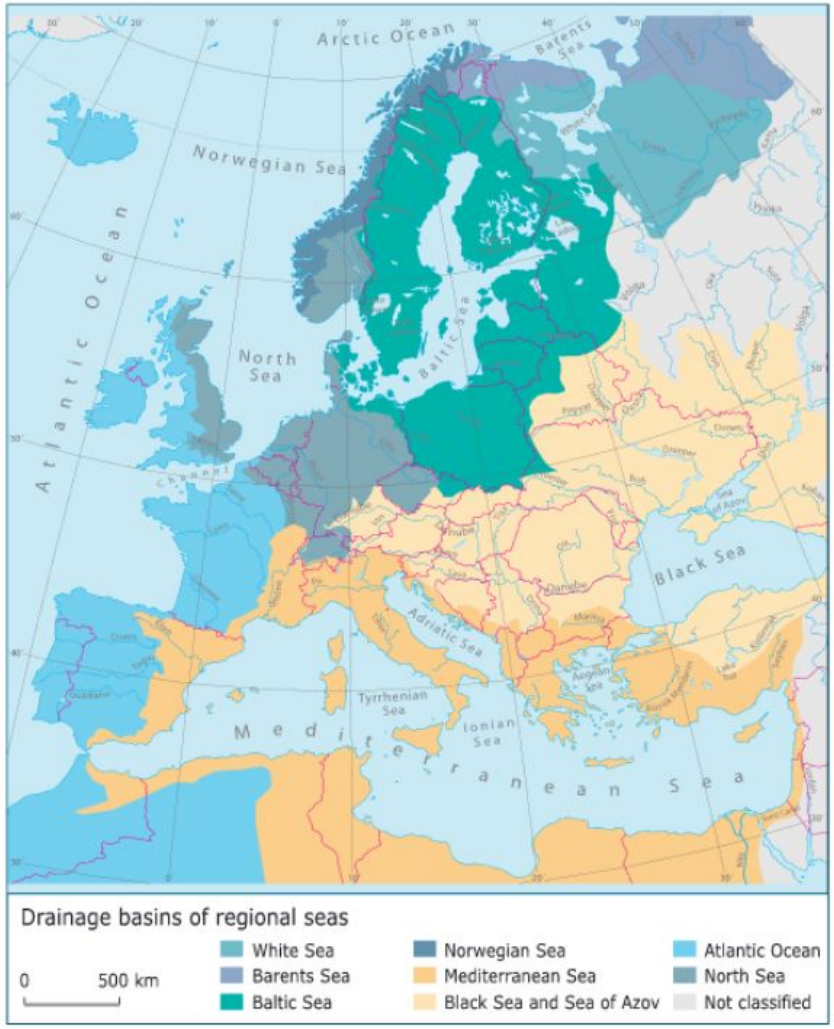
Parma, 28th February 2019

What is Ocean Literacy?

Finalista al Wildlife Photographer of the Year 2017

OUR SEAS

- The total maritime area under the jurisdiction of EU Member States is larger than the total EU land area.
- The European coastline totals 68,000 km, three times longer than the coastline of Africa.
- Only 5 of the 27 Member States that form the European Union do not have coastlines: Hungary, the Czech Republic, Slovakia, Luxembourg and Austria.
- Almost half of Europe's population lives within 50 km of the sea and regularly uses its resources.



Map of the drainage basins of the regional seas (EEA, 2004)[4]

- There is a lot of concern about the state of the European seas because of the environmental problems due to the human impact: fishing, trade, water discharge, aquaculture, recreation, renewable energy ...
- Pressures from the scientific community and public opinion have led to the 2008 Framework Directive on the Sea, whose main objective was to protect the European marine environment more effectively

- *Marine Strategy Framework Directive*

https://www.responseable.eu/wp-content/uploads/270317-concept-note-F-web.pdf

- The top-down approach of the regulations is accompanied by a soft approach aimed at improving the knowledge of the marine ecosystem - the so called **OCEAN LITERACY**

- To strengthen Ocean Literacy European Union has (i) launched a transatlantic initiative on strengthening OL policies between US, Canada and the EU and has launched an (ii) call for proposal in the research program EU Horizon 2020 for the financing of projects on OL

OCEAN LITERACY

- *In the North American context OL was defined as*
- **"Understanding the influence of the ocean on you and your influence on the ocean"**

- *Ocean Literacy for ResponSEAble*
- **Awareness of the importance of the ocean**
- **Including the influence of the ocean on humans and the influence of humans on the ocean and knows what to do to protect the ocean and seize the opportunities offered by the ocean (acting responsibly)**
- **Communicate responsibilities to the ocean to others**

The OL Principles

1. **The Earth has one big ocean with many features.**
2. **The ocean and life in the ocean shape the features of Earth.**
3. **The ocean is a major influence on weather and climate.**
4. **The ocean makes the Earth habitable.**
5. **The ocean supports a great diversity of life and ecosystems.**
6. **The ocean and humans are inextricably interconnected.**
7. **The ocean is largely unexplored.**

Ocean literacy for all: a toolkit; IOC. Manuals and guides; Vol.:80; 2018

Ocean Literacy

Understanding the ocean's influence on you and your influence on the ocean

Home | Scientists | Educators » | Policy Makers | Framework » | Network » | Research » | Getting Involved »

Resources

Powerpoint

Welcome to Ocean Literacy

1 2 3 4 5 6 7

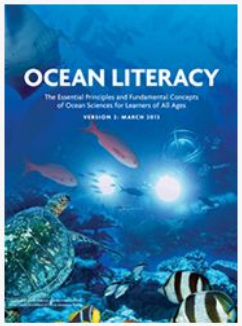
Slideshow image #1 ©NASA Photo Library; all other slideshow images ©Kip Evans

The ocean is the defining feature of our planet.

Ocean Literacy means understanding the ocean's influence on you and your influence on the ocean. There are 7 principles of Ocean Literacy — ideas scientists and educators agree everyone should understand about the ocean. Join the Network to build a more ocean literate society!

search this site...

OCEAN LITERACY GUIDE

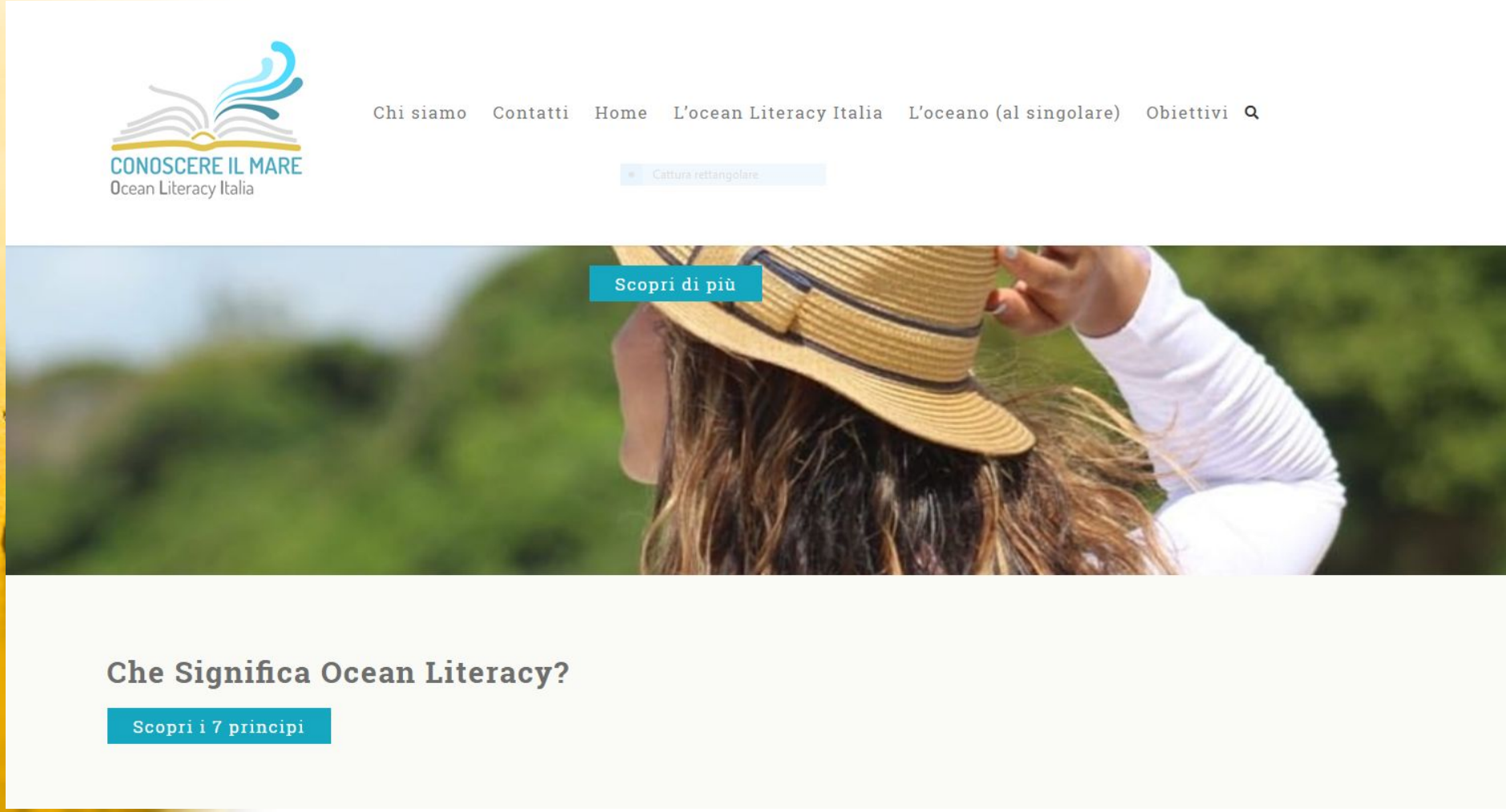


FRAMEWORK DIAGRAM

JOIN THE OCEAN LITERACY NETWORK MAILING LIST.

Please join the Ocean Literacy Network mailing list.
Click here to join.

http://www.seachangeproject.eu/



http://www.oceanliteracyitalia.it/

https://oceanliteracy.unesco.org/

The ResponSEAble project

RESPONSEABLE

PROTECTING THE OCEAN
OUR COLLECTIVE RESPONSIBILITY,
OUR COMMON INTEREST

Aim of the project

ResponSEAble

- The project will develop communication material that will sensitize our individual and collective responsibility and interest in ensuring the sustainability of the ocean and its ecosystems.

Starting points

- What knowledge must build the OL?
- Who can become Ocean Literate?
- Who produces knowledge for the OL?
- Who can contribute to the knowledge of the OL and how?

What knowledge must build the OL?

- *The status and importance of protecting the marine ecosystem*
- *The pressure of human activities on the sea*
- *It is necessary to know the drivers that lead us to make individual and collective decisions that involve the marine value chain and the alternatives to do things differently.*

Who can become Ocean Literate?

- Children and teens!!!
- Professionals whose activities have an impact on the sea-sectors: fishing, agriculture, energy, maritime transport, tourism
- Economic operators who are part of the value chain (for example, who produces fishing nets or greener ships)
- Policy maker
- Consumers

Who produces knowledge for the OL?

- Scientists: Marine biologists and ecologists, Socio-ecologists, Psychologists, Sociologists, Economists
- Professionals: fishermen, captains
- NGOs, associations
- Citizen scientists

Which channels ?

Institutions like SCHOOL

informal and non formal way: meetings, media, ICT technologies

in order to create:

a systemic view of knowledge sharing in which recipients are active subjects and contributors of knowledge, and provide constant feedbacks

The challenges

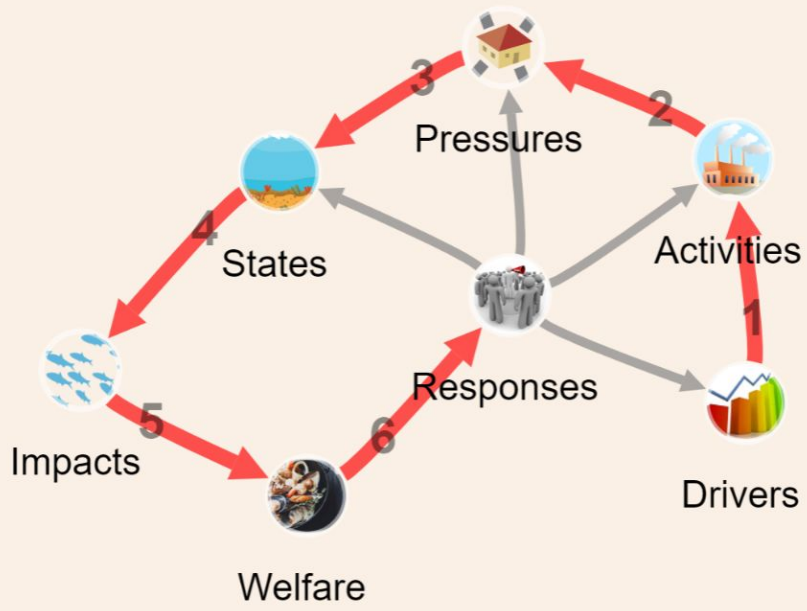
The widespread nature of the pressures and the complexity of the person-nature relationship - *in the past the actions had local repercussions today is no longer the case*

Focus on the ocean to understand the links between the marine and terrestrial ecosystems on topics like "climate change" "biodiversity"

Expanding the community of ocean literacy

The DAPSWIR framework and the systemic thinking

RESPONSEABLE | HOME | COASTAL TOURISM | CAUSE & EFFECT | SUSTAINABLE TOURISM



The old Indian story of the blind men and the elephant is often used to illustrate a number of different phenomena. They each touch a different part of the elephant, and have very different opinions on what it is. The story is used to illustrate things such as:

- the nature and limitations of subjective experience
- the importance of communication
- respect for different perspectives, and
- the importance of getting a complete picture before drawing conclusions or taking action

We easily fall into the trap of trying to understand systems by breaking it down into individual component parts, and studying each of those separately, but as Donella eadows said: “the behaviour of a system cannot be known just by knowing the elements of which the system is made”.

If we try to understand complex systems right down to the lowest level, we lose the big picture. It is very difficult to see the both the big picture and the smallest level of detail at the same time

Clearly when we are dealing with complex situations, we need to consider the consequences of our actions. While promoting tourism will probably increase local wealth in the short term, the long-term consequences can be quite undesirable. Increased pressure on the environment, due to waste and increase use of water resources, can have knock-on effects on existing industries, and ultimately damage what made the area so attractive in the first place. Fixing problems cannot be done using simple linear thinking. Sustainable solutions can only be found through application of systems thinking.

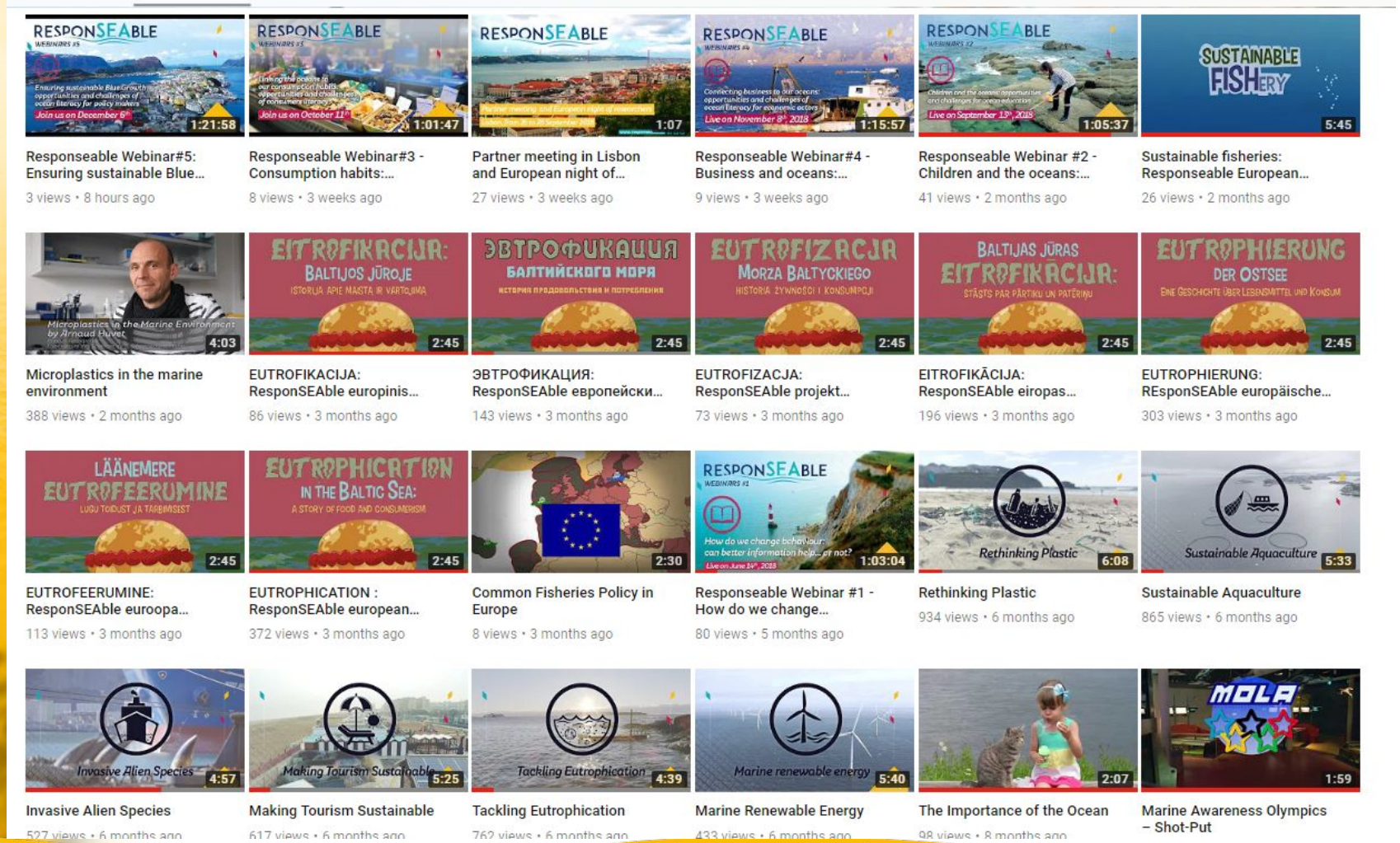
Systems Thinking is a way of helping us to see the big picture.

Key Stories

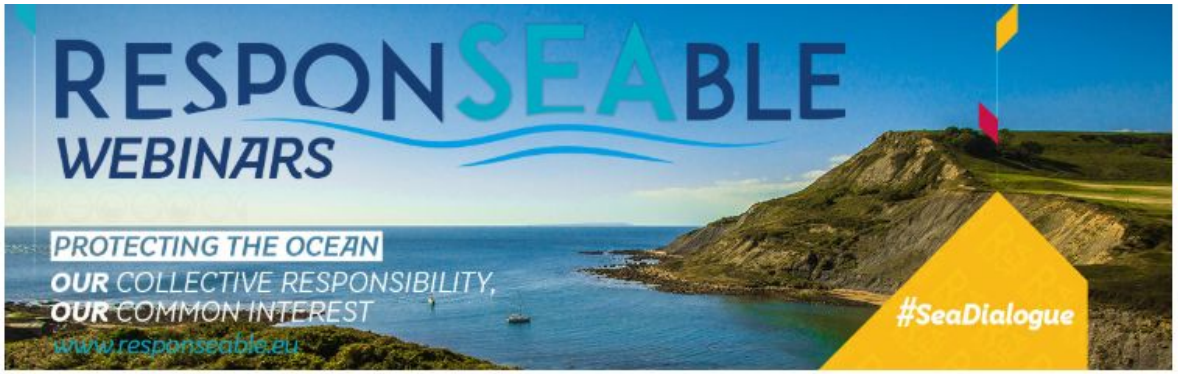
Eutrophication and agriculture
Ballast water and invasive alien species
Sustainable Fisheries & aquaculture
Microplastics and cosmetics
Coastal Tourism
Marine Renewable Energy

Ocean Literacy TOOLS

[Canale YouTube]



Webinar



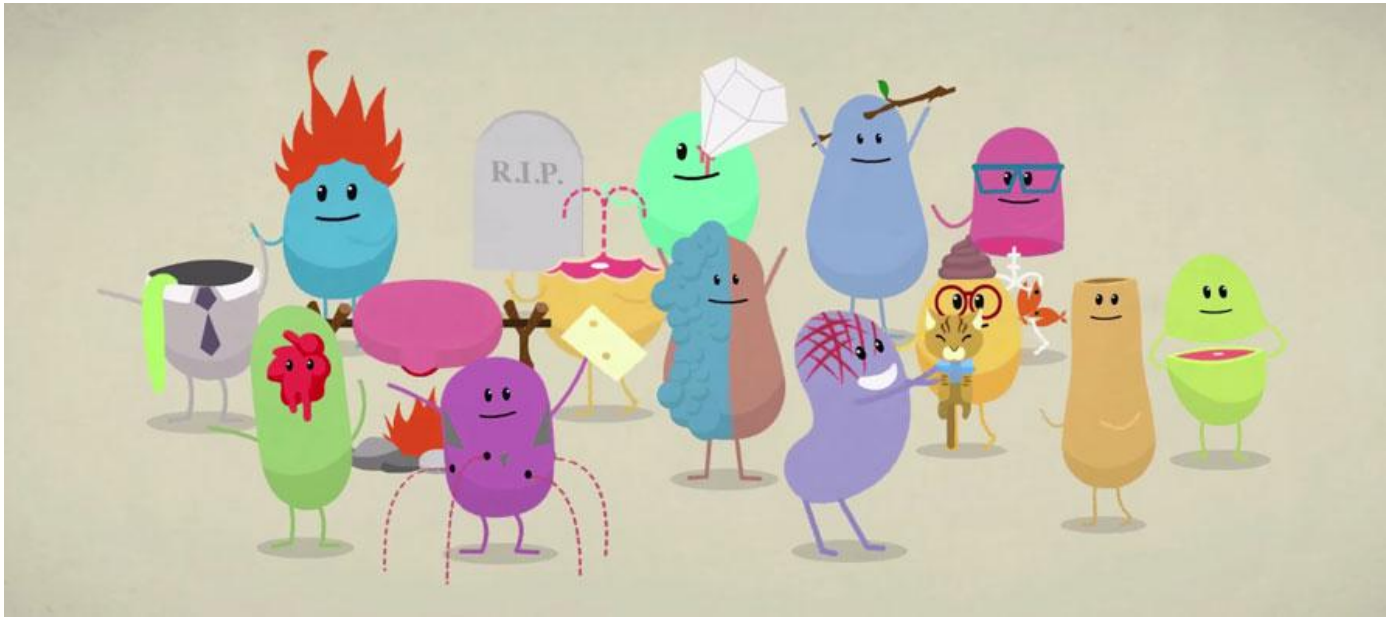
Webinar Registration

Responseable Webinars : Think, Hope, Change: assessing effectiveness of ocean literacy tools

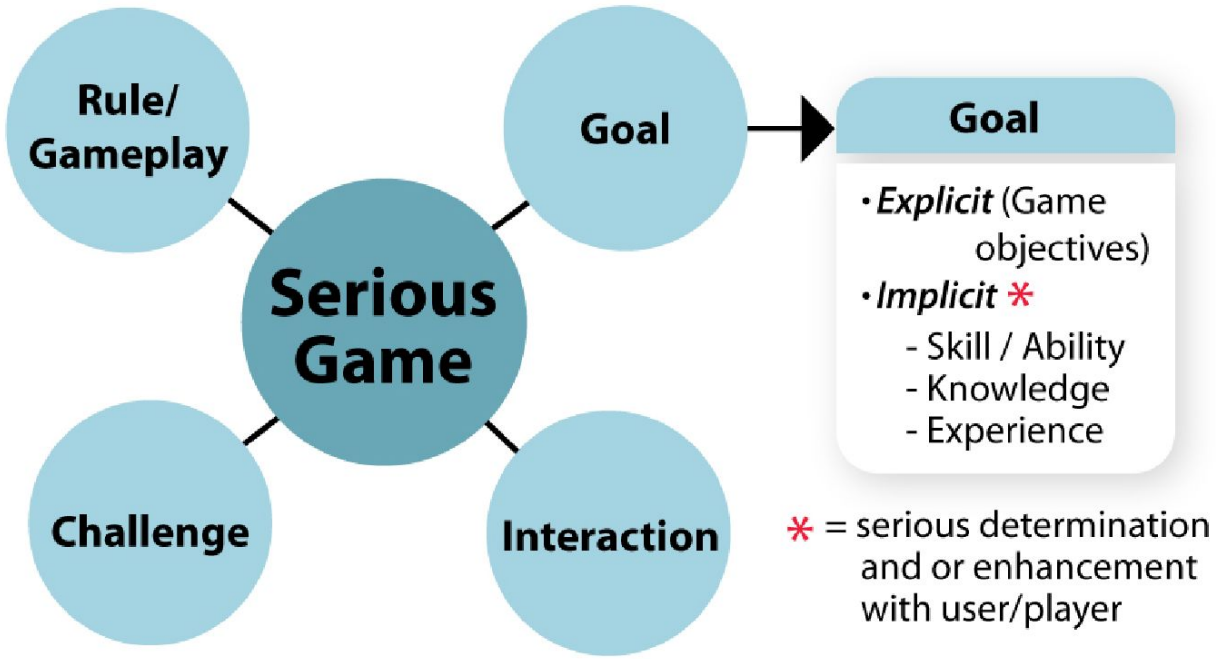
How can we say if the ocean literacy we produce is effective? What are the criteria for effectiveness? To answer these questions, panellists of this webinar will bring examples of their ocean literacy initiatives and explain how they assess

The Learning Game

Dumb Ways to Die



Any significant use of computerized gaming resources whose main mission is not entertainment (Sawyer)



The design of the videogame

2017

Collaborative approach

Brainstorming with partners - which stories for which audience

Possible scenarios in different pilots

Technical aspects

The design

Which stories - Multilingualism !!

The idea and the living lab

2018

Development

Generating and reusing existing content

9 Beta

ResponSEAble Key Stories Living Labs

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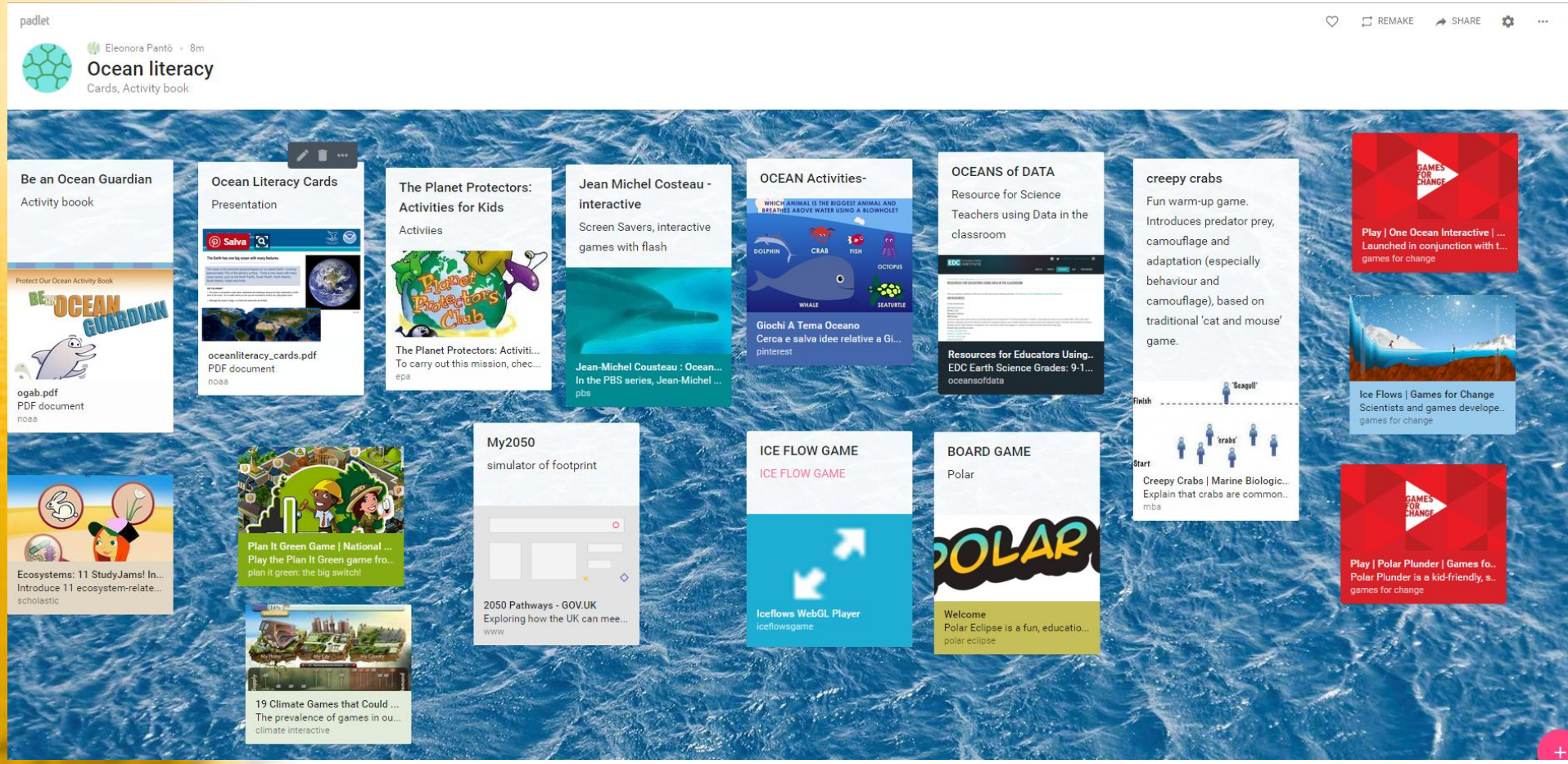
Brainstorming Matrix

Key Story	Target	Needs	Actions
Coastal Tourism	Tourists	How can they mitigate their impact on coastal tourism, info on eco-hotel, label	Choices as tourist
Eutrophication	General Public	Awareness	Choices as consumers
Invasive Species	General Public	Awareness	Pressure on legislator
Microplastics & cosmetics	General Public	Awareness	Reduce consumption
Sustainable fisheries	Consumers Buyers &Sellers	Knowledge – Educate consumers	Choices as consumers & Buyers

The action plan

What	By When
1.0 Recruitment of Users and Setup of Living Lab Approach	1° iteration: July - Sep 2017 2° iteration: Jan- March 2018 3° iteration: Dec 2018
1.1 Generation of Ideas and Testing of Feasibility	July - Sept 2017
1.2 Game Design	
1.3 Game Detailed Design	Oct-Dec 2017
2.1 Implementation under real-life condition	March 2018
2.2 Monitoring	March-Dec 218
2.3 Assessment	Jan-March 2019

Ocean literacy: games, edu resources



https://padlet.com/eleonora_panto/ocean_lit

The first Game play

- Objective of the game: keep your ocean healthy and happy
- Ocean is your «tamagotchi»
- Every action of the players increases or decreases the happiness and the health of the Ocean (game Action-Adventure?)
- Ecosystem or economic simulation?
- Age: children / young people / adults / elderly
- Avatar Power: connected to age?
- 5 Regions, 4 seasons, 3 levels of economic power
-

5 Scenarios

Key Story	AIM	Area	Season	Where
Coastal Tourism	Learn about how to reduce your impact	Med	Summer	At the Beach
Eutrophication	Learn about the problem - Bio food?	Baltic	Spring	Shop
Invasive Species	Learn why you find that strange fish	Black /North /Med	Summer/Autumn	At the Beach
Microplastic	Be Careful with your toothpaste!	All area	All Season	Shop
Sustainable fisheries	Learn about certifiticatio	Atlantic Arc	Winter	Shop

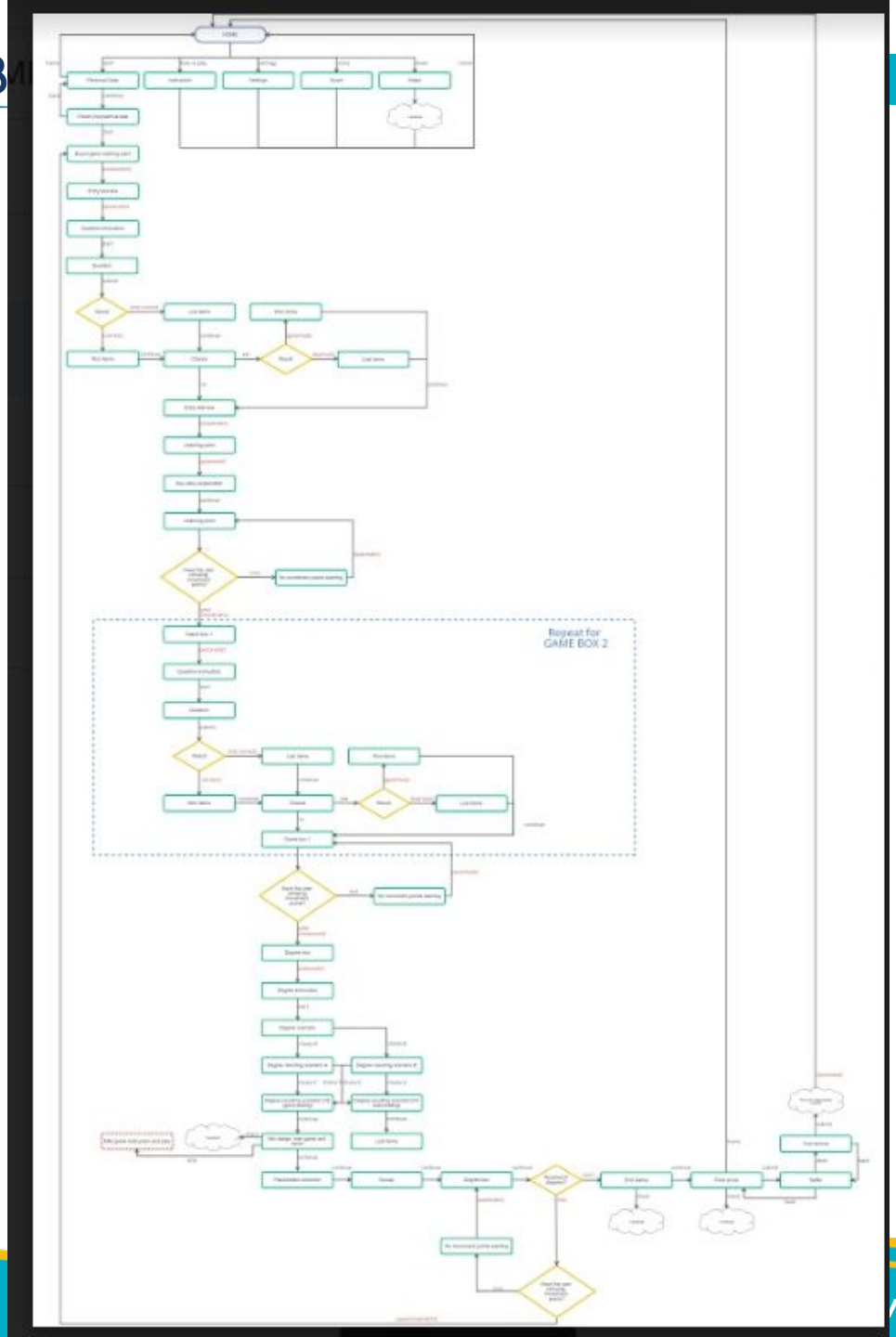
Technical Features - Brainstorming

	Features	ADV/DISADV & Reasoning
WEB HTML5 & Javascript	No App Store No Download	To be able to play also from the interactive platform ?
Language: How many languages?	Use text as less as possibile	Usually people is more engaged in own language
Monitoring	Which data? Progress? Analytics? Different level?	Monitoring learning/
Multiplayer Y/N Syncronous /Asyncronous	Registration is needed – Use FB/Google/Project	Engage with your friends?
Integration with other application?	Call to actions? Pledges Collect Point to save… SN sharing	Engaging – Augmented Reality Games

An adventure games….

Target Audience

- +12 years old teenager,
- it can be an educational tool to introduce some topic
- It is not for professionals in the sector
- It is suitable for those who do not play regularly
-


Repeat for
GAME BOX 2

MOVEMENTPOINT LEFT
XXX
GAME SCREEN
SCORE
(starfishes)
KEY STORY 2
ISLANDS/LAND
KEY STORY 6
ISLANDS/LAND
KEY STORY 4
ISLANDS/LAND
STARTING ISLAND
KEY STORY 3
ISLANDS/LAND
KEY STORY 5
ISLANDS/LAND
KEY STORY 1
ISLANDS/LAND

CHOSE YOUR PAWN / AVATAR

AVATAR 1

AVATAR 2

AVATAR 3

AVATAR 4

BACK

START

RESPONSEABLE
200
3

RESPONSEABLE

Game contents and changing behavior

The first quiz is a test to measure previous knowledge - it does not consume points (movement)

Information → some data is provided for each story through the learning point (text + cartoons)

Knowledge -> quizzes to measure comprehension

Attitude, Awareness → the final questions for each story, if aimed at putting the player in a situation that asks for decisions on his part

Activate → Once the game is completed, players are asked to "put their faces" on those challenges by taking a selfie that is posted on the leaderboard- http://game.responseable.eu

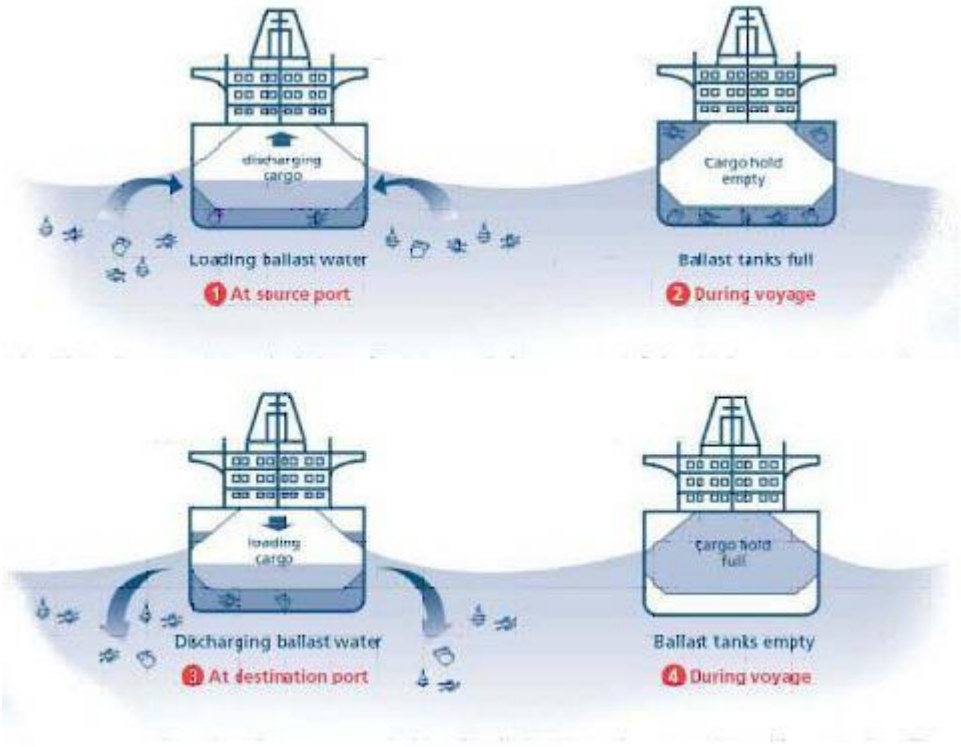
http://game.responseable.eu

Contents

- 5 Stories: Micro-plastics, sustainable fishing and aquaculture, coastal tourism, eutrophication, ballast water
  - The stories are addressed to the general public;
  - Quizzes are informative,
  - Scenarios require decision-making on behaviors
  - Each story contains quizzes highlighting Drivers, Activities, Pressures, Impact (reference to DAPSWIR)

Ballast water and invasive species

General information on the treatment of ballast water - Invasive species Impact of exotic marine animals



Coastal tourism

- **Dune system, coast erosion, mass tourism and environment exploitation**

Sustainable fishing and aquaculture

- European fishing and aqualculture, knowledge about different kind of fishes, Sustainable fishing

Eutrophication

- What is eutrophication, causes and effects
- Impact of «industrial» agriculture
- Consumption of meat and dairy products
-

Microplastics and cosmetics

- Degradation of plastic in microplastic
- Disposable plastic consumption

Impact measurement

- Survey before and after playing

https://docs.google.com/forms/d/1ZmNEhPQ4p0jsDy7ycZMM5166jwigkFwZCjftG1vvK54/edit

- Analysys of data from the game

VIDEO RECORDING

http://game.responseable.eu/

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Thank You

CSP

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