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1. Executive Summary

This report is an output of WP7 “Communication, Dissemination & Maximisation of Impacts” and delivers the education materials developed by five case regions to increase awareness and understanding about the importance of coastal and maritime cultural heritage (CMCH). These include Educative Marine Areas, School Programs, place-based education materials, websites, year calendars and games targeting the schools’ communities; fish cards, journals and leaflets targeting local communities; guides and training courses targeting local tourism industries.

2. Introduction

PERICLES is an EU-funded research and innovation project running from 2018 to 2021. Among its assignments, PERICLES is developing educational materials and organizing activities with schools, tourism industries and local communities to increase awareness and understanding about the importance of, tangible and intangible, coastal and maritime cultural heritage (CMCH).

The Special Eurobarometer (EC, 2017¹), commissioned to assess the attitudes and opinions of European citizens about cultural heritage, revealed that cultural heritage is perceived as important for a large majority of Europeans, not only to them personally, but to their community, region, country and the EU as a whole. This importance is emphasised by the fact that more than two thirds of respondents showed interest in learning more about Europe's cultural heritage, and almost nine in ten considered that Europe's cultural heritage should be taught in schools.

PERICLES partners have developed education materials and worked with schools in Brittany, Denmark and NE Aegean case regions, while the work developed in Ria de Aveiro and Scotland/Northern Ireland targets local tourism operators/ businesses. The produced education materials cover topics such as tangible and intangible CMCH, risks, preservation and sustainable exploitation of cultural heritage.

This report delivers the education materials developed in Brittany, Denmark, NE Aegean, Ria de Aveiro and Scotland/Northern Ireland case regions. A general description of the produced materials is provided in section 3, in English. The education materials, in the original language, can be found in the Annexes and on PERICLES website (<https://www.pericles-heritage.eu/education/>).

¹ EC, 2017. Special Eurobarometer 466, Cultural Heritage, Report. European Commission. 79 p. ISBN: 978-92-79-76436-3. doi:10.2766/576064

3. Overview of the PERICLES education materials

In Brittany, in Morbihan Gulf, the concept of Educative Marine Areas (EMA) has been implemented by schools under the coordination of PRNGM. The aim is to make children aware of their maritime heritage and to involve them in the choice of its future management. This exercise leads them to reflect on the meaning of heritage, to develop a global approach, to identify the risks and to propose a preservation and valorisation action. Various materials have been developed for this purpose, such as a methodological note, report and a leaflet on EMA, animation tools on the selected topics (e.g., oyster farming), and dissemination videos. These resources are intended for children (7-10 years), teachers and cultural and nature facilitators.

In Denmark, AAU is working with schools to produce place-based education materials with focus on CMCH. One-pagers were developed to introduce the PERICLES project, the place-based education concept and the PERICLES goals for the place-based education in Marstal. Teachers were the main target of these promotional materials to raise their interest in taking up CMCH a theme for the school year.

In NE Aegean, FRI carried out several actions targeting schools, educators and students, but also the local community. A website has been developed to support schools by providing resources and learning tools on fishing cultural heritage (e.g., books, articles, films, games), and by functioning as a repository and forum, where schools share their work. Among these resources are a Fish Quiz to attract kids' attention for fish and marine biology. A School Program has been established to provide guidance to educators on fishing ethnography research. A Calendar, featuring the awarded works from the schoolchildren art competition on fishing cultural heritage, has been produced. Targeting the local community, FRI developed a Facebook monthly journal to inform on PERICLES activities and on local fishing cultural heritage. Fish Stories about sharks, eels and grey mullets are also being created to be distributed in fish markets, and other places, to educate the public on their cultural significance.

In Ria de Aveiro region, UAVR developed a guide and a capacity building course on Aveiro's natural and cultural heritage targeting *moliceiros* boat operators. Both guide and structure of the course were developed to meet a gap identified by PERICLES stakeholders on the quality of guided tours and benefited from their involvement in the elaboration of contents, revision and some stakeholders (experts) integrate the teaching team of the course. These resources/ activities aim to improve professional competences of boat operators and enhance their knowledge and understanding regarding the traditional boats on which they operate, the Aveiro's natural and cultural heritage, and the relevance of the sea and the coastal lagoon in shaping the regional economy and cultural development.

In Scotland/ Northern Ireland, UHI prepared a day long training webinar for the tourism industry to maximise the exploitation of cultural heritage. The materials were initially developed through the ADVENT ERASMUS + project (<https://adventureedu.eu/en/news/35>) and tested by business and other stakeholders; however they were refined, refocused and revised into a more condensed course for the PERICLES webinar.

The following section provides a description of the education materials produced in each case region, which are then available in the Annexes, in the original language. In the case of online resources and videos, a link is provided. The description provides information on the objectives of the education

material, target audience, CMCH addressed, type of materials, stakeholder's involvement and exploitation.

3.1 Brittany

Educational Marine Area (see materials in Annex A.1 to A.5)

Aim	The aim of the Educational Marine Area (EMA) is to make children aware of their maritime heritage and to involve them in the choice of future management of their heritage. It leads them to reflect on what constitutes heritage, to develop a global approach (integration cultural heritage, landscape and biodiversity), to identify the risks involved and to propose preservation and valorisation action.
Target audience	Children in schoolhouse (7 – 10 years), teacher and Culture and Nature facilitators. <ul style="list-style-type: none"> • In order to better to promote EMA on the territory, PNRGM decided to act as EMAs coordinator for the schools located in the Park's territory (Annex A.1). • The concept of a " Educational Marine Area" was born from the imagination of the children of Tahuata primary school (Marquesas Islands). Following discussions with scientists, the children expressed their wish to become responsible for their own marine protected area in the bay opposite their school (Annex A.2). • A methodological note (Annex A.3), intended for teachers, culture and nature facilitators, has been written by PNRGM to present the main stages of the approach and to propose examples of facilitation tools. Methodological note made it possible to meet the expectations of teachers on how to implement these EMA in their schools.
Resources	<ul style="list-style-type: none"> • As each coastal zone treated within the framework of EMA is specific, animation tools vary from one EMA to another. For example, for the Crac'h EMA, which focuses on oyster farming, educational sheets on oysters and oyster farming have been produced by the facilitator and models of former oyster farming sites have been created by a former engineer for children (Annex A.4). • Always to promote EMA on the territory, PNRGM has produced a video of the EMA of school of Crac'h (Annex A.5) highlighting the approach and methodology of EMA. Intended for everyone, this video will be available online on the PNRGM website and on the PERICLES website. <p>So PNRGM has therefore responded both to a request from the schools and to fill a gap.</p>
CMCH	<p>EMA conducted in Crac'h, with students (7 - 10 years old; 112 pupils), focused on the theme of oyster farming. This theme made it possible to develop an integrated cultural heritage - natural heritage approach, addressing the question of the evolution of this know-how (intangible heritage), of the built environment (tangible heritage), of the oyster life (biodiversity) and also to discuss the location of this activity and its impact on the landscape (landscape heritage).</p> <p>The theme was defined between PNRGM, the culture and nature facilitator and the teacher. The aim is to promote oyster farming activities and to participate in the preservation of this know-how, of the associated built heritage which is under threat and to raise awareness of water management through oysters.</p>

	<p>See resources:</p> <p>The methodological note is distributed to all schools in the Park, the videos are available on the Park's website and the Park as coordinator organizes information meetings and accompanied school which request it.</p> <p>Concerning tools, as each coastal zone treated within the framework of EMA is specific, animation tools vary from one EMA to another (see resources above and example of Crac'h EMA).</p>
Overview	A better knowledge and awareness among children and teachers of their natural and cultural coastal heritage and its threats; the involvement of children in the preservation and enhancement of the heritage; a willingness to reflect on sustainable safeguarding solutions and the awareness that they can be active at their own level and propose management/protection solutions.
Learning outcomes	For example, for the children of the Crac'h school, the proposal to transform an abandoned oyster hut into a habitat for birds.
Language	French
Stakeholders involvement	Schools (children and teachers) and facilitators are involved from the beginning to the end of the EMA project. From time to time, external speakers are invited to come and share their experiences. The majority of the pedagogical tools are designed by the animators or by external speakers. Each tool is specific to the coastal zone chosen by the children.
Exploitation	The concept of an "educational marine area" exists since 2012 in Polynesia. Everyone can make it their own. http://www.aires-marines.fr/Proteger/Sensibiliser-le-public/Les-aires-marines-educatives
	In 2017, the PNRGM has decided to act as coordinator of the Educational Marine Areas of its territory and in 2019, he decided to integrate the EMA approach into the PERICLES project. This method will be presented in a PERICLES webinar in 2021, encouraging its use in schools by other European countries.
Link	https://www.pericles-heritage.eu/case-region-brittany/

3.2 Denmark

Place-based Education: Communicating Maritime Cultural Heritage through education (see materials in Annex A.6)

Aim	Primary aim is to make CMCH more visible, thereby making it more readily protected, preserved and utilised
Target audience	The Primary target audience is teachers, with the aim of reaching students through them. Secondary students were the primary focus, with elementary students following.
Resources	Initially, "one-pagers" were developed on: 1. the PERICLES Project; 2. What is Place-based Education; 3. What our goals were with Place-based education in Marstal. We did so in order to begin a dialogue and conversations with educators, with the goal of them being interested in taking on the topic for a "theme" of the school year. We did

so, in communication with the Marstal Maritime Museum, in order to fill a gap: Marstal and Ærø Island are well known for their 18 th and 19 th Century Sailing heritage. We aspired to uncovering and highlight a broader variety of CH, while at the same time introducing it to students.	
CMCH	Intangible CH was addressed. In particular the aim was to look at the post-WWII maritime heritage. But also gender and CH's impact on the arts.
Overview	The materials were used as promotional materials as we worked to get more schools and educators on-board.
Learning outcomes	The primary expected outcome is that of making (non-18 th /19 th C masted sailing vessel) CMCH visible. And to have students creatively address the topic.
Language	Danish and English
Stakeholders involvement	Local stakeholders, in the form of local teachers, museum staff, and native residents were involved in moving the project forward at the local level, especially in brainstorming what course subjects could be used with the topic, and how to show the results of the students' work—an exhibition was decided upon as one outcome. Art exhibits, and film shorts were also planned.
Exploitation	The permanent teaching staff at three schools have the materials and can move it forward in the future.
Link	https://www.pericles-heritage.eu/wp-content/uploads/2020/11/A.6.-Place-based-Education.-Communicating-Maritime-Cultural-Heritage-through-education-Denmark.pdf

3.3 NE Aegean

PERICLES Schools' Program: Fishing ethnography workshop guidelines (see materials in Annex A.7)

Aim	The aim of this material is to provide guidance to educators who participated in the fishing ethnography workshop, in order to prepare and support them in the field, when they and students would do their own research.
Target audience	Educators participating in the PERICLES Schools program
Resources	Document with guidelines. It was designed to fill a gap.
CMCH	Fishing cultural heritage.
Overview	This material summarises the contents of the fishing ethnography workshop and provides guidelines and reminders to teachers who guided school kids in their own research on fishing cultural heritage.
Learning outcomes	Teachers who were able to guide students in the field, when researching fishing cultural heritage.
Language	Greek
Stakeholders involvement	The document resulted from the workshop in which educators participated actively. The content was framed from discussions during workshop.
Exploitation	It will not be formally used after the end of PERICLES, unless teachers want to use it again in a different framework.
Link	https://www.pericles-heritage.eu/wp-content/uploads/2020/11/A.7.-PERICLES-Schools-Program.-Fishing-ethnography-workshop-guidelines-NE-Aegean.pdf

PERICLES Greece website (see materials in Annex A.8)

Aim	The aim of the website (https://pericles.inale.gr/) is two-fold. One is to support the PERICLES Schools' Program, by providing resources of knowledge on fishing cultural heritage (e.g., books, articles, films, music, PERICLES presentations, printed materials); learning tools (e.g., fish quiz); and a forum for schools to upload their work and the materials they collected during PERICLES Schools' Program (part of this is of restricted access only to the participating schools). The second aim is to provide education on issues of fishing cultural heritage to the wider public, both general public and scientists (e.g., marine biologists, ecologists, conservationists), who visit the website. FRI will host the site even after the end of the program and this material will continue its function.
Target audience	Students of all grades of primary, secondary and higher education (10-22 y), local stakeholders (adults), interested general public (all ages), scientists (adults).
Resources	Type of resource: website. It contains materials produced by others (e.g. publications, films) but also materials produced by PERICLES. These include fish quiz (for secondary school students and general public), videos, PowerPoint presentations, pdfs of printed materials, the work of students participating in PERICLES Schools Program, etc. This resource was designed to fill a gap and to become a starting point of reference for those interested in fishing cultural heritage.
CMCH	The website focuses on fishing cultural heritage (all aspects of it) and it is an effort to create a point of reference and also to provide a point where knowledge on fishing cultural heritage, much of it at risk, can be obtained. It is a kind of a background resource which supports further actions.
Overview	It is already been used by schools as a point of reference and source of information, as well as a virtual meeting point. It is also used by various stakeholders as a point where they can gain knowledge on fishing cultural heritage.
Learning outcomes	The website itself contains some of its outcomes, i.e. the work of school students in the "school pages". It is also used by schools as a reliable source of learning for fishing cultural heritage, and by other stakeholders (e.g., journalists, local authorities, scientists).
Language	The website is in Greek and English. Some of the materials in it (e.g. the fish stories or flyers) are in both languages, but others, especially those produced outside PERICLES, are in the language they are produced, most of them in Greek.
Stakeholders involvement	Schools were involved in the forming of the website and its feeding with new materials, by using the website as a source of education and as contributors (School pages).
Exploitation	It will permanently remain as part of FRI's website (https://inale.gr/en/home_inale_en/), freely available to all. FRI will be responsible for it, to renew and use according to their future needs and activities. FRI performs a variety of educational actions outside PERICLES, and the PERICLES Greece part of the website will be used as part of those activities.
Other	This educational material contains other educational items, some of them standing by themselves, and others being accessed only through the website.
Link	https://pericles.inale.gr/

Fish Quiz (see materials in Annex A.9)

Aim	The aim of the Fish Quiz (https://pericles.inale.gr/en/home_en/) is to attract kids' attention by engaging them to a game and by teaching them some bizarre facts about fish and marine biology. The info in it is a mix of known and unknown facts.
Target audience	School kids above the age of 10 and the general public of all ages with an ability to access electronic resources.
Resources	Game (quiz). It was produced as a teaser, to attract attention and pick the interest of school kids and interested public.
CMCH	Fishing cultural heritage.
Overview	This educational material is a quiz that deals with fish and provides some bizarre or interesting facts about them. Some of the questions are about fish which are common and known to all and others are about less familiar topics. This mix is designed to pick the interest of the users.
Learning outcomes	The knowledge provided by the quiz and the interest of the user for further use of the website and its resources.
Language	Greek (and English in the near future).
Stakeholders involvement	No.
Exploitation	In the same way as the PERICLES Greece website (see relevant entry).
Link	https://pericles.inale.gr/en/home_en/

PERICLES Calendar (see materials in Annex A.10)

Aim	The aim of this material was to encourage deliberation on the part of young school kids on issues of fishing cultural heritage in Vistonis lagoon and to publicise the results.
Target audience	Local community, 6-12 years (elementary school pupils).
Resources	2019 calendar featuring the winning works of art of a kids' art competition on fishing cultural heritage.
CMCH	Fishing cultural heritage.
Overview	The 2019 calendar features works of art by elementary school kids. They are the winning pieces of a competition on fishing cultural heritage that was co-organized by PERICLES and the Management Body for Nestos estuary, Vistonis and Ismaris lakes (MBNVI) to celebrate World Environment Day 2018. This was part of PERICLES's outreach and education activities.
Learning outcomes	
Language	Greek.
Stakeholders involvement	The material was produced in collaboration with two main stakeholders, the Management Body for Nestos estuary, Vistonis and Ismaris lakes (MBNVI) and the education sector.
Exploitation	The life of this material ended by the end of 2019. Its electronic form will be available on FRIs website after the end of PERICLES.
Other	This material was distributed widely, and we spotted it not only at homes but also in local businesses (e.g. travel agents).

Link	https://www.pericles-heritage.eu/wp-content/uploads/2020/11/A.10.-PERICLES-Calendar-NE-Aegean_v2.pdf
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FRI Facebook monthly journal (see materials in Annex A.11)

Aim	The aim of this material is to keep local communities informed on PERICLES's activities and also introduce issues of local fishing cultural heritage with commentary, bibliography, illustrations etc.
Target audience	Local community and scientific community.
Resources	Monthly Facebook journal.
CMCH	Fishing cultural heritage.
Overview	This material is produced throughout the duration of the program, and it involves the posting of one post per month. These posts may be about PERICLES events, or, most often, about elements of fishing cultural heritage in the area. It is part of PERICLES's attempt to inform the public, stir interest and initiate discussion on fishing cultural heritage.
Learning outcomes	The creation of a body of interested people and stirring of discussions and exchange of opinions.
Language	Greek.
Stakeholders involvement	They were involved in discussions or reactions resulting from the posts.
Exploitation	The production of this material will stop at the end of the program. The thematic posts will be developed and included in a book on NE Aegean fishing cultural heritage that will be published before the end of PERICLES.
Link	https://www.facebook.com/page/576680955715887/search/?q=PERICLES

Fish Stories (see materials in Annex A.12)

Aim	The aim of Fish Stories is to focus on culturally charged fish and familiarise the public with the fish themselves and their diachronic cultural significance.
Target audience	The fish stories are printed glossy cards (and the corresponding pdfs) which are designed to be freely distributed at fish markets, fish restaurants, tourist information points, etc. to the general public and visitors.
Resources	Printed cards. They were designed with the target audience in mind. They are attractive and suitable to be picked up and carried at home for further study and use. They are designed to emphasise the cultural significance of fish that are familiar in the everyday or celebratory table. The non-education impact of the fish cards is not discussed here.
CMCH	Fishing cultural heritage.
Overview	The fish stories (shark, eel, grey mullet) are printed glossy cards (and the corresponding pdfs) which are designed to be freely distributed at fish markets, fish restaurants, tourist information points, etc to the general public and visitors. The aim

	of the cards is to educate the public on the cultural significance of the particular fish and enhance these fishes' desirability.
Learning outcomes	We would expect people (customers to fish markets and taverns) and of visitors to the case study region to pick up the fish cards and look for cards of more species. Also, we would expect local businessmen and other stakeholders to reproduce them in the future for their own use.
Language	The printed version is in Greek but the electronic one is also in English.
Stakeholders involvement	They were not involved in the process of production, but we hope they will be involved in the next stage, the reproduction and use of the cards.
Exploitation	After the end of the program, the model of the cards will be freely available on FRI's website for interested parties to download and use to reproduce for their own use. Also, we would hope that more cards will be developed to cover other species as well.
Other	Fish story on eels will be available later this year.
Link	https://www.pericles-heritage.eu/pericles-fish-stories/

Short videos on intangible aspects of fishing cultural heritage (see materials in Annex A.13)

Aim	These videos aim to capture threatened intangible aspects of fishing cultural heritage and to make them available to future generations. They can be used as educational aids in the study of traditional fisheries and in the field of fishing ethnography and anthropology.
Target audience	Researchers, secondary and higher education students, general public – wide age group.
Resources	The videos were filmed during PERICLES field work in the case region and were later scripted and edited to highlight certain themes. The visual impact of the videos facilitate the transmission of their theme and ideas. Stakeholders participated in the videos' production by being their subject.
CMCH	Intangible aspects of fishing cultural heritage at risk. The videos highlight three topics: A: "Cleaning the nets" focuses on small scale coastal fishing and the social space that is created by its practise B: "Fishing for razor shells in NE Aegean" focuses on a rare way of shell fishing, the use of a stick, and on the embodied dimensions of the act. C: "How to salt anchovies" focuses on fish processing on a domestic scale and the intangible aspect of this skill that involves family histories, memories, gender relations. The videos can be used to educate the youngsters on intangible aspects of fishing cultural heritage in their area, and also to be used as teaching aids for student of ethnography, anthropology, fisheries etc.
Learning outcomes	The use of the videos in the contexts described above, even after PERICLES is concluded.
Language	Greek with English subtitles where needed.
Stakeholders involvement	Stakeholders were involved in the production of these videos by being the subjects of filming.

Exploitation	The videos are already circulating freely on social media and on YouTube, they are available on PERICLES and PERICLES-Greece websites and they will remain freely available on F.R.I.'s website after the completion of PERICLES.
Other	These are three of a set of six such short videos. Their production will be concluded by the end of 2020.
Link	https://www.pericles-heritage.eu/short-videos-on-intangible-aspects-of-fishing-cultural-heritage/

PERICLES Fishing cultural heritage in NE Aegean flyer (see materials in Annex A.14)

Aim	Introduce PERICLES and its local focus on fishing cultural heritage to stakeholders and local communities
Target audience	Everyone (mostly adults)
Resources	Flyer. This form was chosen as a flexible way to introduce PERICLES and its interest in fishing cultural heritage to a wide range of people.
CMCH	Fishing cultural heritage which is at risk at our case region
Overview	A flyer that introduces PERICLES and its local focus on fishing cultural heritage to stakeholders and local communities using illustrations which are familiar to many.
Learning outcomes	Familiarity of the public to the aim and ideas of PERICLES
Language	Greek and English
Stakeholders involvement	No
Exploitation	Its usefulness ends with the end of the program. It will, however, be available in its printed form at FRI and in its electronic form through FRI's website.
Link	https://www.pericles-heritage.eu/wp-content/uploads/2020/11/A.14.-PERICLES-Fishing-cultural-heritage-in-NE-Aegean-flyer-NE-Aegean.pdf

Magazine article “Blue crab connections from Maryland to NE Aegean” (see materials in Annex A.15)

Aim	Magazine article “Blue crab connections from Maryland to NE Aegean” by Alisha Soleiman and Dimitra Mylona, published in the fisheries magazine “Fishing News”. The aim of this material is to contribute to the deliberations about the future of blue crab fisheries in Greece and to inform fishermen and other fisheries stakeholders on the possible value and potential of the blue crab, an invasive species in Greek and Mediterranean waters. It does that by bringing in examples from Maryland, US, and making comparisons with the situation at NE Aegean.
Target audience	Fishermen, seafood merchants, restaurateurs – adults.
Resources	Popular article, addressing the specialised readership in fisheries and related activities. The material is produced to fill a gap of knowledge on the topic.
CMCH	Fishing cultural heritage. The material focuses on a particular risk to fishing cultural heritage.

Overview	The blue crab is not part of the local fishing heritage, but it is one of the invasive species that recently enter the Mediterranean. Initially, it represented a serious threat to fishing cultural heritage in our case region because of the damage it causes to fishing resources and fishing tools in lagoons and the sea. There is currently an effort to incorporate the blue crab in the production and marketing activities of fishermen in the area, to familiarise the public to it and to create market demand for it. This article that compares the situation around blue crab in Maryland, where it is very much part of cultural heritage, and the NE Aegean where it is not, is part f this effort. It is published by the "Fishing News" magazine, a popular magazine that reaches fishermen and people involved in fisheries in various capacities.
Learning outcomes	Readers learning of alternative ways to treat blue crab.
Language	Greek. The article will also be posted on PERICLES website in English.
Stakeholders involvement	Fishermen were involved in providing information about blue crab through a series of interviews and demonstrations (fishing and packing).
Exploitation	The material will be available as content of the printed magazine and a copy will be freely available on F.R.I.'s website after the end of PERICLES.
Link	https://www.pericles-heritage.eu/wp-content/uploads/2020/11/A.15.-Magazine-article-%E2%80%9CBlue-crab-connections-from-Maryland-to-NE-Aegean%E2%80%9D-%E2%80%93-NE-Aegean.pdf

3.4 Ria de Aveiro region

Moliceiro's tour: A guide to the natural and cultural heritage (see materials in Annex A.16)

Aim	The aim of this guide is to provide relevant information on Aveiro's natural and cultural heritage, so it can be considered by boat operators and shared with the tourists/visitors during the <i>moliceiro</i> boat tours in Aveiro's city canals.
Target audience	<i>Moliceiro</i> boat operators at Aveiro city canals (direct), tourists and visitors (indirect).
Resources	This is a 32 pages guide, B5 size so it is functional and easy to handle, and high grammage so it is durable on adverse conditions, such as <i>moliceiros</i> boats. It contains an illustrative map of the city's canals and the natural and cultural heritage hotspots, 16 short dedicated sections to each theme of the natural and cultural heritage, and a glossary.
CMCH	The guide is focuses on the natural and cultural heritage surrounding the Aveiro city canals or that is somehow related with this environment, namely the history of the city and traditional neighbourhoods, the Ria de Aveiro coastal lagoon, the saltponds and salt warehouses, the traditional boats (particularly <i>moliceiro</i> and <i>mercantel</i> , which are used in the tours), the <i>Art Nouveau</i> movement in Aveiro and buildings, the fish market, cod fisheries and gastronomy.

Overview	This is a 32 pages guide about Aveiro natural and cultural heritage that can be viewed from the city canals or that is somehow related with this environment and history. It contains an illustrative map of the city's canals and the natural and cultural heritage hotspots, which are then described, in a brief and simple way. The guide will be available on paper and distributed to the boat operators during the capacity building courses, and to the local government authority, which is responsible for licensing this activity. A PDF version will be made available on PERICLES website, so it can be utilised in future years and accessible to a broader public.
Learning outcomes	To understand and be able to explain the history of Aveiro city, the most relevant natural and cultural heritage, and the relevance of the sea and the coastal lagoon in shaping the regional economy and cultural development.
Language	Portuguese
Stakeholders involvement	This is a resource co-created with stakeholders that will meet some of the gaps identified during PERICLES participatory activities regarding the information that is passed to tourists during the <i>moliceiro</i> boat tours. In addition to the gap identification, stakeholders were involved in the development of some of the contents for the guide (mainly experts), as well as in its revision (experts, maritime-tourist operators and technicians from two municipalities museums of Aveiro and Ílhavo).
Exploitation	A paper and PDF version of the guide will be given to boat operators and to the local government authority, and thus enable a continued impact. The contents of the guide will be addressed during the capacity building course targeting boat operators. The PDF version will be available on PERICLES website, so it can be utilised in future years and accessible to a broader public.
Link	https://www.pericles-heritage.eu/wp-content/uploads/2020/11/A.16.-Moliceiro-tour.-A-guide-to-the-natural-and-cultural-heritage-Ria-de-Aveiro.pdf

Capacity building course design on Aveiro natural and cultural heritage (see materials in Annex A.17)

Aim	The aim of the course is to improve professional competences and enhance the knowledge about Aveiro's natural and cultural heritage.
Target audience	<i>Moliceiro</i> boat operators at Aveiro city canals (direct), tourists and visitors (indirect).
Resources	This course is tailored to the needs of boat operators.
CMCH	The course focuses on the natural and cultural heritage surrounding the Aveiro city canals or that is somehow related with this environment, namely the history of the city and traditional neighbourhoods, the Ria de Aveiro coastal lagoon, the salt pans and salt warehouses, the traditional boats (such as <i>moliceiro</i> and <i>mercantel</i>), the Art nouveau movement and buildings, the fish market, cod fisheries and gastronomy.
Overview	<p>This course has a duration of approximately 3 hours and is focused on the natural and cultural heritage surrounding the Aveiro city canals or that is somehow related with this environment. It is divided into 3 blocks, which will be taught by experts:</p> <ul style="list-style-type: none"> • the history of Aveiro, traditional boats and activities, by Inês Amorim (Professor at the University of Porto and PERICLES stakeholder, with expertise in history and cultural heritage); • the natural heritage of Ria de Aveiro, by Rosa Pinho (Member of PERICLES team with expertise in natural heritage and environmental education);

	<ul style="list-style-type: none"> the built cultural heritage, urbanism and intangible heritage, by Gabriela Mota Marques (Coordinator of Museums and Heritage at Aveiro Municipality with expertise in history and cultural heritage, to be confirmed). <p>The course will have at least two editions, in order to meet the boat operators needs and availability.</p>
Learning outcomes	To understand and be able to explain the history of Aveiro city, the most relevant natural and cultural heritage, and the relevance of the sea and the coastal lagoon in shaping the regional economy and cultural development.
Language	Portuguese.
Stakeholders involvement	PERICLES stakeholders (experts) are part of the teaching team and were involved in the development of contents for the course.
Exploitation	This course has the contribution of the Aveiro municipality, which may continue this activity and use the produced resources in future trainings courses.
Link	https://www.pericles-heritage.eu/wp-content/uploads/2020/11/A.17.-Capacity-building-course-design-on-Aveiro-natural-and-cultural-heritage-Ria-de-Aveiro.pdf

3.5 Scotland/Northern Ireland

Coastal Interpretation Webinar (see materials in Annex A.18 to A.22)

Aim	A training initiative for the tourism industry to maximise the exploitation of cultural heritage.
Target audience	Tourism businesses principally, plus policy makers, business support organisations, students and lecturing staff.
Resources	Full-day face-to-face webinar.
CMCH	The webinar addresses a broad range of CMCH, and is principally concerned with equipping businesses with the knowledge to sustainably exploit CMCH resources.
Overview	<ul style="list-style-type: none"> Learn interpretive skills for providing holistic maritime & coastal cultural tourism experiences; Explore various approaches in sharing local stories, history and folklore.
Learning outcomes	<p>Main expected outcomes</p> <ul style="list-style-type: none"> Understand the marine tourism industry in Scotland; Understand the role of the coast in the development of human settlement & activity; Understand cultural perspectives that have influenced the development of marine and coastal tourism; Exploration of the coast as a liminal space.
Language	English.
Stakeholders involvement	The materials were initially developed through the ADVENT ERASMUS + project (https://adventureedu.eu/en/news/35). The subject had been proposed by lecturing staff on a marine and coastal degree course, as they identified a sectoral need. These materials were subsequently tested by businesses and other stakeholders – the

	<p>feedback they gave was used to shape the resultant condensed course for the PERICLES webinar.</p> <p>The resource will be made open access on the PERICLES platform. These include:</p> <ul style="list-style-type: none">• Powerpoint slides (Annex A.17)• Powerpoint notes (Annex A.18)• Reading list (Annex A.19)• Recording of the webinar (Annex A.20)• Recording of the Zoom chat with suggested resources (Annex A.21)
Exploitation	
Link	https://www.pericles-heritage.eu/coastal-interpretation-webinar/

4. Conclusions and Outlook

Education and capacity building materials and activities produced by PERICLES establish processes and services that increase awareness around CMCH for a wider group of actors, including schoolchildren, business operators, and local communities. By involving young people and schools, we aim to improve their awareness and enthusiasm around CMCH, as well as youth participation in cultural heritage preservation. By building capacity of those involved in tourism we aim to maximize CMCH exploitation and communication.

PERICLES stakeholders have been involved in the identification of gaps and in the design and development of some of these activities and resources. Co-development and stakeholders' engagement ensure that the outputs meet their needs, builds ownership and increases the chance of continuing these activities and using these materials in the future.

Annexes

The education materials that have been prepared in each case region are presented here, in the original language. They can be also accessed in the Education Materials dedicated page of the PERICLES website: <https://www.pericles-heritage.eu/education/>.

List of Annexes:

- A.1. EMA Report - Brittany
- A.2. EMA Leaflet - Brittany
- A.3. EMA Methodological booklet - Brittany
- A.4. EMA Oyster farming model - Brittany
- A.5. Video on EMA of Crac'h - Brittany
- A.6. Place-based Education: Communicating Maritime Cultural Heritage through education - Denmark
- A.7. PERICLES Schools' Program: Fishing ethnography workshop guidelines - NE Aegean
- A.8. PERICLES Greece website - NE Aegean
- A.9. Fish Quiz - NE Aegean
- A.10. PERICLES Calendar - NE Aegean
- A.11. FRI Facebook monthly journal - NE Aegean
- A.12. Fish Stories - NE Aegean
- A.13. Short videos on intangible aspects of fishing cultural heritage - NE Aegean
- A.14. PERICLES Fishing cultural heritage in NE Aegean flyer- NE Aegean
- A.15. Magazine article "Blue crab connections from Maryland to NE Aegean" - NE Aegean
- A.16. Moliceiro's tour: A guide to the natural and cultural heritage - Ria de Aveiro
- A.17. Capacity building course design on Aveiro natural and cultural heritage - Ria de Aveiro
- A.18. Pericles Coastal Interpretation - Scotland/ Northern Ireland
- A.19. Folklore of the Sea - Scotland/ Northern Ireland
- A.20. Coastal History Interpretation reading list - Scotland/ Northern Ireland

- A.21. Recording of the webinar - Scotland/ Northern Ireland
- A.22. Recording of the Zoom chat with suggested resources - Scotland/ Northern Ireland

A.1. EMA Report - Brittany

PNRGM Education materials: Educational Marine Area (EMA)

History of EMA

An educational marine area is a coastal maritime zone managed by primary school pupils through a participatory approach that involves them in a project of citizen action to protect the marine environment. <http://www.aires-marines.fr/Proteger/Sensibiliser-le-public/Les-aires-marines-educatives>

The concept of an "**Educational Marine Area**" was born from the imagination of the children of Tahuata primary school (Marquesas Islands). Its launch follows the *Pakaihi i te moana* oceanographic campaign, which took place in the Marquesas in 2012. Following discussions with scientists, the children expressed their wish to become responsible for their own marine protected area in the bay opposite their school (*see annexe, the methodology booklet for an EMA*).

French Polynesia, in collaboration with its partners, decided to structure the approach around an "Educational Marine Area" (EMA) label rewarding schools wishing to get involved in this marine management process. The aim is to put schools at the heart of eco-citizen schemes. The label is based on three pillars: **getting to know the sea, exchanging with professionals and managing the coastal zone.**

This educational marine area approach has been presented at numerous events, both national, regional and international (IMPAC 3 in Marseille in 2013, World Parks Congress in Sydney in November 2014, OCEANIA 21 in Noumea in 2015, National Conference on Blue Growth in Paris in August 2015, National Symposium on MPAs in Brest in October 2015). It has been a great success and appears unique and innovative in many respects.

At the Cop 21 in Paris, a partnership was signed by the Minister of the Environment, Energy and the Sea and the President of the Government of French Polynesia, to strengthen the Polynesian network of educational marine areas and **extend the approach nationwide**, in keeping with the philosophy of the Polynesian concept born in the Marquesas Islands.

On 31 May 2016, the Minister for Overseas France awarded the "Coup de Coeur" prize of the Palme IFRECOR 2015 to the Pukatai project of the 6 educational marine areas in the Marquesas Islands.

At the start of the 2016-2017 school year, a national pilot programme was launched for the creation of 8 educational marine areas. This programme is coordinated by the Ministries of the Environment, Overseas France and National Education. The French Agency for Biodiversity, a public establishment dedicated to the protection of the marine environment,

is in charge of operational implementation in partnership with the eight selected schools, local authorities and voluntary associations.

Aims of Educational Marine Areas

- **Educational:** to make its natural and cultural maritime heritage known by promoting an intergenerational approach in French and Polynesian.
- **Professionals:** to contribute to the emergence of new professions linked to heritage, in particular referents from educational marine areas to support teachers.
- **Civic:** participate in the sustainable management of the public domain that is the sea.
- **Environmental:** to raise awareness of the environment in a cross-cutting approach combining ecology, uses and culture.
- **Tourist:** to promote maritime heritage.
- **Scientific:** make science accessible to the population and young people.
- **Co-operatives:** bringing similar approaches to the Pacific.

EMA and the Regional Nature Park of Morbihan Gulf

The Educational Marine Areas are an eco-citizen approach proposed by the French Agency for Biodiversity. In 2017, the PNRGM has decided to act as coordinator of the Educational Marine Areas of its territory because it does not have the human resources to act as a referent on all of them.

In **2017 / 2018**, the Regional Natural Park of Morbihan Gulf (PNRGM) set up an Educational Marine Area on a municipality in its territory, the Island of Arz, which it runs <https://www.parc-golfe-morbihan.bzh/actualites/aire-marine-educative-de-lile-darz/>.

In addition, the PNRGM wished to promote the work of the local animators who are already working in favour of environmental education, particularly in coastal areas. However, the PNRGM was keen to support the Île d'Arz school in order to model an approach and thus be able to develop methods and animation tools that we wish to share (*see annexe, Methodology applied by the Park for EMA*).

2018 / 2019: 7 schools in PNRGM territory, i.e. 365 pupils, have benefited from an EMA.

2019 / 2020: 13 schools, i.e. more than 650 pupils, have benefited from an EMA. Among these schools are the municipalities of Pluneret, Crach' and Plougoumelen, which were the subject of the inventory of the maritime coastal built heritage carried out within the framework of PERICLES (DEMOS B2).

In 2020 / 2021: 3 new schools will join the EMA programme, including the municipality of Bono, which has also been the subject of the inventory of coastal maritime built heritage carried out within the framework of PERICLES (DEMO B2).

EMA methodology

The EMA takes place throughout the year at regular intervals. It is a work in common and exchange between the Park, the teacher, the facilitator, the pupils and the speakers (local associations, testimonies of inhabitants, professionals...).

It is organised around 6 key moments taking place in class and/or outside:

- The children's choice of area
- The choice of work themes
- Observation of the area
- The state of the area
- The time of the proposal
- Building the action
- The Balance Sheet

Crac'h EMA in the framework of PERICLES project (see video AME Crac'h)

In 2019, PNRGM decided to integrate the EMA approach into the PERICLES project. It proposed to Deux-Rivières school of Crac'h, which had begun an EMA approach in 2018 / 2019, to join PERICLES. The school accepted, and in this sense, pupils of CE1, CE2, CM1 and CM2 (7 - 10 years old; 112 pupils), worked on the oyster farming theme. This theme made it possible to develop an integrated cultural heritage - natural heritage approach, addressing the question of the evolution of this know-how (intangible heritage), of the built environment (tangible heritage), of the oyster life (biodiversity) and also to discuss the location of this activity and its impact on the landscape (landscape heritage).

Cooperative work was carried out on the Baie Saint-Jean, bringing together teachers, municipality, a heritage facilitator who is a partner of the Park (Anne Jacob), retired and active oyster farmers, and amateur model-makers (Jean-Paul Cyrille, a navigator, and Jean-François Pierson, a former engineer). This site, chosen by the students, includes former oyster building sites, listed as part of the inventory of maritime built heritage (DEMO B2). These former oyster-farming sites are now threatened. Of the two huts that initially existed, only one remains today, abandoned. The children would like to transform this hut into a bird observatory; Baie Saint-Jean, set back from the dwellings, being daily frequented by the avifauna.

Since the beginning of September:

- At the end of September, the children went to their marine area (Baie Saint-Jean) to clean it, observe it, describe it and draw it (photos below).



Children cleaned up their educative marine area and observed landscape, fauna, flora and former oyster farm that can be seen in the background.

- They have regularly seen Anne Jacob, a heritage animator, who has come to talk to them in class about oyster farming, the life of an oyster and its evolution (*photograph below*).



Anne Jacob, heritage animator for Crac'h EMA, explains to the children, the oyster life.

- They visited an active oyster farm, and were able to talk with the oyster farmer who explained to them how the profession is practiced today.
- A retired oyster farmer (Marie-Antoinette Le Chanjour) came to class to explain to them how oyster farming was practiced in the past. She was accompanied by Jean-Paul Cyrille, a navigator who was a keen oyster farmer and who had made a model of an old oyster farm. This model showed the children how and with which tools oyster farming was practised in the past.



Marie-Antoinette Le Chanjour, a retired oyster farmer (center) tells the children of the Crac'h school about her oyster farming practice. She is accompanied on her right by Anne Jacob, nature and heritage coordinator and partner of the PNRGM, and on her left by Jean-Paul Cyrille, a navigator with a passion for oyster farming, who made a model of a former oyster farm.



Marie-Antoinette Le Chanjour in the foreground and Jean-Paul Cyrille in the background explaining to the children, based on a model of an old oyster farm, how oyster farming was practised in the past.

This intervention was the subject of an article in the local press (*see below newspaper article*).

Le Télégramme | 3
CHEZ VOUS

CRAC'H
L'ostéiculture
c'était comment avant ?

Les élèves de l'école des 2 Rivières, à Crac'h, poursuivent leur projet d'AME (Aire marine éducative). Mardi après-midi, les CE2, CM1, et CM2, ont découvert l'ostéiculture d'autrefois. Marie-Antoinette le Chanjour, ostéicultrice à la retraite, a expliqué son ancien travail. Jean-Paul Cyrille a commenté ses maquettes d'un chantier du Bono, du chaland Jean-Luc, et du ponton Dal-mat. De son côté, Anne Jacob avait préparé un questionnaire à partir des panneaux explicatifs réalisés par la mairie. Dans un peu plus d'une semaine, elle animera une découverte du plancton à destination des CP et les CE1.

Anne Jacob, Marie-Antoinette Le Chanjour, et Jean-Paul Cyrille, ont passionné leur jeune auditoire (ici les CM2).



Article published in the local press on Crac'h EMA.
Telegramme, January 16, 2020

- A new outing to the Bay Saint-Jean, planned for March 2 but postponed for health reasons (coronavirus), aimed, on the one hand, to imagine a new use for this former oyster farm; and on the other hand, a way to make walkers aware of the protection of this place.

- The children made a cardboard model of the former oyster farm in the Baie Saint-Jean, using the boards created by Jean-François Pierson, a retired engineer (*see annex, model*).

This EMA, which runs until June, has been the subject of a video retracing the different stages of this process. This video will be broadcasted on the PNRGM website, the Pericles website (*see video EMA of Crac'h 2019/2020*).

Due to the closure of the school in Crac'h since 2 March and until further notice, because of coronavirus, the field trip could not take place and has been postponed to a date for the moment undefined. This explains its absence on the current video. However, in order to meet the schedule of expected deliverables, a first video, showing the work done in class by the children with different stakeholders, is proposed. Another one, integrating the field trip will be produced later.

Conclusion

This EMA approach is a co-construction work between different actors of heritage and education, professionals, scientists, associations and inhabitants. It puts children at the heart of the reflection on the future of natural and cultural heritage and mobilizes them in a co-decision process, echoing participatory governance. This approach can be applied in different countries concerned by the issue of the protection and enhancement of their coastal maritime heritage.

A.2. EMA Leaflet – Brittany

Le réseau pilote *Pukatai*



Pour éprouver la méthodologie du label, les partenaires ont décidé de mettre en place un programme pilote sur deux ans : *Pukatai*. *Pukatai* vise à créer une aire marine éducative dans chacune des six îles habitées des Marquises et à fédérer leur gestion. À cette fin, *Pukatai* s'appuie d'une part sur l'expérience de la première Ame de Tahuata et, d'autre part, sur une équipe de référents dans chacune des îles dont le rôle est d'assister les enseignants pour les actions de l'aire marine éducative. *Pukatai* a été lauréat d'un appel à projet de l'Initiative Française en faveur des Récifs Coralliens (Ifrecor).

Pukatai s'inscrit dans la démarche plus globale de création d'une grande aire marine protégée et d'inscription de l'archipel au patrimoine mondial de l'Unesco en biens mixtes (nature/culture). Ce processus demande notamment d'établir des programmes éducatifs et des plans de gestion des sites naturels et culturels. Ainsi le réseau *Pukatai* s'inscrit dans la philosophie de gestion des biens soutenue par l'Unesco.

Contacts des partenaires du réseau *Pukatai*

Fédération culturelle et environnementale
des Marquises Motu Haka
totiteiki@yahoo.fr

Direction Générale de l'Éducation
et des Enseignements
courrier@education.pf

Communauté de communes
des îles Marquises
comtahuata@mail.pf

Agence des aires marines protégées
www.aires-marines.fr



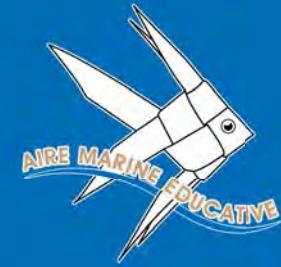
Polynésie française

en collaboration avec :



Crédits photos : T.Perez, P.Etien/Réalisation : Agence des aires marines protégées. 7 novembre 2014.

PUKATAI



Les aires marines éducatives
de Polynésie française



Les aires marines éducatives, un concept unique

Une zone littorale gérée par des enfants



Une aire marine éducative est une zone maritime littorale gérée par des élèves de cycle 3 d'une école à travers une démarche participative qui les implique autour d'un projet d'action citoyenne de protection du milieu marin.

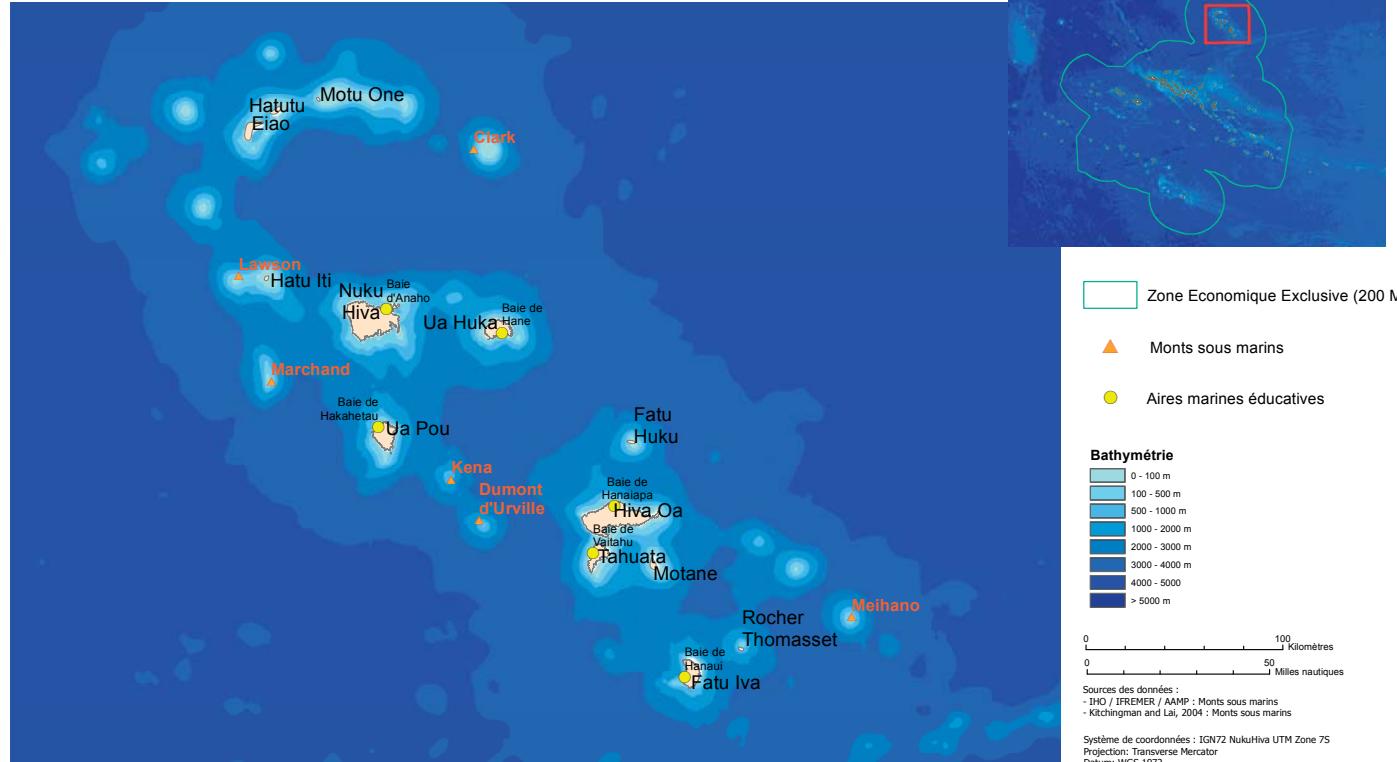
Le concept d'« aire marine éducative » est né de l'imagination des enfants de l'école primaire de Tahuata (Marquises). Son lancement fait suite à la campagne océanographique *Pakaihi i te moana*, qui s'est déroulée aux Marquises en 2012. Suite à des échanges avec les scientifiques, les enfants avaient alors exprimé le souhait de devenir responsables de leur propre aire marine protégée dans la baie en face de leur école.

Ce projet a été présenté lors du troisième congrès international des aires marines protégées (Impac3) en octobre 2013.

Un label en projet

La Polynésie française, en collaboration avec ses partenaires, a décidé de structurer la démarche autour d'un label « Aire marine éducative » (Ame) récompensant les écoles souhaitant s'engager dans ce processus de gestion du milieu marin. L'objectif est de mettre les écoles au cœur des dispositifs écocitoyens. Trois axes structurent le label : connaître la mer, échanger avec les professionnels et gérer la zone littorale.

Les six aires marines éducatives de l'archipel des Marquises (Polynésie française)



Les objectifs des « aires marines éducatives »

- Éducatifs : faire connaître son patrimoine naturel et culturel maritime en valorisant une approche intergénérationnelle en langue française et polynésienne.
- Civiques : participer à la gestion durable du domaine public qu'est la mer.
- Environnementaux : sensibiliser à l'environnement dans une approche transversale mêlant l'écologie, les usages et la culture.
- Scientifiques : rendre la science accessible à la population et aux jeunes générations.
- Professionnels : concourir à l'émergence de nouveaux métiers liés au patrimoine, notamment les référents des aires marines éducatives pour appuyer les enseignants.
- Touristiques : valoriser le patrimoine maritime polynésien et les baies d'exception.
- Coopératifs : insuffler des démarches similaires dans le Pacifique.

A.3. EMA Methodological booklet – Brittany



PARC NATUREL RÉGIONAL DU GOLFE DU MORBIHAN

Aires Marines Éducatives

*Retour d'expérience et
quelques recommandations*

Une autre vie s'invente ici



Mars 2020

Le Parc naturel régional et la mise en oeuvre des Aires Marines Éducatives : quelques conseils et outils



Les Aires Marines Éducatives sont une démarche éco-citoyenne proposée par l'Office Française pour la Biodiversité. Accompagnés par un référent, des écoliers doivent choisir une zone littorale et s'impliquer pour la gérer et la protéger.

Le Parc naturel régional du Golfe du Morbihan a décidé d'intervenir en qualité de coordinateur des Aires Marines Éducatives de son territoire car il ne dispose pas des moyens humains pour intervenir en tant que référent sur l'ensembles de celles-ci.

Au-delà, le Parc souhaite valoriser le travail des animateurs locaux qui agissent déjà en faveur de l'éducation à l'environnement, particulièrement en zone littorale.

Nous avons cependant tenu à accompagner l'école de l'Île d'Arz afin de modéliser une démarche et pouvoir ainsi développer des méthodes et des outils d'animation que nous souhaitons mutualiser. Ce document est le résultat de 6 demi-journées d'animation.

Ce document n'a pas vocation à revenir sur la méthodologie proposée par l'Agence française pour la biodiversité. En effet, celle-ci a élaboré un livret d'accompagnement à la création AME très pertinent, en téléchargement sur le site du Parc : <http://www.aires-marines.fr/Proteger/Sensibiliser-le-public/Les-aires-marines-educatives>.

Ce document complète cette méthodologie par une série de recommandations issues de notre propre démarche d'animation en 2017/2018 avec l'école de l'île d'Arz.



Le Parc naturel régional du Golfe du Morbihan en quelques mots



50^{ème} Parc de France (sur 54 en 2020) le Parc naturel régional du Golfe du Morbihan est un territoire habité, reconnu au niveau national pour le caractère exceptionnel de ses richesses naturelles, culturelles, paysagères et sa vitalité sur le plan humain.

Il est né en octobre 2014 par décret du Premier ministre. Il est composé de 33 communes qui ont adhéré à une Charte fixant les objectifs du Parc pendant 15 ans, dans des domaines aussi différents que la biodiversité, l'urbanisme, le développement économique responsable, la préservation et la valorisation des patrimoine naturel et culturel, la pédagogie et l'information du public...



Le Parc mène 5 missions :

- Protéger la nature, la culture, les paysages
 - Aménager le territoire de manière harmonieuse en respectant l'environnement et en luttant contre les effets du changement climatique
 - Développer l'économie en veillant à la qualité du cadre de vie
 - Accueillir, informer les habitants
 - Expérimenter des actions nouvelles et faire des recherches.

Le Parc est une collectivité publique dirigée par un Bureau d’élus et un Conseil syndical. Il est animé par une équipe d’une vingtaine d’agents et aussi par des instances consultatives, notamment un Conseil scientifique et un Conseil des associations, en attendant la création d’un Conseil des jeunes.

Répondant aux objectifs fixés par la Charte, ses actions couvrent une grande diversité de domaines : mettre en place des atlas de la biodiversité dans les communes, surveiller et protéger les gravelots, restaurer la rivière de Pénerf, préserver et valoriser les paysages, accompagner la transition énergétique, mesurer l'érosion côtière, inventorier et valoriser le patrimoine maritime bâti, organiser des visites et des conférences-débats, etc.

Le Parc gère également l'Île d'Ilur, dont le Conservatoire du littoral est propriétaire. Véritable vitrine du développement durable, 15000 personnes y passent chaque année.

Son emblème est un hippocampe « chevelu », l'une des deux espèces qui fréquentent le Golfe. Devenu de plus en plus rare, il symbolise aujourd'hui l'impérieuse nécessité de préserver cet espace d'exception.

Le territoire du Parc n'est pas une zone sous cloche, c'est un espace de mise en œuvre du développement durable.





Les Aires marines mises en place sur le territoire du Parc

- 2017/2018 : une Aire Marine Éducative a été mise en place sur le territoire du Parc, celle de l'Île d'Arz (animée par le PNR).

Sur un territoire proche, nous pouvons aussi évoquer une classe de l'école Montessori de Larmor-Baden et une classe de l'école Théodore Monod de Billiers (animation Vincent Jeudy, de la Réserve de Séné).

- 2018/2019 : selon l'Agence Française pour la Biodiversité, 7 écoles et 365 élèves ont été concernés.
- 2019/2020 : 5 écoles supplémentaires ont rejoint la démarche, soit un total de 490 élèves concernés sur l'ensemble du territoire. Les AME ont également acquis une dimension européenne en intégrant le projet PERICLES avec le travail mené à l'école de Crac'h (<https://www.pericles-heritage.eu>).

Il est important de rappeler ici le travail de promotion réalisé par les conseillers pédagogiques du territoire.

Ce tableau est celui fourni par l'Agence Française pour la Biodiversité en août 2019.

Il peut évoluer en fonction de nouvelles inscriptions à venir.

Structure	Classes/Niveau	Nombre d'élèves	Référents
Île d'Arz	1/ CP-CM1	10	PNRGM
Arzon École Eric Tabarly	3/ CE1-CE2 CM1-CM2	59	Mairie Arzon, Marie Guillevic
Crac'h Ecole Deux Rivières	5/CE1-CE2 CM1-CM2	112	PNRGM et Anne Jacob (La mer monte)
Plougoumelen	1/CM1-CM2	32	Patrick Camus, élu
Pluneret	4/CM1-CM2	95	Mairie de Pluneret, Pierre Gallène
Locmariaquer École Le Votten	2/CE1-CE2 CM1-CM2	33	PNRGM et Anne Jacob (La mer monte)
Saint-Philibert École Pierre Jakez Helias	2/CE1-CE2 CM1-CM2	36	PNRGM et Anne Jacob (La mer monte)
Le Hézo École Vert Marine	1/CE2-CM1 CM2	17 CM1-CM2 8 CE2-CM1	Réserve nationale des marais de Séné
Saint-Armel	1/CM1-CM2	20	PNRGM et Guillaume Brault (enseignant)
Sarzeau École des Korrigans	1/CM1-CM2	25	Association ARDOUKOBA
Séné École Françoise Dolto	1/CM2	23	Réserve nationale des marais de Séné
Vannes École Nicolazic	1/CM1-CM2	28	PNRGM et Katy Lebek animatrice nature

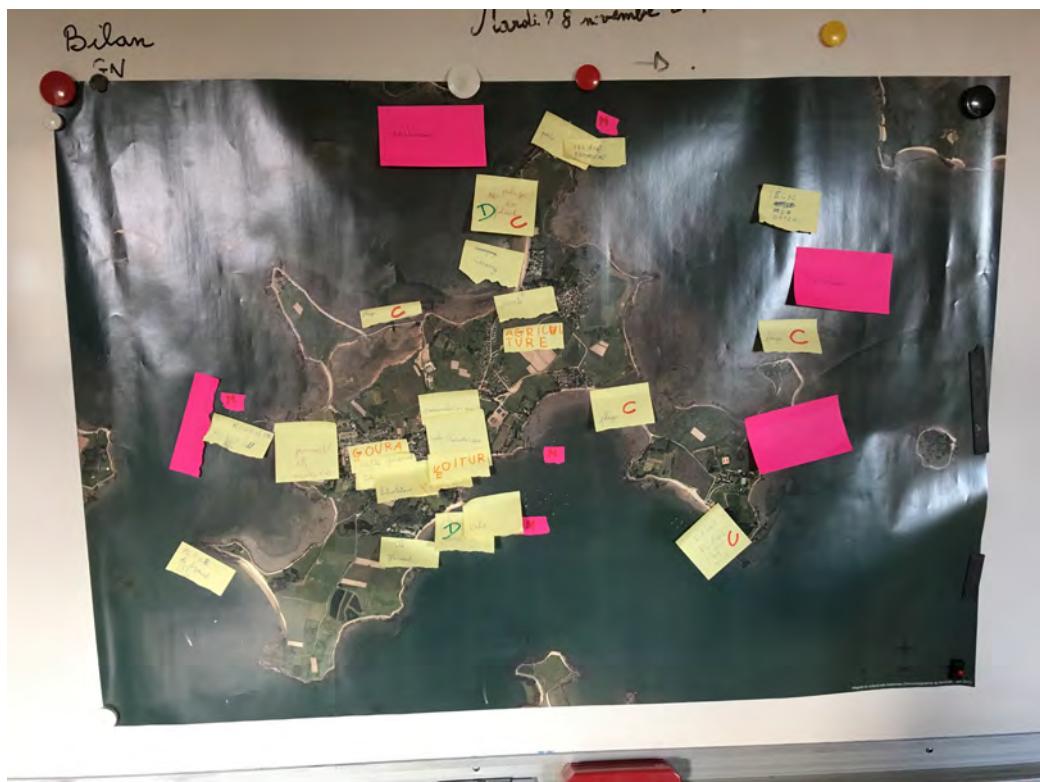
1. Le choix de la zone

Dans la plupart des AME qui seront conduites en 2019/2020, la zone a déjà été choisie, ce n'était pas le cas à l'Île Arz car plusieurs points de l'île sont facilement accessibles depuis l'école.

Une carte pour situer la zone

Afin de débuter la session, après les présentations « classiques » du référent et de l'école, il nous paraît pertinent de montrer une vue aérienne de la zone. Elle peut être accessible sur Internet. Pour les écoles suivies par le Parc, nous pouvons réaliser une sortie en format A0 (119 x 84).

Elle permet une bonne visualisation de la zone et elle constitue surtout un bon support pour travailler collectivement.



Si les écoles situées sur son territoire le souhaitent, le Parc naturel régional pourra effectuer un tirage A3 ou A0 de la zone choisie pour l'AME.



Cette carte de la zone a été l'occasion pour les enfants de recenser les activités présentes sur l'île, avec discussion sur leurs liens et leurs impacts vis-à-vis de la zone littorale.

Lors de la présentation des actions du PNR, nous avons fait la liaison entre ces activités identifiées par les enfants et les missions du Parc. Cela a rendu les actions du Parc plus concrètes pour eux.

Les autres référents pourront aisément établir des liens avec leurs propres activités et celles du PNR





2. Le choix de thèmes de travail

A partir des activités identifiées par les enfants, nous leur avons demandé de lister celles qui leur paraissaient importantes à mettre en avant dans le cadre de l'Aire Marine Éducative. Les enfants ont par exemple identifié les éléments suivants :

- animaux de la mer et oiseaux
- patrimoine bâti
- pollutions (déchets)
- érosion
- agriculture
- changement climatique et montée des eaux



Le choix de la zone puis des activités à mettre en avant ont été de bons supports de discussions et d'échanges. Les enfants ont voté pour déterminer la zone finale à retenir, ainsi que sur les priorités des thèmes de travail à dégager. Le choix de la zone s'est ainsi porté sur la plage de Penera et les thèmes prioritaires retenus ont concerné le climat, la montée des eaux, les pollutions. Des pistes ont aussi été évoquées autour d'un point de mesure de l'érosion ou encore la mise en place d'un observatoire photo.

L'enseignante a également pu faire le lien avec le programme scolaire sur de nombreux domaines : expression écrite, orthographe, sciences, mathématiques, etc.

Cette première partie, réalisée en classe, nous a permis de cerner les attentes des enfants.

Cette session a aussi été l'occasion de rencontrer Mme le Maire de l'Île afin de l'informer et d'impliquer la commune dans la démarche.

3. L'observation de la zone

Nous laissons le soin aux référents d'utiliser leurs méthodes et outils de découverte et d'acquisition des connaissances.

Pour notre part nous sommes allés sur la plage avec l'objectif de découvrir la zone et d'identifier des éléments d'état des lieux.



Prendre des photos

Cela permet aux enfants de voir la zone avec leur regard, sans l'influence des animateurs. Les photos font ressortir les éléments visuels importants à leurs yeux. À l'Île d'Arz, chaque enfant était invité à prendre une photo d'un endroit, lointain, ou proche, qui l'intéressait.

En plus de ces photos ponctuelles, nous leur avons proposé de prendre une photo de la cale aux points cardinaux, afin de vérifier l'évolution du milieu au fil des saisons.

Ils devaient aussi rapporter un objet laissé sur la plage par la marée basse (naturel ou non).



Lire le Paysage

Au-delà des photos, il s'agit d'un travail important pour que les enfants s'imprègnent de la zone en faisant ressortir des éléments qui touchent tous les sens, auxquels on ajoute le ressenti. Nous avons utilisé et adapté une grille d'analyse proposée par l'Agence Française pour la Biodiversité. Cela a été un temps fort de prise de conscience des richesses et fragilités de Penera.

Les questions posées aux enfants : « Ce que je vois, ce que je sens, ce que j'entends, ce que je touche, ce que je ressens ».

L'exercice peut également être réalisé avec des plus petits, en les accompagnant. Ils peuvent le cas échéant faire des dessins pour illustrer leur perception de la zone.

Le Parc fournira cette trame de lecture de paysage aux écoles qui le souhaitent.



Cette lecture de paysage se fait à partir de pictogrammes très lisibles pour les enfants, y compris les plus petits qui ne maîtrisent pas la lecture et l'écriture.

Ces derniers doivent tout de même être accompagnés par des adultes pour le renseignement des différentes rubriques.

Au-delà de la lecture « physique » du paysage, la question du ressenti est également intéressante. Un environnement calme ou bruyant génère des ambiances différentes et oriente les enfants sur l'état des lieux de la zone.





4. L'état des lieux de la zone

Mettre en avant des éléments-clés de la zone

Une balade permet le cas échéant de faire ressortir un élément marquant de la zone. A Penera par exemple, le groupe est passé devant une zone très sensible à l'érosion côtière.

Cela généré de nombreux échanges sur les sujets, entre enfants, enseignante et référent mais aussi entre les enfants eux-mêmes.

L'idée de suivre l'érosion avec eux a été proposée à ce moment-là.



Demander aux enfants ce qu'ils aiment et ce qu'ils n'aiment pas

Plutôt que de parler de « diagnostic », nous avons préféré demander aux enfants, une fois la sortie sur la zone effectuée, de nous faire savoir « ce qu'ils aimaient » et « ce qu'ils n'aimaient pas ».

Ce travail peut être fait en classe, après la sortie.



Illustration du diagnostic à partir d'éléments simples

		
J'aime	Je n'aime pas	
Peu ou pas de voitures qui circulent La vue, les animaux Le calme La facilité pour faire du bateau La plage Le plaisir d'aller à la pêche à pied La promenade sur les sentiers Habiter sur une île Le grillage utile pour sécuriser	Le bruit des travaux Les déchets Les vélos sur les sentiers Le grillage pas joli sur les chemins	<p>Cette grille, simple d'apparence, a induit de bonnes discussions avec les enfants sur des éléments subjectifs et objectifs.</p> <p>Elle a aussi permis de faire ressortir des nuances de perception sur certains aspects.</p> <p>A titre d'exemple, un grillage peut être à la fois jugé positif quand il protège mais négatif quant à son intégration dans le paysage.</p>

5. Le temps de la proposition

Pour compléter l'acquisition des connaissances, nous avons diffusé un diaporama sur les richesses sous-marines ainsi qu'un jeu sur la laisse de mer, à partir de boîtes de différentes couleurs.



Chaque boîte renferme un objet, naturel ou non, laissé sur la plage lors des marées. Les enfants doivent découvrir cet objet « à l'aveugle ». Rires garantis !



Ce jeu sur la laisse de mer provoque surtout des échanges sur les connaissances et les pratiques des enfants en termes de mode de vie et de consommation.



Boîte	Elément Q° : c'est quoi à votre avis ?	Décomposition Q° : temps pour se décomposer ?
orange	<u>matériel</u> d'ostréiculture	+ 400 ans
jaune	<u>coquille</u> d'huîtres	<u>biodégradable</u>
vert	<u>goémon</u> séché	<u>biodégradable</u>
rose	<u>zostère</u> naine séchée	<u>biodégradable</u>
rouge	<u>sable</u>	<u>biodégradable</u>
bleu	<u>emballages</u> plastiques (sachet, crayon, tube de colle...)	+ 400 ans
jaune	<u>os</u> de seiche	<u>biodégradable</u>
noir	<u>verre</u>	Indéterminé (ou 4000 ans)
bleu	<u>petit</u> matériel de pêche	600 ans
vert	<u>capsule</u> d'œufs de raies	<u>biodégradable</u>
gris	<u>sacs</u> plastiques	100 à 1000 ans
marron	<u>coquillages</u>	<u>biodégradable</u>
pourpre	<u>métaux</u> de cigarette (filtre)	1 à 2 ans

A ce stade de l'animation, nous laissons le soin aux référents le fait d'approfondir ou non l'acquisition des connaissances.

Cela dit, l'Aire Marine Éducative doit également produire une action à l'issue du diagnostic.

Dans ce sens, nous avons attiré l'attention des enfants et de l'enseignante sur le fait qu'il restait quelques jours avant la fin de l'année scolaire pour construire une action visible.

En revenant sur les thèmes identifiés en phase diagnostic et suite au jeu de la laisse de mer, les enfants ont émis l'idée de montrer des gestes à faire ou à ne pas faire pour préserver la plage de Penera.

L'idée d'un panneau d'information à destination du grand public (les visiteurs mais aussi les habitants) a assez vite émergé.



A partir du diagnostic, il est intéressant de voir quelles sont les préoccupations des enfants. Ce doit être le support de l'action à venir afin qu'ils s'impliquent et soient motivés pour créer les conditions de sa réalisation. Toutes les options sont possibles : panneau, exposition, vidéo, livret pédagogique, pièce de théâtre, etc.

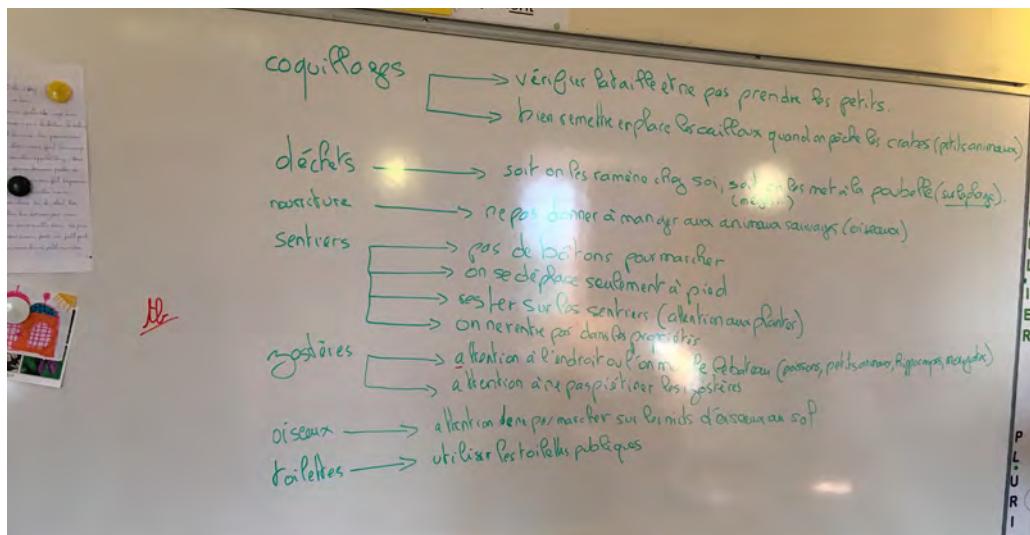
6. La construction de l'action

La trame du panneau a été réalisée à partir des thèmes proposés par les enfants.

Ils se sont ensuite mis en situation à partir de photos illustrant les gestes à faire et à ne pas faire.

Collectivement les enfants ont également produit les textes d'illustration des photos.





7. Le panneau définitif

La dernière session a permis de finaliser les textes et de refaire des photos.

Le panneau a été réalisé en 2 exemplaires et l'inauguration a eu lieu le 21 septembre.



Les enfants ayant eu l'idée d'un panneau, nous avons fait une trame à partir de la charte graphique du Parc, en respectant les caractéristiques de nos propres panneaux d'interprétation.

Le fait pour les enfants de concevoir un « outil Parc » a été une plus-value car nous les avons associés à nos propres actions pédagogiques.

Selon les supports proposés dans les prochaines AME, nous évaluerons cette possibilité de considérer la production des enfants comme une véritable action du Parc naturel régional.



8. Le Bilan

A l'issue d'une année d'échanges et d'animations, il nous paraît important de faire le bilan avec l'enseignant et avec les enfants.

Pour notre part, nous avons réalisé une petite interview, face caméra.



3 questions posées aux enfants :

- ce qui t'a plu
- ce qui ne t'as pas plus
- ce qu'on aurait pu faire de plus ou de différent

L'AME de l'île d'Arz en vidéo :

<https://www.youtube.com/watch?v=cYVL6XYnBAI&t=2s>

L'AME de l'Arzon en vidéo :

<https://www.youtube.com/watch?v=SqHSu7KpnAI>

9. Quelques informations complémentaires

Echanger avec les élus

Tout au long de la démarche, il est important de faire le point avec les élus sur le déroulé de la démarche et, surtout, sur les propositions des enfants, qui peuvent le cas échéant «exposer» à des questions jugées sensibles par la municipalité. Au-delà, la municipalité sera fréquemment mise à contribution pour mettre en oeuvre l'Aire marine éducative, dans la gestion de la zone choisie par les enfants ou pour installer des éléments (par exemple des panneaux comme à l'île d'Arz).

Renseigner quelques documents administratifs

La mise en oeuvre de l'AME nécessite de renseigner des documents administratifs indispensables au bon déroulement de la démarche. Tous ces documents sont accessibles auprès de l'Agence Française pour la Biodiversité.

Et après ?

Même si le Parc ne fera pas directement les animations des autres AME de son territoire, nous continuerons à suivre celle de l'île d'Arz, sous une forme plus légère. Nous avons évoqué avec les enfants un suivi de l'érosion et éventuellement une déclinaison du panneau vers d'autres documents pédagogiques.

Dans ce sens, il est important de définir des actions à court terme, réalisées dans l'année, et d'autres à plus long terme, afin de passer le flambeau aux classes suivantes.

Contacts PNR : Zarah Simard / zarah.simard@golfe-morbihan.bzh



A.4. EMA Oyster farming model – Brittany

Maquettisme

Construire son chantier ostréicole

Conception et réalisation des maquettes, Jean-François PIERSON

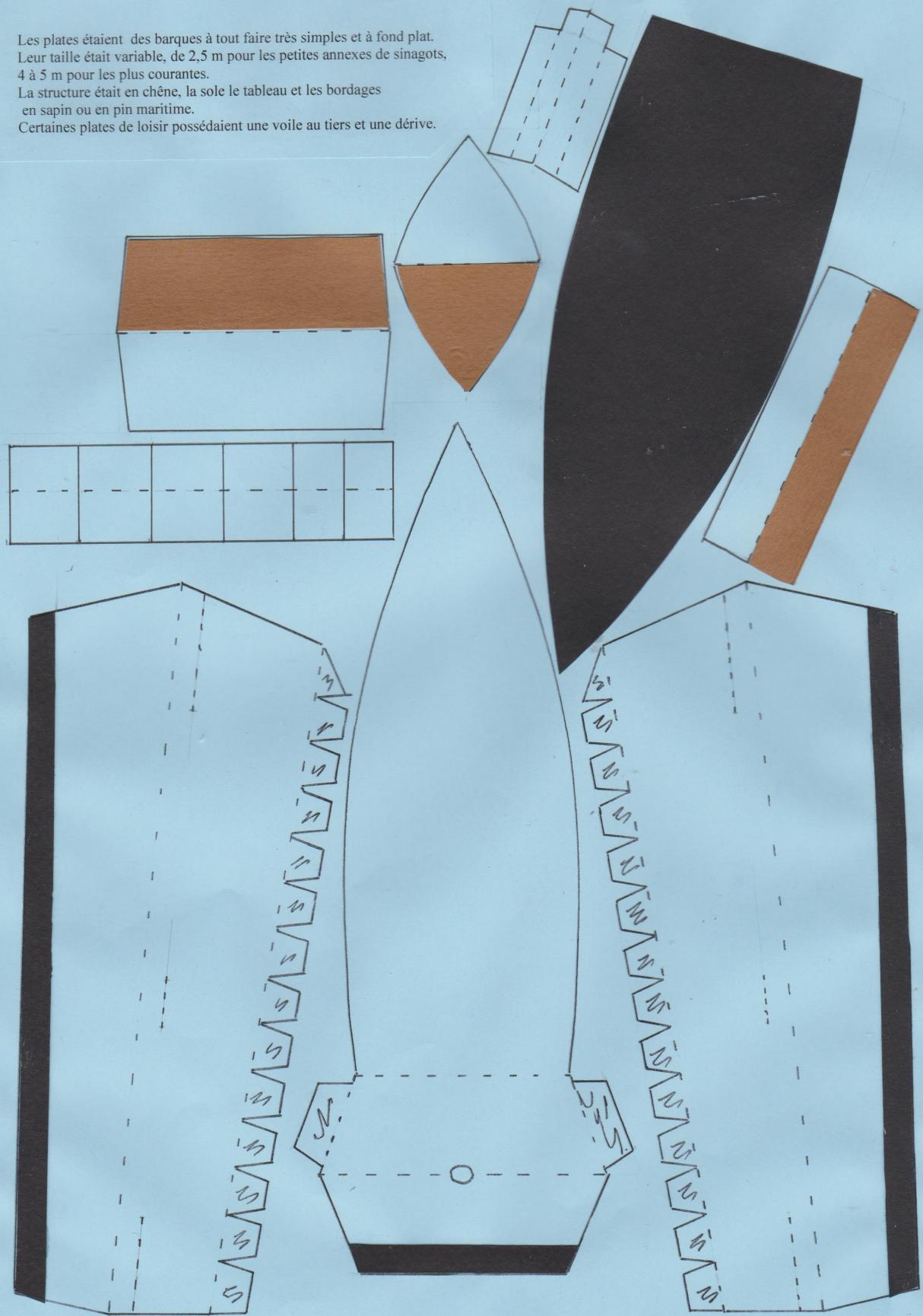


Plate du Golfe

Les plates étaient des barques à tout faire très simples et à fond plat. Leur taille était variable, de 2,5 m pour les petites annexes de sinagots, 4 à 5 m pour les plus courantes.

La structure était en chêne, la sole le tableau et les bordages en sapin ou en pin maritime.

Certaines plates de loisir possédaient une voile au tiers et une dérive.

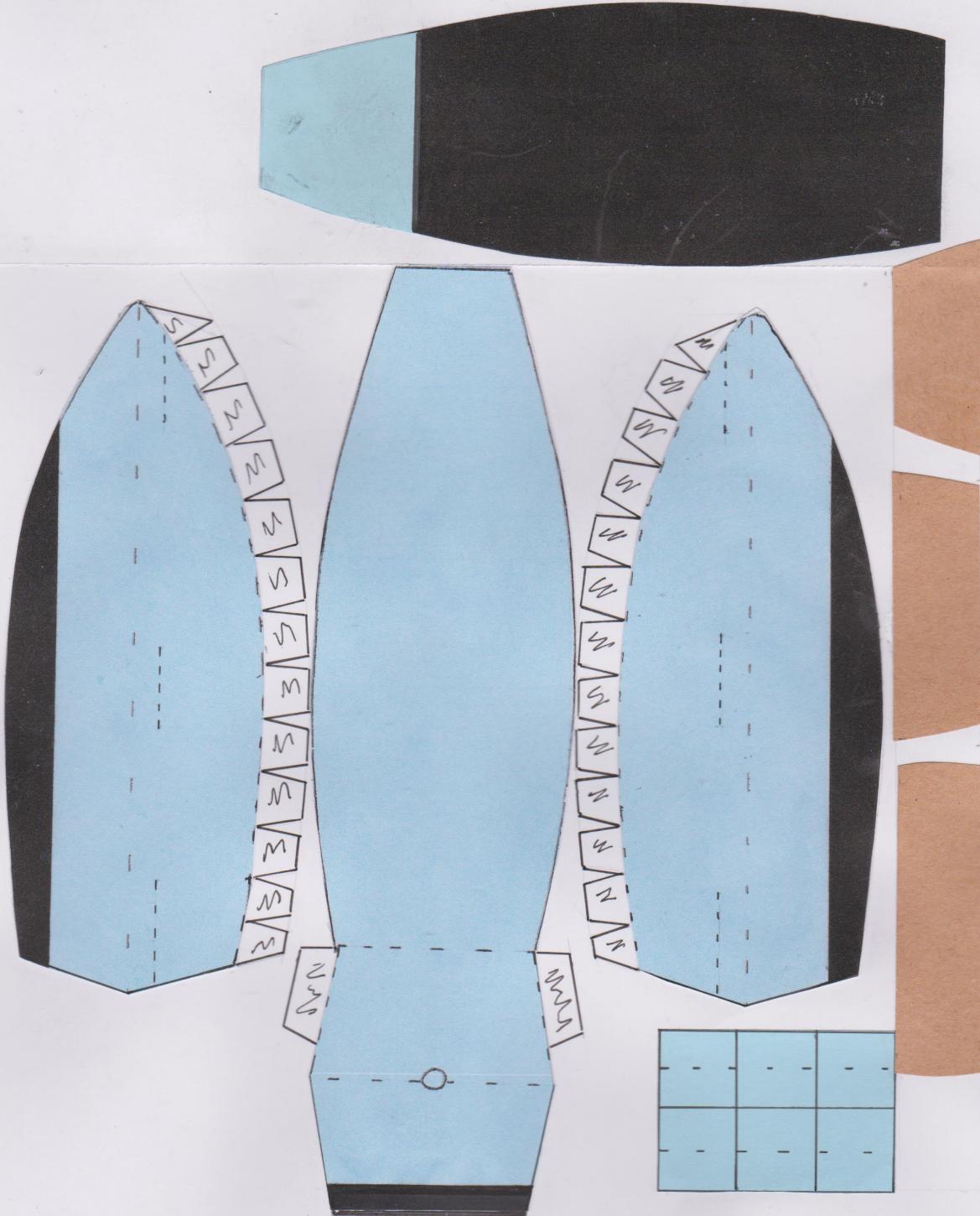


Moj plac

Le moj plac (nez plat en breton) est une petite plate servant d'annexe à un bateau. Très courant dans le Golfe du Morbihan au début du XXe siècle, il doit son nom à son avant tronqué, soit que la sole (plancher) remonte jusqu'au niveau du plat-bord, soit qu'une marotte (planche) donne l'impression d'un avant coupé. Il fut un temps l'annexe préférée des sinagos et des forbans car facile à hisser et ranger à bord. Il était aussi très utilisé par les ostréiculteurs.. Supplanté ensuite par de petites plates plus classiques il disparut rapidement du Golfe.

Mais décrit vers 1910 par un yachtman anglais sous le nom « d'Auray punt », le moj plac fait une seconde carrière aux USA, souvent construit en contreplaqué collé par des constructeurs amateurs. Et on peut dire que l' Optimist le bateau d'entraînement le plus connu des enfants est une sorte de moj plac.

Renseignements tirés de « Sinagots Une communauté de pêcheurs en Morbihan. » ouvrage de Gilles Millot.



Construction d'une maquette de bac ostréicole ancien (Echelle du 1/25e)

Récupérer du carton mince, soit une plaque du commerce, soit un emballage de : biscuits, pizza surgelée ...

1) Tracer la forme de la coque :

- Dans un grand rectangle de 32x15cm, tracer de chaque côté une bande de 32x2,5cm (les deux bordés de la coque)
- Tracer les deux panneaux symétriques avant et arrière de 10x6cm, et la sole (le fond) de 20x10cm.
- A l'aide d'un compas reporter quatre fois les 6 cm de la « longueur » d'un panneau avant/arrière sur le haut du bordage correspondant, puis tracer une droite qui joint ce point haut à l'angle du fond. (voir croquis).
- Tracer le long de cette ligne les quatre bandes de collage entre les bordés et les panneaux avant/arrière)

2) Marquer les lignes de pliages avec un objet dur mais non tranchant (dos de couteau...)

Pour plus de réalisme on peut aussi tracer les planches qui forment les différents panneaux de la coque. Les planches des panneaux avant/ arrière sont perpendiculaires à celles des bordés et de la sole.

3) Coller les pattes de collage des bordages sous les panneaux avant/arrière.

4) Découper de petits carrés de carton de 2x2cm, puis :

- Les plier en deux à angle droit.
- Les coller sur les bordages à 0,5cm du haut à l'avant au milieu à l'arrière pour tenir ensuite les deux bancs de chaque extrémité et la traverse d'écartement centrale.

5) Découper en double et coller les deux bancs de 10,5x2cm, (pour renforcer leur solidité) et en triple la traverse centrale de 12x1cm

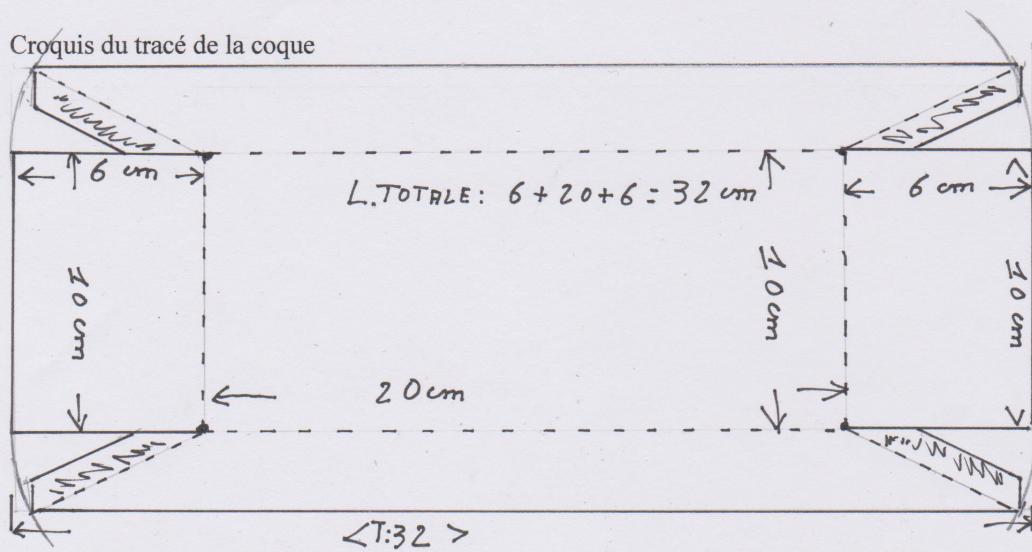
Les coller sur les pattes qui doivent les soutenir sur les bordés.

6) A ce stade on peut **peindre** l'ensemble de couleur noir mat qui figurera le goudron de protection des coques.

7) On peut ensuite découper deux bandes de bois mince pour recouvrir les bancs avant/arrière.

8) Un maquettiste adroit pourra ajouter en bois des « blocs » d'amarrage aux angles, les lices de protection des bordés, les membrures, des avirons, des perches, une ancre ...

Croquis du tracé de la coque



Maquette de cabanon ostréicole

La maquette est au 1/25 pour une taille réelle de 5 x4x3,25 m. soit 20x16x13cm.

Pour la construire, faut se procurer :

- une bande de carton mince gris (la couleur du ciment) de taille 73x15 cm ou deux de 37x37 cm. Pour figurer les quatre façades en plaques de ciment.
- Un rectangle de carton mince de 20x15,5cm doublé par une feuille de carton ondulé de même taille, de manière à figurer le toit en tôle ondulée.
- Une feuille de papier de couleur verte ou bleue, pour figurer les deux portes et la fenêtre.
- De la colle blanche en pot, une règle et de bons ciseaux.

Les cabanons plus anciens, entièrement en planches passées au goudron noir étaient en général de plus petite taille. Si on fait ce choix Il faudra alors peindre en noir le carton ou le doubler avec du papier Canson noir.

Construire la maquette.

1) Sur la bande de carton gris tracer :

- Une façade avant de 19 cm de long et 13 cm de haut.
- Deux façades latérales de 14 cm de long, 13 cm de haut à l'avant et 10 cm de haut à l'arrière pour figurer la pente du toit.
- Une façade arrière de 19 cm de long et 10 cm de haut.
- Chaque façade doit posséder une bande de collage large de 1 cm en haut, et une autre en bas.
- Il faut aussi une ou deux bandes de collage verticales dans un ou deux angles pour « refermer la boîte ».

2) Marquer les pliures avec un objet mince non tranchant : dos de couteau... et plier toujours à angle droit, au bord d'une table par exemple.

3) Coller la maquette pour la refermer.

Pour avoir des angles bien droits, et donc une maquette de plan bien rectangulaire, on peut coller au niveau de chaque angle en haut et en bas de petits carrés de carton de 2x2cm.

4) Coller le toit débordant de 0,5 cm de chaque façade. Il est prudent de tracer auparavant sous le toit la limite de la bande qui déborde sur chaque façade, pour un collage bien régulier.

5) Pour figurer simplement les ouvertures :

- Découper dans du papier de couleur un rectangle de 8x4 cm pour la porte de façade, un rectangle de 8x4 cm pour la fenêtre en largeur située en façade, un carré de 8x8 cm pour la porte latérale située à gauche de la façade principale.
- Coller ces pièces à leur place en vérifiant bien les verticales.

Ne pas vouloir travailler trop rapidement : le maquettisme est une école de soin et de patience.

Maquette du ponton ostréicole

Inspiré par un ponton construit par le chantier Ezan à Saint Philibert.

Sa taille était de 10 par 3,5 m. Au 1/25 cela donne une maquette de 40 par 14 cm.

On peut utiliser deux méthodes de construction différentes :

I) En carton

La coque est une sorte de boîte plate en carton mince mais rigide.

On peut la renforcer en plaçant à l'intérieur une plaque d'isolant rigide (styrodur)

Ce matériau, facile à découper, est très utilisé en modélisme.

Il est plus simple de se limiter à « rouler » du papier kraft collé autour d'une « planche » en styrodur, mais attention aux plis et autres bulles.

Les neuf bites d'amarrage sont réalisées en roulant une bande de papier autour d'une petite tige de brochette en bambou.

On écrase le petit cylindre en papier pour lui donner une forme carrée, puis on perce le carton avec la pointe taillée de la brochette qui dépasse de deux centimètres, sans oublier une goutte de colle.

Les protections (fargues) avant et arrières sont faites de bandes doublées de carton.

L'ensemble est peint en noir à la peinture acrylique pour imiter le goudron qui recouvrira la coque et le pont.

La cabine est faite d'une double couche de bristol blanc. Elle mesure 4x4x8/9 cm.

II) En bois

Un adulte taille un morceau de planche de 40 par 14 et par 2,5 cm d'épaisseur.

Cette « coque » sera ensuite poncée et peinte par les enfants.

Les amarrages seront faits d'un clou entouré de papier, ensuite cloué à sa place avec un petit marteau.

Le reste du travail ne change pas.

Le terre-plein et la cale de descente

Ici encore deux solutions simples sont possibles :

Le carton

Le terre-plein sera une simple caisse découpée à hauteur de cinq centimètres, recouverte de papier collé, par exemple du kraft avec les joints des murs dessinés, et le sol recouvert de sable fin collé, par exemple des papiers Canson de différentes couleurs.

Pour les murs il est possible aussi de prendre des photos de vrais murs, de les imprimer en A4 et de les découper en bandes à coller sur les flancs de la caisse.

Pour la cale réaliser une forme en carton et la recouvrir de la même façon.

Il serait utile de choisir une caisse assez grande qui, retournée, pourrait contenir l'ensemble des autres maquettes pour le transport et le rangement.

Le bois

Il est possible de réaliser des maquettes plus solides en bois : la caisse avec des baguettes de section 5x2 cm collées sur un fond de médium ou de contre-plaqué.

Le bassin avec des baguettes de 3X2 cm. La cale sera faite d'un morceau de bois massif taillé de la même forme que les vieilles cales de sécurité pour les voitures.

La décoration sera peinte sur le bois ou faites de papier collé.

L'usage de médium de couleur brune permettrait de laisser ces trois pièces à l'état brut, sans les recouvrir ni de papier ni de peinture.



A.5. Video on EMA of Crac'h – Brittany

Print screen of the Video on the Educational Marine Area (EMA) of Crac'h, which can be visualized here:
https://youtu.be/lUz_xPPJ71s



A.6. Place-based Education: Communicating Maritime Cultural Heritage through education – Denmark



Kære lærere (og elever),

Jeg skriver til jer i forbindelse med samarbejdet mellem Aalborg Universitet, jeres skole og Marstal Søfartsmuseum omkring Marstals maritime kulturarv. Samarbejdet er etableret som et led i et EU-projekt om maritim kulturarv kaldet PERICLES, som Aalborg Universitet er en del af. Jeg sætter stor pris på, at I vil være en del af projektet.

Jeg har haft en overordnet dialog med jeres skoleledelse om projektet, og jeg vil nu gerne i gang med at konkretisere, hvordan samarbejdet skal udmønte sig sammen med jer. Sammen tilrettelægger vi en plan for projektet, det giver mest mulig mening for både jeres elever/jeres undervisningsforløb og for Aalborg Universitet/PERICLES projektet.

Indtil videre har vi talt om, at jeres elever skal indgå i projektet ved at undersøge Marstals maritime kulturarv, som den er kommet til udtryk gennem de seneste generationer. Marstal Søfartsmuseum er meget interesseret i undersøgelsen, da museets viden om den maritime kulturarv primært ligger lidt længere tilbage i historien.

Vi forestiller os, at jeres elever skal foretage nogle interviews med relevante personer, som kan fortælle noget om, hvordan de har været en del af den maritime kulturarv, hvordan de har oplevet det osv. Det vil sikkert være relevant for eleverne at tage fotos og optage video/lyd som en del af dokumentationen.

Resultaterne fra undersøgelsen i form af fotos, info-plakater, evt. videoopstillinger med de interviews eleverne laver, vil blive udstillet på Marstal Søfartsmuseum.

Projektet er rettet mod de ældre klasser – primært til medie-faget, dansk og historie. I forbindelse med udstillingen kan oversættelser af plakat-tekster bruges som fagligt input til tysk- og engelsk undervisningen, hvis det er relevant for jer.

For at komme godt fra start vil jeg gerne mødes med jer og drøfte det videre forløb:

- Nå frem til en fælles forståelse og aftale omkring projektmålene
- Aftale hvilke klassetrin projektet er relevant for, hvilke forskellige aldersrelevante aktiviteter, der skal indgå, og hvilke ressourcer, der er brug for til at gennemføre aktiviteterne (værktøjer, litteratur, økonomi, andet?)
- Drøfte hvordan projektet kan blive relevant for lokalsamfundet
 - Fastlægge en tidslinje til planlægningsopgaver

I forhold til tidsperspektivet, så forløber PERICLES projektet ca. to år endnu. Der er således to år, hvor Marstal materialet kan spille en rolle i forhold til PERICLES. Det vil være rigtig godt, hvis vi kan starte op allerede her efter sommerferien (2019), så eleverne kan foretage interviews og forberede resultaterne i løbet af skoleåret 2019-2020. Forløbet vil så kulminere i en udstilling på Marstal Søfartsmuseum i sommeren 2020.

I det følgende finder I lidt baggrundsinformation om projektet. Jeg følger op med mere relevant materiale til jer, når vi er kommet lidt nærmere detaljerne for, hvordan projektet skal forløbe, og hvilket materiale I har brug for.

Jeg ser meget frem til vores samarbejde.

De bedste hilsner

Alyne Delaney
Projektleder





PERICLES projektet og casestudierne

PERICLES er det EU-finansierede projekt "Bevarelse og bæredygtig styring af kulturarven og landskaber i europæiske, kyst- og maritime regioner" med partnere fra ni lande over hele EU, fra Estland til Nordjylland og Portugal til Grækenland.

PERICLES fremmer bæredygtig, inddragende forvaltning af kulturarven i de europæiske kyst- og maritime regioner gennem en unik tværfaglig og geografisk bred tilgang. Projektets overordnede mål er at udvikle og demonstrere en ramme for at forstå, bevare og udnytte den maritime kulturarv til samfundsmæssigt gode.

Hjertet i PERICLES projektet er casestudierne, hvor fænomenerne 'kystnær og maritim kulturarv' undersøges i praksis. Der bliver en række cases fordelt over de lande, der deltager i PERICLES projektet, og i Danmark har vi tre: Slettestrand, Vilsund og Ærø/Marstal. Ud over de tre lokale projekter vil vi også se på fællestræk og forskelle mellem de tre områder.

Følg PERICLES her:

<https://www.facebook.com/PericlesProject/>

Twitter: @PericlesProject

Instagram: PERICLES_Cultural_Heritage

website: <https://www.pericles-heritage.eu/>



<https://www.pericles-heritage.eu/>





Maritim/Søfart kulturarvsprojekt i Marstal

Marstal udgør et af de tre danske case-studier i PERICLES projektet. I denne case vil undersøgelsen af den lokale maritime kulturarv foregå i samarbejde med lokale skoler, lærere og elever og Marstal Søfartsmuseum vil danne en del af rammen for formidlingen af resultaterne.

Gennem arbejdet med den maritime kulturarv lærer eleverne deres egen historie og kultur gennem aldersrelaterede aktiviteter. Via interviews med lokale søfarere og andre i havgående skibsrelaterede industrier undersøger eleverne forbindelsen mellem maritime arv, deres samfund og deres eget liv. I processen dokumenterer og bevarer eleverne disse menneskers rige viden og erfaringer til fremtidige generationer. Elevernes arbejde vil blive brugt i en udstilling på Marstal Søfartsmuseum. Interviewene vil endvidere blive bevaret til fremtidig brug af offentligheden og forskere.

Overordnede ambitioner for projektet

1. At skabe kendskab til maritim kulturarv gennem samarbejde mellem elever, lærere, lokale interesser og medlemmer af lokalsamfundet
2. At eleverne opnår ud over viden om den lokale kulturarv opnår selvtillid og metodiske færdigheder (designe og gennemføre interviews)
3. At præsentere visuelle og mundtlige data/viden i forskellige udformninger, herunder en offentlig udstilling på Marstal Søfartsmuseum

Projektmål

- Skabe eller øge elevers bevidsthed om- og forståelse af den maritime kulturarv ved at udforske elevernes egne forbindelser til den (socio-kulturelle, økonomiske og økologiske)
- Udstyre eleverne med evner og kunnen til at undersøge og dokumentere den maritime kulturarv og deres samfund/Ærøs historie
- Støtte til læring på tværs af discipliner
- Engagere elever som partnere i arbejde, der har formål i samfundet

Pædagogisk fundament: stedbaseret læring

Pædagogikken omfatter 'stedbaseret læring', som er en uddannelsesmodel, der bruger samfundet som kontekst for læring, herunder dets unikke historie, miljø, kultur, økonomi, litteratur og kunst. Elevernes arbejde fokuserer på samfundets behov og interesser, og medlemmer af lokalsamfundet tjener som ressourcer og partnere i undervisning og læring.

Perspektiverende projekter

Ud over det konkrete projekt, kan projektet danne baggrund for, at eleverne/skolen fortsætter samarbejdet med medlemmer af lokalsamfundet ved at skabe fremtidige, lokale projekter, som direkte bruger oplysningerne fra interviewene. Eksempelvis kan interviewene samles i en bogserie med ledsagende fotografier og kunstværker, eller eleverne kan skrive indhold og designe informationsmateriale om lokale historiske steder, skrive artikler til lokale medier, arrangere kunstudstillinger til de lokale kunstnere, der blev lavet interviews med, eller for kunst skabt af eleverne selv under interviewene.





Kystnær kulturarv – hvad er det?

I forbindelse med PERICLES projektet har vi arbejdet med at komme nærmere på en forståelse af 'maritim kulturarv', og hvordan den adskiller sig fra, hvordan vi ellers forstår 'kulturarv'.

Begrebet 'kulturarv' har udviklet sig meget siden den fælles, internationale indsats for at beskytte verdens kulturarv for alvor startede efter anden verdenskrig med oprettelsen af UNESCO (United Nations Educational, Scientific and Cultural Organization). I starten var der fokus på fysiske kulturarv såsom bygninger, klenodier, kunstværker og lignende. I dag omfattes også den immaterielle kulturarv af UNESCos deklarationer, herunder traditioner, sange, lokal viden, sprog, dans og lignende. Først inden for de senere årtier er det for alvor blevet drøftet, hvad maritim kulturarv er, og hvordan vi bedst beskytter den. Den maritime kulturarv er både materiel (fx fyrtårne, traditionelle skibe, fiskebåde, fiskeredskaber samt den kulturarv, der findes under vandet, fx skibsvrag) og immateriel (fx traditionel viden om at bygge både og lokale traditioner i kystsamfundene). Dertil kommer den unikke atmosfære, der ofte findes i et kystsamfund, som kan være svært at definere, det særlige landskab og unikke natur, der ofte findes.

Vi arbejder med at komme tættere på forståelsen af maritim kulturarv med henblik på at undersøge, hvordan kulturarven kan komme bedre i spil til gevinst for lokalsamfundet, samtidig med at den beskyttes. Derfor undersøger vi sammenhængen mellem maritim kultur og identitetsdannelse samt de risikofaktorer, som kystnære samfund står overfor i det moderne samfund. Det er i den kontekst, eleverne skal se sig selv som 'udforskere' af den maritime kulturarv i Marstal.

Ovenstående er blot en kort introduktion, og vi fortæller gerne mere om projektet og sender relevant information og litteratur.

Metode: hvordan laver man et interview?

Kerneopgaven i elevernes undersøgelse vil være interviews med relevante personer med viden eller erfaring, som kan hjælpe med at kaste lys over den maritime kulturarv i Marstal (/på Ærø). Via interviews kan eleverne opnå viden om, hvordan interviewpersonerne forstår deres verden, deres liv, og hvordan de med deres egne ord beskriver egne opfattelser og meninger.

Vi kan sammen drøfte, hvem det vil være relevant at kontakte. Der vil måske være 2-3 relevante typer eller grupper af videnspersoner, og der skal måske foretages 2-3 interviews i hver gruppe.

Eleverne vil blive introduceret til metoden for, hvordan man foretager et professionelt interview. Kort fortalt kan en interviewundersøgelse deles op i syv faser. Vi uddyber faserne på et senere tidspunkt og vil også gerne hjælpe elever og lærere undervejs i undersøgelsen. Resultaterne som vil indgå som en del af PERICLES projektet. Her kommer et kort overblik:

1. fase: Tematisering

I denne fase konkretiseres formålet med undersøgelsen og det emne, der skal undersøges.

2. fase: Design

Først laves 'forskingsspørgsmålene', som er de spørgsmål, eleverne gerne vil have besvaret i undersøgelsen. På den baggrund skal det overvejes, hvordan det vil være hensigtsmæssigt at formulere spørgsmålene henvendt til interviewpersonen, kaldet 'interviewspørgsmål'. Et eksempel kan være forskningsspørgsmålet: 'påvirker den lokale, maritime kulturarv interviewpersonens selvopfattelse?', som vil skulle brydes ned i flere mere simple interviewspørgsmål i et mere naturligt flydende talesprog.





Det er vigtigt, at eleverne får støtte til at lave både forskningsspørgsmål og interviewspørgsmål og sikre, at eleverne får undersøgt det, de gerne vil, uden at stille ledende spørgsmål eller komme til at spørge om noget andet end det, de gerne vil undersøge.

Interviewguiden er den samlede række interviewspørgsmål, eleven gerne vil stille. Interviewguiden kan være mere eller mindre 'struktureret'. Dermed menes, at interviewene kan laves, så eleverne er mere eller mindre fri til stille ekstra opklarende spørgsmål, hvis interviewpersonen giver et svar, som eleven finder interessant og gerne vil have uddybet.

3. fase: Interviewene gennemføres. Eleverne kan optage dem eller videofilme dem (de skal dog sikre sig tilladelse hertil). Måske vil eleverne også tage fotos til udstillingen på Marstal Søfartsmuseum.

4. fase: Transskription

Efter interviewene skal de transskriberes, hvilket vil sige, at eleverne skal skrive svarene fra interviewpersonerne ned. Transskriberingen skal helst være nogenlunde ensartet for de elever, der deltager i transskriberingsarbejdet. Det vil sige, at man på forhånd bliver enige om nogle retningslinjer, herunder om interviewene skal skrives ned i alle detaljer, eller om det er ok at lave stikord eller sammenfatninger, hvis der er passager i interviewene uden vigtig information. I denne fase kan eleverne også samle 'gode citater', som evt. kan indgå i udstillingen.

5. fase: Analyse

Interviewene bliver efterfølgende blive analyseret – det vil sige, eleverne skal tolke de svar, de har fået, og derved finde frem til svarene er på deres forskningsspørgsmål (altså de oprindelige spørgsmål, de gerne vil have svar på gennem undersøgelsen).

6. fase: Verifikation

I forbindelse med analysen tjekker eleverne, om de med deres interviewspørgsmål reelt også fik svar på deres forskningsspørgsmål.

7. fase: Rapportering

Eleverne formidler resultaterne af undersøgelsen i f.eks., en udstilling på Marstal Søfartsmuseum.

A.7. PERICLES Schools' Program: *Fishing ethnography workshop guidelines - NE Aegean*



ΒΑΣΙΚΕΣ ΑΡΧΕΣ ΤΗΣ ΕΡΕΥΝΑΣ ΜΕ ΠΛΗΡΟΦΟΡΗΤΕΣ. Η ΕΘΝΟΓΡΑΦΙΚΗ ΕΡΕΥΝΑ

Στην έρευνα με πληροφορητές αφετηρία είναι οι άνθρωποι που εμπλέκονται σε ένα πεδίο και στόχος είναι η ανάδειξη ενός «κοινωνικού κόσμου», δηλαδή της κουλτούρας, των λειτουργιών του, των προβλημάτων του και των τρόπων αντιμετώπισής τους.

Στην περίπτωσή μας το πεδίο είναι η αλιεία ως μια δραστηριότητα μέσω της οποίας οι άνθρωποι προσπορίζονται αγαθά για τη διατροφή τους.

Η μέθοδος που θα χρησιμοποιήσουμε είναι εντελώς διαφορετική από την «έρευνα με υποκείμενα» όπως αποκαλείται όπου ο ερευνητής έχει ως αφετηρία μια υπόθεση και φέροντάς τη σε «δοκιμασία» με τα εμπειρικά δεδομένα, στόχο έχει την επιβεβαίωση, τη διεύρυνση ή ακόμα και τη διάψευσή της.

Η μέθοδος έρευνας με πληροφορητές μπορεί να αναπαρασταθεί σχηματικά σε τρία στάδια:

Στάδιο 1: Τα κύρια ζητήματα προς διερεύνηση. Στην περίπτωσή μας αυτά μπορεί να είναι:

- Τρόποι ψαρέματος (περιγραφή μεθόδου, περιγραφή εργαλείου, τι ψάρια πιάνονται με κάθε εργαλείο και κάθε μέθοδο, ποιοι πήγαιναν για ψάρεμα)
 - Δολώματα... τι χρησιμοποιούσαν και τι έπιαναν με το καθένα
 - Κοχύλια και θαλασσινά γενικά – πως πιάνονταν, τα έπιαναν για πώληση ή για προσωπική κατανάλωση;
 - Λέξεις και ονόματα που σχετίζονται με την αλιεία, τα αλιεύματα, τους ψαράδες, τα εργαλεία τους, τους ψαρότοπους
 - Προσωπικές ιστορίες, διηγήσεις, παραμύθια, τραγούδια με θέμα τη θάλασσα, το ψάρεμα, τα ψάρια, τους ψαράδες κλπ
 - Συνταγές για μαγείρεμα και πάστωμα ψαριών και θαλασσινών (όλες, συνηθισμένες και σπάνιες).
 - Μεταποίηση ψαριών: πως γίνεται, από ποιόν, πως λέγεται το προϊόν, πως τρώγεται κλπ.
 - Υπάρχουν αντικείμενα, φωτογραφίες, έργα ζωγραφικής κα που σχετίζονται με την αλιεία;
 - Κάτι άλλο σχετικό που προκύπτει από τη συζήτηση.
- .

Στάδιο 2: Γενικοί άξονες μεθόδου έρευνας (τι προσπαθώ να καταλάβω):

1. Τι γνωρίζουν οι πληροφορητές μου για την κουλτούρα που προσπαθώ να διερευνήσω;
2. Τι όρους (δηλ. ο εντόπιος λεκτικός πλούτος) οι πληροφορητές μου χρησιμοποιούν για να οργανώσουν την εμπειρίας τους;
3. Ποιο περιεχόμενο δίνουν οι πληροφορητές μου στις έννοιες που χρησιμοποιούν;
4. Με ποια "παραδοσιακή" και βιωματική εμπειρία οι πληροφορητές μου εξηγούν (ή ερμηνεύουν) την εμπειρία τους;

Στάδιο3: Οργάνωση των παραπάνω αξόνων έρευνας σε εξειδικευμένους τύπους ερωτήσεων:

A. ΠΕΡΙΓΡΑΦΙΚΕΣ ΕΡΩΤΗΣΕΙΣ ΓΕΝΙΚΗΣ ΠΛΗΡΟΦΟΡΙΑΣ (βιώματα/εμπειρίες εντοπισμένες σε χώρο και χρόνο, γεγονότα, άνθρωποι, αντικείμενα)

A1. τυπικές ερωτήσεις γενικής πληροφορίας

A2. Συγκεκριμένες ερωτήσεις γενικής πληροφορίας

A3. Κατευθυνόμενες ερωτήσεις γενικής πληροφορίας

A4. Γενικές ερωτήσεις σχετιζόμενες με το επάγγελμα

B. ΕΡΩΤΗΣΕΙΣ ΕΙΔΙΚΗΣ ΠΛΗΡΟΦΟΡΙΑΣ (ειδικές ενότητες εμπειρίας/βιωμάτων)

B1. τυπικές ερωτήσεις ειδικής πληροφορίας

B2. Συγκεκριμένες ερωτήσεις ειδικής πληροφορίας

B3. Κατευθυνόμενες ερωτήσεις ειδικής πληροφορίας

B4. Ειδικής πληροφορίας ερωτήσεις σχετιζόμενες με το επάγγελμα

G. ΕΡΩΤΗΣΕΙΣ ΟΠΟΥ ΖΗΤΕΙΤΑΙ Η ΑΝΑΦΟΡΑ ΠΑΡΑΔΕΙΓΜΑΤΩΝ ή Η ΠΕΡΙΓΡΑΦΗ ΒΙΩΜΑΤΟΣ-ΕΜΠΕΙΡΙΑΣ (παρακίνηση για ανάκληση στην μνήμη και αφήγηση συγκεκριμένων γεγονότων)

Δ. ΕΡΩΤΗΣΕΙΣ ΣΧΕΤΙΚΑ ΜΕ ΤΟΥΣ ΟΡΟΥΣ ΓΛΩΣΣΙΚΗΣ ΕΚΦΡΑΣΗΣ/ΑΝΑΠΑΡΑΣΤΑΣΗΣ ΤΗΣ ΚΟΥΛΤΟΥΡΑΣ ΤΩΝ ΠΛΗΡΟΦΟΡΗΤΩΝ

Δ1. Άμεσες ερωτήσεις διασαφήνισης γλωσσικών όρων

Δ2. Υποθετικές-διαδραστικές ερωτήσεις

Δ3. Ερωτήσεις που αφορούν τυπικές φράσεις-λέξεις

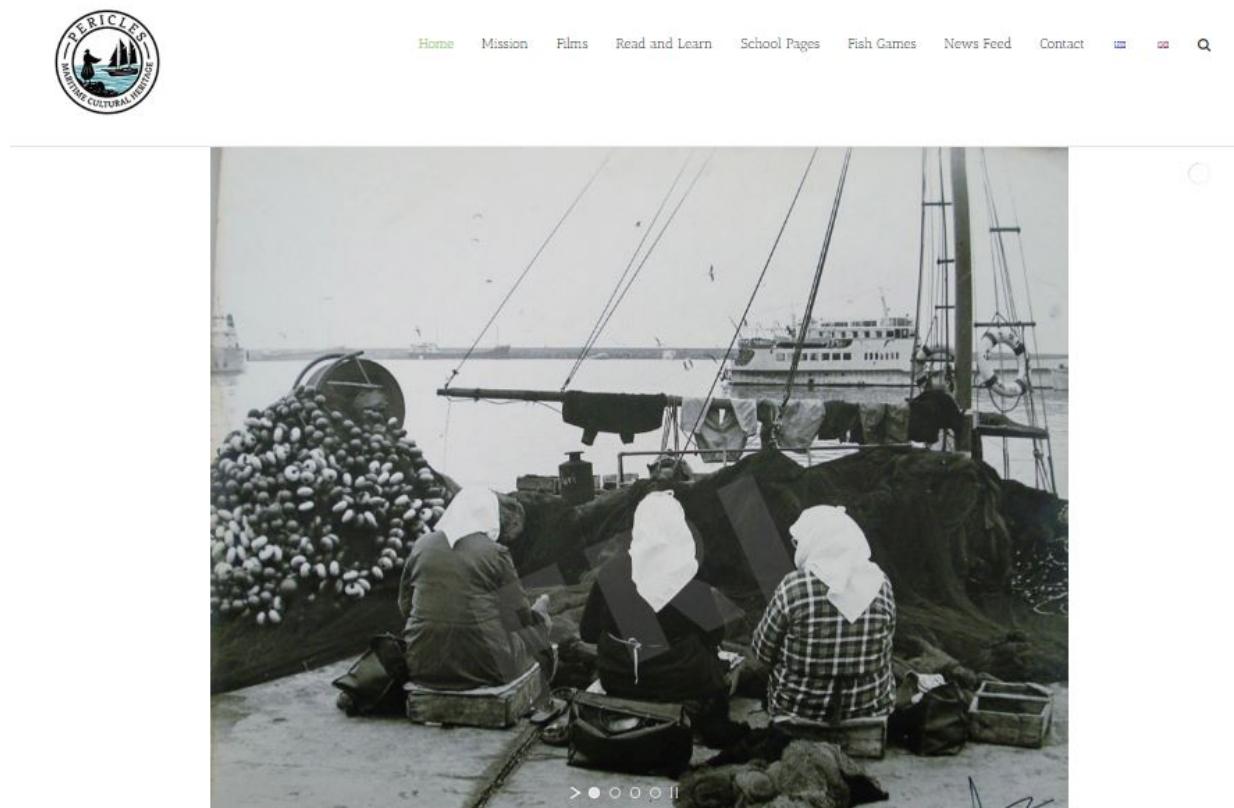
Στάδιο 4: Οργάνωση και ανάλυση της πληροφορίας ώστε να διαχυθεί ως γνώση (και επίγνωση) στην κοινωνία

Από ποιους παίρνουμε συνεντεύξεις;

- -γέροι ψαράδες
- -εν ενεργεία ψαράδες
- μέλη οικογενειών ψαράδων
- ιχθυοπώλες με μαγαζί ή πλανόδιους
- ιδιοκτήτες ψαροταβέρνας
- πελάτες ψαροταβέρνας
- πελάτες ιχθυοπωλείων
- γιαγάδες, μαμάδες, μπαμπάδες, θείες κλπ που μαγειρεύουν ψάρια και θαλασσινά
- επιχειρηματίες στη μεταποίηση ψαριών
- επιχειρηματίες με μαγαζιά που πουλάνε είδη ψαρέματος
- ο ένας τον άλλο
- από κάποιους που δεν σκεφτήκαμε να βάλουμε στη λίστα

A.8. PERICLES Greece website - NE Aegean

Print screen of the PERICLES Greece website, which can be accessed here: https://pericles.inale.gr/en/home_en/



Fisheries Research Institute (FRI) continues its work on the research program "The Fishing Cultural Heritage of NE Aegean Sea" part of the EU HORIZON 2020 program PERICLES – PrEseRving and sustainably governing Cultural heritage and Landscapes in European coastal and maritime regions.

The first year of work has been completed! The exploration and recording of Fishing Cultural Heritage of NE Aegean Sea rendered rich results. Archaeological finds, archival sources, oral history and also the embodied experience of several generations of fishing families provide rich evidence on the history of fishing in the area and of the distinct "fishing soul" of the place. Help by sensitive, generous local historians, individuals and institutions, has been invaluable. Today, the fishing communities in the area face serious challenges and the future prospects are still unclear. We turned to youth of the area through their schools and the Environmental Awareness program. Pupils and their teachers took up the role of the researcher, collected data, grappled with them and expressed themselves through art. This program will continue in the coming school year.

A.9. Fish Quiz - NE Aegean

Print screen of the Fish Quiz page, which can be accessed here: https://pericles.inale.gr/en/home_en/

Ποιο είναι το ταχύτερο ψάρι στη Μεσόγειο;

ο ξιφίας (*Xiphias gladius*)

ο ερυθρός τόνος (*Thunnus thynnus*)

ο γαλάζιος καρχαρίας (*Prionace glauca*)

ο καρχαρίας μάκο (*Carcharhinus oxyrinchus*)

Correct!

Απάντηση: Ο καρχαρίας μάκο κολυμπά με 74 χλμ/ώρα. Ακολουθεί ο ερυθρός τόνος με 70 χλμ/ώρα, ο γαλάζιος καρχαρίας με 69 χλμ/ώρα και ο ξιφίας με 64 χλμ/ώρα.



A.10. *PERICLES Calendar - NE Aegean*





Ο Πρόεδρος του Δ.Σ. του Φορέα Διαχείρισης, Δρ. Μάνος Κουτράκης κατά τη διάρκεια της πολύχρονης θητείας του, έδωσε πνοή με τη συνεχή συμπαράστασή του, ώστε να καθιερωθεί ως θεσμός ο διαγωνισμός ζωγραφικής και σπρίζει τη νέα γενιά στις προσπάθειες ανάδειξης του φυσικού περιβάλλοντος.

**ΚΕΝΤΡΟ ΠΛΗΡΟΦΟΡΗΣΗΣ ΛΙΜΝΩΝ
ΒΙΣΤΩΝΙΔΑΣ - ΙΣΜΑΡΙΔΑΣ**
Είσοδος χωριού Πόρτο-Λάγος - Ξάνθη - Τ.Κ. 67063
Τηλ. 25410 96646, fax 25410 96924
e-mail: info@fd-nestosvistonis.gr, www.epamath.gr

ΚΕΝΤΡΟ ΠΛΗΡΟΦΟΡΗΣΗΣ ΔΕΛΤΑ ΝΕΣΤΟΥ
Κεραμωτή Καβάλας (πίσω από το Γυμνάσιο) - Τ.Κ. 64200
Τηλ. 25910 51831, fax 25910 51884,
e-mail: infonestos@fd-nestosvistonis.gr

ΙΝΣΤΙΤΟΥΤΟ ΑΛΙΕΥΤΙΚΗΣ ΕΡΕΥΝΑΣ
Νέα Πέραμος, Καβάλα, Τ.Κ. 64 007,
Τηλ.: 25940 - 22692, Fax: 25940 - 22222,
e-mail: fri@inale.gr

ΩΡΑΡΙΟ ΛΕΙΤΟΥΡΓΙΑΣ ΚΕΝΤΡΩΝ ΠΛΗΡΟΦΟΡΗΣΗΣ:
ΔΕΥΤΕΡΑ - ΠΑΡΑΣΚΕΥΗ: 09:30 - 15:30
(ΣΑΒΒΑΤΟΚΥΡΙΑΚΑ & ΑΡΓΙΕΣ ΓΙΝΟΝΤΑΙ ΕΠΙΣΚΕΨΕΙΣ ΚΑΤΟΠΙΝ PANTEVOY)



Τόμου Χριστίνα - Ευτυχία - «Η ΛΙΜΝΗ»
Ε΄ Τάξη - Δημοτικό Σχολείο Παλού Καβάλας



Πουλιά και λιμνοθάλασσες...
μοιραζόμαστε τα ψάρια



ΙΑΝΟΥΑΡΙΟΣ

Ο	Τ	Τ	Π	Π	Σ	Κ
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			



Αϊσού Σαλήμ Νταγλή - «Η ΣΤΙΓΜΗ»
Ε΄ Τάξη - Δημοτικό Σχολείο Κοσμίου





Ψάρεμα στη λιμνοθάλασσα

ΦΕΒΡΟΥΑΡΙΟΣ

Θ	Τ	Τ	Π	Π	Σ	Κ
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28			



2/2 - Παγκόσμια Ημέρα Υγροτόπων

Τσατσίδη Βασιλική
ΣΤ΄ Τάξη - Δημοτικό Σχολείο Αιγείρου



Σκουπίδια στη θάλασσα



ΜΑΡΤΙΟΣ

Θ	Τ	Τ	Π	Π	Σ	Κ
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	31



21/3 - Παγκόσμια Ημέρα Δασοπονίας

22/3 - Παγκόσμια Ημέρα για το Νερό

Μαραντάς Νικόλαος

ΣΤ' Τάξη - Δημοτικό Σχολείο Ερασμίου





Η βιοποικιλότητα των λιμνοθαλασσών

ΑΠΡΙΛΙΟΣ

Ω	Τ	Τ	Π	Π	Σ	Κ
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30					



Δημήτρης Καρατσομπάνης - «ΨΑΡΕΥΟΝΤΑΣ ΣΤΙΣ ΛΙΜΝΟΘΑΛΑΣΣΕΣ ΤΗΣ ΒΙΣΤΩΝΙΔΑΣ»

Ε΄ Τάξη - Δημοτικό Σχολείο Ελευθερών Καβάλας



Γέμισαν τα δίκτυα μας

ΜΑΪΟΣ

Δ	Τ	Τ	Π	Π	Σ	Κ
			1	2	3	4
6	7	8	9	10	11	12
13	14	15	16	17	18	19
20	21	22	23	24	25	26
27	28	29	30	31		



22/5 - Παγκόσμια Ημέρα Βιοποικιλότητας



Κατραντζή Μπαδέ - «ΖΩΗ ΚΑΙ ΘΑΝΑΤΟΣ»

ΣΤ' Τάξη - Δημοτικό Σχολείο Κοσμίου



Ψαρεύοντας στο πλιοβασίλεμα

ΙΟΥΝΙΟΣ

Ο	Τ	Τ	Π	Π	Σ	Κ
					1	2
3	4	5	6	7	8	9
10	11	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30



5/6 - Παγκόσμια Ημέρα Περιβάλλοντος

Ελευθερία Κουλεσάκη
Ε΄ Τάξη - 4ο Δημοτικό Σχολείο Κομοτηνής



Ψάρεμα με καλάρι

ΙΟΥΛΙΟΣ

Ω	Τ	Τ	Π	Π	Σ	Κ
1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31				



Γιώργος Βρύτζαλης
ΣΤ' Τάξη - Δημοτικό Σχολείο Χρυσοχωρίου



Αναψυκή και δραστηριότητες στη θάλασσα

ΑΥΓΟΥΣΤΟΣ

Ω	Τ	Τ	Π	Π	Σ	Κ
			1	2	3	4
5	6	7	8	9	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30	31	



Τοπάλ Μεμέτ Μπαχάρ - «ΨΑΡΕΥΟΝΤΑΣ ΣΤΙΣ ΛΙΜΝΕΣ & ΤΙΣ ΛΙΜΝΟΘΑΛΑΣΣΕΣ ΤΟΥ ΕΠΑΜΑΘ»

Ε' Τάξη - Δημοτικό Σχολείο Μεγάλου Δουκάτου

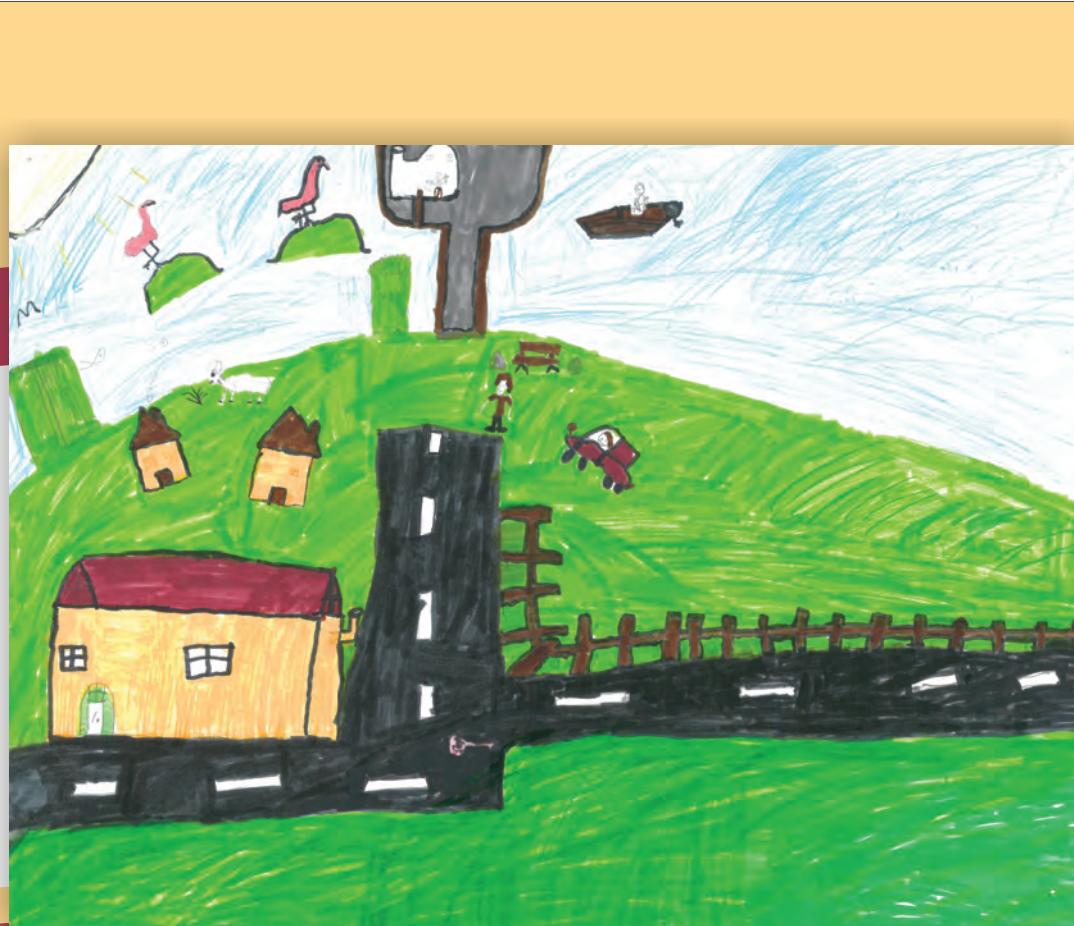




Δραστηριότητες γύρω από τη Βιστωνίδα

ΣΕΠΤΕΜΒΡΙΟΣ

Ο	Τ	Τ	Π	Π	Σ	Κ
1						
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30						



24/9 - Παγκόσμια Ημέρα Ακτών

Παπανικολάου Βασίλης
ΣΤ' Τάξη - Δημοτικό Σχολείο Μελισσοκομείου Καβάλας



Το εκκλησάκι του Αγ. Νικολάου στη λίμνο-θάλασσα Πόρτο Λάγος, στη Βιωτώνιδα

ΟΚΤΩΒΡΙΟΣ

Ο	Τ	Τ	Π	Π	Σ	Κ
1	2	3	4	5	6	
7	8	9	10	11	12	13
14	15	16	17	18	19	20
21	22	23	24	25	26	27
28	29	30	31			



3-4/10 - Παγκόσμια Γιορτή των Πουλιών

4/10 - Παγκόσμια Ημέρα Ζώων

24/10 - Παγκόσμια Ημέρα Ακτών

Πέτροβ Μαρτίν - «Η ΛΙΜΝΟΘΑΛΑΣΣΑ»

Ε' Τάξη - Δημοτικό Σχολείο Εξοχής



Συντροφιά με τους φτερωτούς ψαράδες

ΝΟΕΜΒΡΙΟΣ

Θ	Τ	Τ	Π	Π	Σ	Κ
				1	2	3
4	5	6	7	8	9	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	



Τσέκου Ελεονώρα - «ΟΙ ΨΑΡΑΔΕΣ»

ΣΤ΄ Τάξη - Δημοτικό Σχολείο Εξοχής



Ψαρεύοντας με την τράτα

ΔΕΚΕΜΒΡΙΟΣ

Ω	Τ	Τ	Π	Π	Σ	Κ
					1	
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					



Σουβαρή Γιουνούς Εμρέ - «ΑΠΟΓΕΥΜΑΤΙΝΟ ΨΑΡΕΜΑ ΣΤΗ ΒΙΣΤΩΝΙΔΑ»

ΣΤ' Τάξη - 1ο Μειονοτικό Σχολείο Ξάνθης

A.11. FRI Facebook monthly journal - NE Aegean

Print screen of the FRI Facebook monthly journal,Fish Quiz page, which can be accessed here:
<https://www.facebook.com/page/576680955715887/search/?q=PERICLES>



Ελληνικός Γεωργικός Οργανισμός "Δήμητρα"

Ινστιτούτο Αλιευτικής Έρευνας

12 Φεβρουαρίου ·

...

To PERICLES μαθαίνει ιστορία από παλιά βιβλία

Ανθολόγηση από βιβλίο του Σπύρου Τσακάκη, διευθυντή της Τεχνικής Οργανώσεως Αλιείας του Υπουργείου Εθνικής Οικονομίας στη δεκαετία του 1960.

Ξέρετε ότι ο πρώτος νόμος του Ελληνικού κράτους περί λαθραλιείας σε εκμισθωμένα «ιχθυοτρόφα ύδατα», π.χ. λιμνοθάλασσες θεσπίστηκε το 1893 με το πρώτο Βασιλικό Διάταγμα της 22ης Μαρτίου 1893;... Δείτε περισσότερα



PERICLES. Preserving cultural heritage and Lands and maritime regions



12

1 σχόλιο 3 κοινοποιήσεις

Like Μου αρέσει!

Comment Σχόλιο

Share Κοινοποίηση

A.12. *Fish Stories - NE Aegean*



«**Χόρεψε στο φτερό του Καρχαρία**» γράφει ο Νίκος Καββαδίας δημιουργώντας ονειρικές ναυτικές εικόνες, ενώ «**τα Σαγόνια του καρχαρία**» αγγίζουν τους βαθύτερους αταβιστικούς μας φόβους.



© Alison Towner

Οι καρχαρίες μας μοιάζουν: είναι έξυπνοι, αργούν να ωριμάσουν γενετικά, η κύνση τους διαρκεί πολύ και ζουν πολλά χρόνια. Οι καρχαρίες είναι εντυπωσιακοί, είναι ευάλωτοι, είναι κορυφαίοι θηρευτές. Οι περισσότεροι είναι επικίνδυνοι μόνο για τα ψάρια, αλλά για κάποια είδη και οι άνθρωποι είναι θήραμα.

Ο Διονύσιος Σολωμός, στο ποίημα «Ο Πορφύρας» περιγράφει πως «ο τίγρος του πελάγου.... έσχισ' εύκολα βάθος τρανό κι εβγήκε. Κι όρμουσε κατά τον κάτασπρο λιαιμό... κατά το στήθος το πλατύ και το ξανθό κεφάλι...» ενός Άγγελου στρατιώτη στη Κέρκυρα τον Ιούλιο του 1847!

Οι καρχαρίες είναι θαυμαστά ζώα. Ο Αριστοτέλης τον 4^ο αιώνα π.Χ. αφιέρωσε ένα ολόκληρο κεφάλαιο της «Περί των Ζώων Ιστορίας» του στην αναπαραγωγή των καρχαριών. Ιστορίες για την παράξενη αναπαραγωγική συμπεριφορά των ζώων αυτών επαναλαμβάνονταν μέσα στους αιώνες, αλλά το μυστήριο λύθηκε μόλις πρόσφατα. Ανάλογα με το είδος τους, οι καρχαρίες είναι ζωτόκοι (γεννούν μικρά), ωοτόκοι (γεννούν αυγά) ή ωοζωτόκοι (τα αυγά εκκοιλάπτονται μέσα στο σώμα του καρχαρία και τα μικρά γεννιούνται πλήρως ανεπτυγμένα). Αυτού του είδους τις γεννήσεις είχε παρατηρήσει ο Αριστοτέλης και περιέγραψε με οξυδέρκεια, ενώ άλλοι αρχαίοι συγγραφείς τις ερμήνευσαν με ευφάνταστο τρόπο.



© Χρυσούλα Γκουρτσήλη



©Χρυσούλα Γκουμπήλη



Όταν τρώμε λιοπόν γαλέο σκορδαλιά, στο σπίτι ή σε ψαροταβέρνα, βάζουμε καρχαρία στο πιάτο μας!

Γαλέος σκορδαλία

Κόβουμε, αλιστίζουμε και τον αλευρώνουμε το γαλεό και στην συνέχεια τηγανίζουμε σε άφθονο καυτό λάδι μέχρι να χρυσίσει ολόγυρα. Για την σκορδαλιά βράζουμε πατάτες και τις καθαρίζουμε. Τις ριώνουμε μαζί με 1-2 σκελίδες σκόρδο και προσθέτουμε λάδι, αλάτι και λίγο ξύδι.



<https://www.askitikon.eu/syntages/psarika/6556/galeos-me-skordalia-5558/>

Κοινά ονόματα καρχαριών των ελληνικών θαλασσών

Ζύγαινες, Κεντρόνι, Κοκκάλιας, Σαπουνάς ή Προσκυνητής, Δροσίτες ή Γαλέοι, Κοκκαγκαθίτης, Σκυμνοσκυλόφαρο, Λάμια, Αλιωπίας μεγαλόματος, Καρχαρίας αιλεπού, Κοντόφτερος, Λευκός, Γκρίζος, Μελανόστομος, Γαλάζιος, Λαϊμαργός, Επταβράχιος, Μεγαλόματος εξαβράγκιος, Μαυροαγκαθίτης, Επταβράχιος βραχύουρος, Μελανόσακρος, Μακροχέρνης, Σκοτεινόχρωμος, Σταχτοκαρχαρίας, Ταυροκαρχαρίας, Ρυγχοκαρχαρίες, Αγριοκαρχαρίας, Πριονοδοντοκαρχαρίας, Ρυγχοκαρχαρίας, Σκυλοψαράκι, Γατοψαράκι, Αχινόγατος, Αγγελόψαρο, Ματορίνα, Ακανθορίνα.

Αρχαιοελληνικά ονόματα καρχαριών

Αετός, Ακανθίας, Αλώπηξ, Άμια, Αστερίας, Δαρτά, Γαλέος, Καρχαρίας, Κεντρίτης, Κεντρόφρυνος, Κέστρα, Κύων, Λάμια, Λαμνα, Λείος, Λεόβατος, Νάρκη, Νεβρύας, Νοτιδιανός, Ποικίλος, Ρίνη, Σκύλια, Σκύλιον, Σκύμνος, Τρώκτις, Βασιλίσκος, Βατίς, Βους, Ζύγαινα.



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Οι κέφαλοι είναι θαλασσινά ευρύαλια ψάρια, που μπορούν να προσαρμόζονται σε νερά με διαφορετική αλατότητα. Γι αυτό τα περισσότερα είδη κεφάλων μετακινούνται σε διάφορα στάδια της ζωής τους από τη θάλασσα στις λιμνοθάλασσες και τις εκβολές των ποταμών. Τα βρίσκουμε ωστόσο και σε λίμνες και ποτάμια. Έχι είδη κεφάλων ζουν στις ελληνικές ακτές και πέντε απ' αυτά μπαίνουν σαν νεαρά ιχθύδια στις λιμνοθάλασσες όπου βρίσκουν άφθονη τροφή και μεγαλώνουν προστατευμένα από θηρευτές. Μετά από μερικά χρόνια, το φθινόπωρο, σπρωγμένα από το ένστικτο της αναπαραγωγής ξεκινούν το ταξίδι της επιστροφής στη θάλασσα όπου γεννούν τ' αυγά τους. Τα νεαρά κεφαλόπουλα ξεκινούν εκ νέου τον κύκλο της μετακίνησης, ανάπτυξης και αναπαραγωγής.



© Μάνος Κούρος

Οι κέφαλοι αποτελούν σημείο αναφοράς στην ιστορία του πολιτισμού των ακτών της Μεσογείου και της Ελλάδας. Στοιχεία της φυσιολογίας και της βιολογίας τους προκάλεσαν την περιέργεια ή την θαυμασμό των ανθρώπων στην αρχαιότητα και γι αυτό η αρχαία Ελληνική και Λατινική γραμματεία περιλαμβάνει πλήθος πληροφοριών γι αυτούς, μερικές φανταστικές και άλλες πραγματικές. Βρίσκουμε παραστάσεις κέφαλων σε ιχθυοπινάκια και ψηφιδώτα.

Οι κέφαλοι της περιοχής των Αβδήρων και του Πόρτο Λάγους ήταν ξακουστοί ήδη στην αρχαιότητας και ο φήμης τους παραμένει ζωντανή.



Ο λυκουρίνος και το αυγοτάραχο

Λυκουρίνος είναι ο παστός καπνιστός κέφαλος. Σήμερα αποτελείται εκλεκτό μεζέ της περιοχής της Βιστωνίδας, αλλά έχει την καταγωγή του από την Αίγα της Ανατολικής Θράκης.

Το αυγοτάραχο, οι αλατισμένες και κερωμένες γονάδες της μπάφας, είναι το πιο γνωστό προϊόν μεταποίησης των κεφάλων. Αν και σήμερα το αυγοτάραχο Μεσολογγίου είναι το πιο γνωστό, στο παρελθόν, αυγοτάραχο παράγονταν και από τους ψαράδες της Βιστωνίδας. Προϊόν σπάνιο και εκλεκτό, συναγωνίζεται σε ποιότητα αντίστοιχα προϊόντα της Ιταλίας και της Ισπανίας.



Τα ψάρια με τα πολλά ονόματα

Mugil cephalus: Κέφαλος ή Νιάκι. Σε κάποιες περιοχές το θηλυκό λέγεται Μπάφα και το αρσενικό Στειράδι, ενώ τα νεαρά ψάρια αποκαλούνται κεφαλόπουλα ή νιακόπουλα.

Chelon labrosus: Χειλονάρι στη Βόρεια Ελλάδα, Βελάνισα ή Πλαταρίδα στο Μεσολόγγι.

Liza ramada: Τζιμπρίδα ή Χεράνι στη Βόρεια Ελλάδα, Λαγιάδα στη Χαλκίδα, Μαυράκι ή Λαυκίνος αλλιού.

Liza aurata: Μυξινάρι, Μυξίνος ή Ξιφάκι.

Liza saliens: Ψωμώνι στη Βόρεια Ελλάδα, Γάστρος αλλιού.

Oedalechilus labeo: Γρέντζος (δεν μπαίνει σε λιμνοθάλασσες)

Και στην αρχαιότητα είχαν πολλά ονόματα: ἀδωνις, βάκχος, βωρεύς, γομφάριον, δακτυλεύς, κεστρεύς, κεστρίνος, κέφαλος, κεφαλίνος, λευκίσκος, μύξων ή μυξίνος, νήστις, περάιας, πλώτα, χελῆών, φεραίος.



<https://blogs.crikey.com.au/northern/2013/05/23/fish-of-the-week-flathead-mullet-mugil-cephalus/>

Οι τυφλοί κέφαλοι

Ο Αριστοτέλης, στο έργο του Περι τα Ζώα Ιστορίαι (602 a3) αναφέρει ότι οι κέφαλοι που φαρεύονταν τον χειμώνα ήταν τυφλοί και το ίδιο πιστεύουν κάποιοι ψαράδες ακόμη και σήμερα. Τα μάτια του *Mugil cephalus* περιβάλλονται από ένα λιπώδη ιστό. Όταν η σύλληψη των ψαριών γίνει χειμώνα, ο ιστός αυτός, ο οποίος καλύπτει εντελώς το μάτι, παγώνει και παίρνει ένα άσπρο γαλακτώδες χρώμα, δίνοντας την εντύπωση ότι το ψάρι έχει τυφλωθεί.



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FISH STORY SHARKS 1

PRESERVING AND SUSTAINABLY COVERING CULTURAL HERITAGE AND LANDSCAPES IN EUROPEAN COASTAL AND MARITIME REGIONS



"Dance on a shark's fin" writes poet Nikos Kavvadias creating dreamy nautical images, while, in cinemas, "Jaws" touch our deepest atavistic fears.

© Alison Towner



Sharks are like us: they are smart, they are slow to mature, their pregnancy lasts long and they live for many years. Sharks are impressive, they are vulnerable, yet they are top predators. Most are dangerous only to fish, but to some species even humans can become prey. Dionysios Solomos, in the poem *Porphyras* describes a shark attack on an English soldier on Corfu, in July 1847. "The tiger of the sea.... easily shred the deep blue and came out; and he careened towards the white neck... towards the wide chest and the blond head»!

Sharks are fascinating animals. Aristotle back in the 4th century BC devoted an entire chapter of his *History of Animals* to the breeding of sharks. Stories of the strange reproductive behavior of these animals have been repeated over the centuries, but the mystery has only recently been solved.

Depending on the species, sharks are viviparous (give birth to developed young), oviparous (laying eggs) or ovoviviparous (the eggs hatch in the shark's body and the young are born fully developed). Aristotle had observed such births and described them insightfully, while other ancient writers interpreted them in an imaginative way.



©Χρυσούλα Γκουρτσή



©Χρυσούλα Γκουμπήλη



So, when we eat *galeos* with garlic mashed potato at home or in a fish tavern, we put shark on our plate!

Galeos with garlic mashed potato (*skordalia*)

Cut, salt and flour the smooth hound and then fry it in plenty of hot olive oil until golden all around. For the garlic mashed potatoes, boil the potatoes and skin them. Mash them together with 1-2 cloves of garlic and add oil, salt and a little vinegar.



<https://www.askitikon.eu/syntages/psarika/6556/galeos-me-skordalia-5558/>

Shark common Greek names

Ζύγαινες, Κεντρόνι, Κοκκάλας, Σαπουνάς ή Προσκυνητής, Δροσίτες ή Γαλέοι, Κοκκαγκαθίτης, Σκυμνοσκυλόφαρο, Λάμια, Αλωπίας μεγαλόματος, Καρχαρίας αιλεπού, Κοντόφτερος, Λευκός, Γκρίζος, Μελανόστομος, Γαλάζιος, Λαιμαργός, Επιτράπαχιος, Μεγαλόματος εξαβράγχιος, Μαυροαγκαθίτης, Επιτράπαχιος βραχύουρος, Μελανόσακρος, Μακροσέρνης, Σκοτεινόχρωμος, Σταχτοκαρχαρίας, Ταυροκαρχαρίας, Ρυγχοκαρχαρίες, Αγριοκαρχαρίας, Πριονοδοντοκαρχαρίας, Ρυγχοκαρχαρίας, Σκυλοψαράκι, Γατοψαράκι, Αχινόγατος, Αγγελόψαρο, Ματορίνα, Ακανθορίνα.

Ancient Greek shark names

Αετός, Ακανθίας, Αλώπηξ, Άμια, Αστερίας, Δαρτά, Γαλέος, Καρχαρίας, Κεντρίτης, Κεντρόφρυς, Κέστρα, Κύων, Λάμια, Λαμνά, Λείος, Λεόβατος, Νάρκη, Νεβρύας, Νοτιδιανός, Ποικίλος, Ρίνη, Σκύλα, Σκύλιον, Σκύμνος, Τρώκτις, Βασιλίσκος, Βατίς, Βους, Ζύγαινα.

Overall, 39 species of sharks live in the Greek seas. They are not targeted by Greek fishing vessels, but when caught, they are sold as by-catches. Although most of them are edible, they are not normally consumed. Only the smooth hound, a small shark, is allowed to be sold under the brand name *Galeos*.

Taste preferences, however, change from place to place and through time. In other parts of the world, shark meat is considered a delicacy, while sharks and related species were often found in the fish markets of the ancient world.



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Most grey mullet species are euryhaline fish that can adapt to waters of varying salinity. These move from the sea to lagoons and river estuaries at various stages in their lives.

Six species of mullets are found in Greece and five of them, as part of their life cycle, enter the lagoons as juvenile fish. There they find plenty of food and grow up, protected from predators. Few years later, in the fall, driven by the instinct of reproduction, they begin the journey back to the sea where they lay their eggs. Young mullets start again the cycle of migration, growth and reproduction all over again.



The grey mullets are important fish in the culture of the Mediterranean coasts and Greece. Elements of their physiology and biology aroused the curiosity or admiration of people in antiquity and that is why the ancient Greek and Latin literature contain a wealth of information about them, some fiction and some real. We find representations of mullets on fish plates and mosaics.

The grey mullets of the region of Avdera and Porto Lagos were already famous in antiquity and their fame still remains alive.



Lykourinos and avgotaracho

Lykourinos is the salted smoked mullet. Today it is an exquisite delicacy of the region of Vistonis Lagoon, but it has its origin in Ainos of Eastern Thrace.

Avgotaracho, the salted and waxed gonads of the bafa (female grey mullet), is the most renown grey mullet product, elsewhere known as bottarga. Although today the avgotaracho of Messolongi dominates the market, in the past, it was also produced by the fishermen of Vistonis. A rare and exquisite product, it competes in quality with similar products of Italy and Japan.



© Marios Koutroubakis

The fish of many names

Mugil cephalus: *kefalos* or *niaki*. In some areas the female is called *bafa* and the male *steiradi*, while the young fish are called *kephalopoula* or *niakopoula*.

Chelon labrosus: *cheilonari* in Northern Greece, *velanissa* or *platarida* in Messolonghi.

Liza ramada: *tzimbrida* or *herani* in Northern Greece, *lagiada* in Chalkida, *mavraki* or *lafkinos* elsewhere.

Liza aurata: *myxinari*, *myxinos* or *xiphaki*.

Liza saliens: *psomon* in Northern Greece, *gastros* elsewhere.

Oedalechilus labeo: *grenzos* (does not enter lagoons)

In antiquity mullets also had many names: *adonis*, *bacchus*, *voreus*, *gomfarion*, *daktyleus*, *kestreus*, *kestrinos*, *kefalos*, *kefalinos*, *lefiskos*, *myxon* or *myxinos*, *nestis*, *pereas*, *plota*, *chellon*, *feraios*.



© Lykourinos Voutsina Kathimerini 20.02.2017



The blind gray mullets

Aristotle, in his work History of Animals (602 a3), states that the grey mullets that were captured in winter were blind; some fishermen believe so even today. The eyes of the gray mullet are surrounded by a fatty membrane. In the winter, this tissue, which completely covers the eye, freezes and takes on a milky white color, giving the impression that the fish is blind.



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A.13. Short videos on intangible aspects of fishing cultural heritage - NE Aegean

Print screen of the short videos on intangible aspects of fishing cultural heritage, which can be accessed here:
<https://www.pericles-heritage.eu/short-videos-on-intangible-aspects-of-fishing-cultural-heritage/>

Cleaning the nets



Fishing for razor shells in NE Aegean



How to salt anchovies



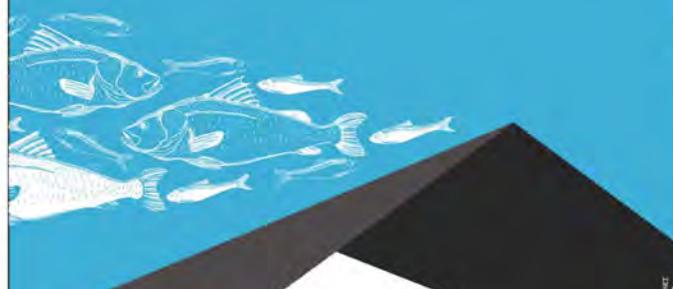
A.14. PERICLES *Fishing cultural heritage in NE Aegean flyer- NE Aegean*



Ο στόχος της ελληνικής συμμετοχής στο πρόγραμμα είναι η καταγραφή της αιλιευτικής πολιτιστικής κληρονομιάς της περιοχής του ΒΑ Αιγαίου (από τον Στρυμόνα μέχρι τις εκβολές του Έβρου) αξιοποιώντας αρχαιολογικές, ιστορικές, εθνολογικές και βιολογικές ερευνητικές μεθόδους και προσεγγίσεις. Αρχαιολογικά οστά ψαριών, γραπτές πηγές της αρχαιότητας και των Βυζαντινών χρόνων, νεότερες αρχειακές πηγές, καθώς και σύγχρονες μαρτυρίες με τη μορφή φωτογραφιών, διηγήσεων, τραγουδιών κ.ά., συνδυάζονται για να τεκμηριώσουν τον υπικό και άυλο πολιτισμό των παράκτιων κοινοτήτων της περιοχής και να τον κάνουν γνωστό στη παγκόσμια ερευνητική κοινότητα απλά και στη τοπική κοινωνία, με σκοπό να αποτελέσει πόλο ανάπτυξης.



Το πρόγραμμα δίνει ιδιαίτερη έμφαση στην εμπλοκή των τοπικών κοινωνιών (αιλιεύς, τοπική αυτοδιοίκηση, σχολεία, εστιάτορες, τουριστικούς φορείς, τομείς καθηλιέργειας και μεταποίησης ψαριών κλπ.). Η αιλιευτική ιστορία του τόπου, οι πολύτιμες γνώσεις και τεχνικές που αναπτύχθηκαν στο πέρασμα των αιώνων, οι μεταλλάξεις και προσαρμογές στις εκάστοτε νέες συνθήκες, και το δέσιμο με τον τόπο, με τη θάλασσα, και συνακόλουθα η ιδιαίτερη ταυτότητα που διαμορφώθηκε, θα τεθούν στο προσκήνιο.



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ΠΑΡΑΚΤΙΩΝ ΠΕΡΙΟΧΩΝ





**Η Αλιευτική Πολιτιστική
Παράδοση του ΒΑ Αιγαίου**
στο πλαίσιο του
"PERICLES -
Διατηρώντας την πολιτιστική
κληρονομιά των Ευρωπαϊκών
παράκτιων περιοχών»

Η Θάλασσα και τα πλούτη της είχαν όδη από την αρχαιότητα καθοριστική παρουσία στον Ελληνικό πολιτισμό. Σε ορισμένες περιοχές αναπτύχθηκαν μέσα στους αιώνες πλούσιες αλιευτικές παραδόσεις που καθόρισαν σε μεγάλο βαθμό την ταυτότητα και τον τρόπο ζωής των παράκτιων κοινοτήτων, αλλά και στήριξαν τις οικονομίες τους μέσω της αλιείας και της επεξεργασίας των αλιευμάτων. Οι κοινότητες αυτές δημιούργησαν διαχρονικά μια διακριτή και πολύπλευρη αλιευτική κληρονομιά, με υπικές και άυπεις διαστάσεις. Οι ραγδαίες περιβαλλοντικές, οικονομικές και κοινωνικές αλληλαγές των τελευταίων δεκαετιών, επέφεραν μεγάλες ρήξεις στη φυσιογνωμία των παράκτιων αλιευτικών κοινοτήτων της χώρας, και απειδούν τις μακροχρόνιες αυτές παραδόσεις. Πολλές παράκτιες κοινότητες της Ευρώπης, που η μοίρα τους υπήρξε στενά δεμένη με τη θάλασσα αντιμετωπίζουν παρόμοιες προκλήσεις.

Το ευρωπαϊκό ερευνητικό πρόγραμμα PERICLES εστιάζει στην καταγραφή και διάσωση της πολιτιστικής κληρονομιάς των ακτών και των θαλασσών της Ευρώπης. Συμμετέχουν 10 ερευνητικά Ιδρύματα και πανεπιστήμια από 7 χώρες.

Το πρόγραμμα χρηματοδοτείται από την ΕΕ HORIZON 2020 και το ελληνικό του σκέλος εκτελείται από το Ινστιτούτο Αλιευτικής Έρευνας, σε συνεργασία με το Πανεπιστήμιο Κρήτης.



A.15. Magazine article “Blue crab connections from Maryland to NE Aegean” - NE Aegean

Αλιευτικά Νέα

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Το Μπλε καβούρι: από το Μέριλαντ στο Βορειοανατολικό Αιγαίο

Alisha Solaiman και Δήμητρα Μυλωνά

*Alisha Soleiman, LeBow College of Business, Drexel University, US
Δήμητρα Μυλωνά, ΙΝΣΤΑΠ, Κέντρο Μελέτης Αιγαιακής Προϊστορίας, επιστημονικός συνεργάτης ΕΛΓΟ-ΙΝΑΛΕ.*

Από το Μέριλαντ των Ηνωμένων Πολιτειών βρέθηκα στην Ελλάδα και διαπίστωσα με μεγάλη έκπληξη ότι οι Έλληνες δεν είναι πολύ εξοικειωμένοι με τα Μπλε καβούρια, παρότι αυτά ζουν στις ακτές και πιάνονται στα δύχτα των φαράδων! Το Μπλε καβούρι είναι ένα σχετικά νέο, ξενικό είδος στην Μεσόγειο. Αυτά τα πολύχρωμα πλάσματα εξακο-

λουθιούν να είναι μια γαστρονομική καινοτομία στην Ελλάδα και συχνά ο χειρισμός τους αποτελεί πρόκληση (Εικ. 1). Στο Μέριλαντ, τα Μπλε καβούρια θεωρούνται είδος πολυτελείας με υψηλή τιμή στην αγορά, ενώ στην Ελλάδα, οι αλιείς δυσκολεύονται να τα πουλήσουν.

Έζησα στην Ελλάδα για έξι μήνες και ασχολήθηκα



Εικόνα 1. Μπλε καβούρια από την λιμνοθάλασσα της Βιστωνίδας και τον Αλιευτικό Συνεταιρισμό του Πόρτο Λάγος (Φωτογραφικό αρχείο PERICLES).



Εικόνα 2. Η λιμνοθάλασσα της Βιστωνίδας παρέχει τις κατάλληλες συνθήκες για την ανάπτυξη του Μπλε καβουριού (Φωτογραφικό αρχείο PERICLES).

με την έρευνα σχετικά με την αλιευτική πολιτιστική κληρονομιά στο βορειοανατολικό Αιγαίο και τις προκλήσεις που αντιμετωπίζουν οι αλιείς ενόψει των ταχέως μεταβαλλόμενων συνθηκών (περιβαλλοντικών, οικονομικών, κοινωνικών κ.α.). Αυτό είναι το θέμα ενός χρηματοδοτούμενου από την ΕΕ έργου που ονομάζεται PERICLES. Η ομάδα ερευνητών του PERICLES έχει διεξάγει εκτεταμένη επιτόπια έρευνα. Οι συνεντεύξεις με ψαράδες και τους ιχθυοπράτες τονίζουν τη διφορούμενη κατάσταση των Μπλε καβουριών, τα οποία, στις μέρες μας, αποτελούν απειλή και ταυτόχρονα ευκαιρία για την αλιεία. Οι Έλληνες είναι πολύ περήφανοι για την αλιευτική τους κουλτούρα και παραδόσεις κι ένας τέτοιος ενθουσιασμός σήγουρα ανταμείβει τους επισκέπτες με υπέροχες γαστρονομικές εμπειρίες και αλιευτικά τοπία που κόβουν την ανάσα! Ωστόσο, δεν φαίνεται προς το παρόν να ενδιαφέρονται να σπάσουν την παράδοση και να δοκιμάσουν το Μπλε καβούρι.

Αποφάσισα λοιπόν να «σκάψω» λίγο βαθύτερα και να συγκρίνω τις δύο περιπτώσεις, ΒΑ Αιγαίο και Μέριλαντ.

Το επιστημονικό όνομα του Μπλε καβουριού είναι *Callinectes sapidus*, το οποίο αποδίδεται στα ελληνικά ως «ο όμορφος νόστιμος κολυμβητής». Το είδος εισέβαλε στη Μεσόγειο Θάλασσα στα τέλη της δεκαετίας του 1930. Ο τρόπος της εισαγωγής τους καλύπτεται από μυστήριο, αλλά φαίνεται ότι μεταφέρθηκαν πρώτα στην Αίγυπτο και αργότερα αλλού στην Ανατολική Μεσόγειο, με το έρμα πλοίων. Έκτοτε, τα Μπλε καβούρια έγιναν ένα από τα πιο προβληματικά και χωροκατακτητικά (*invasive*) είδη στην Ευρώπη. Στην Ελλάδα, ονομάζονται «Ιταλοί», καθώς πιστεύεται ότι εισήχθησαν από τους Ιταλούς κατά τη διάρκεια του Β' Παγκοσμίου Πολέμου. Παρόλο που βρέθηκαν μακριά από την πατρίδα τους, τη δυτική ακτή της Αμερικής, τα Μπλε καβούρια άντεξαν και προσαρμόστηκαν. Δεν έχουν εδώ αρπακτικά



Εικόνα 3. Το φύλο των μπλε καβουριών διακρίνεται από το σχήμα της κοιλιάς και το χρώμα των δαγκάνων. Στην εικόνα το καβουρί επάνω είναι θηλυκό και εκείνο κάτω είναι αρσενικό.

που να ελέγχουν τον πληθυσμό τους. Το ποσοστό επιβίωσης και γονιμότητας είναι υψηλό. Είναι αδηφάγα πλάσματα, τρέφονται με φυτά και με αυγά και γόνους ψαριών. Η αυξημένη παρουσία τους επέφερε σημαντική διαταραχή στην οικολογική ισορροπία και στην αλιευτική διαχείριση, ιδίως σε λιμνοθάλασσες και εκβολές ποταμών (Εικ. 2). Η κλιματική αλλαγή επέτρεψε στα είδη να ευδοκιμήσουν, καθώς ο ζεστός καιρός βοηθάει την αναπαραγωγή τους.

Γενικά, τα Μπλε καβουρία τείνουν να παραμένουν σε υφαλμυρό νερό και μπορούν να αναπτυχθούν έως 23 εκατοστά. Είναι σεξουαλικά διμορφικά, πράγμα που σημαίνει ότι τα αρσενικά και θηλυκά άτομα διαφέρουν στην εμφάνιση. Διαφέρουν στο σχήμα της κοιλιάς (Εικ. 2) καις το χρωματισμό των δαγκάνων τους. Στα αρσενικά οι άκρες των δαγκάνων έχουν κόκκινο χρώμα, ενώ στα θηλυκά πορφυρό μαβί. Η μέση διάρκεια ζωής ενός Μπλε καβουριού είναι περίπου δύο χρόνια. Τα θηλυκά αφήνουν τις εκβολές των ποταμών και τις λιμνοθάλασσες και μπαίνουν στη θάλασσα για να γεννήσουν τα αυγά τους το καλοκαίρι, καθώς απαιτείται υψηλότερη αλατότητα για την εκκόλαψη. Στις αρχές του φθινοπώρου, τα θηλυκά και τα νεαρά καβουρία μεταναστεύουν πίσω στα υφαλμύρα και στα εσωτερικά γλυκά νερά για να τραφούν.

Τα Μπλε καβουρία είναι απειλή για την αλιεία σε ορισμένες περιοχές. Όταν πιάνονται προκαλούν ζημιές τόσο στα δίχτυα και τις παγίδες όσο και σε ότι άλλα ψάρια έχουν πιαστεί. Τα Μπλε καβουρία είναι πολύ επιθετικά, προσπαθούν να δαγκώσουν εκείνους που τα απειλούν και οι εργάτες που δένουν τις δαγκάνες τους με λαστιχένιες ταινίες κατά τη διάρκεια της συσκευασίας, υφίστανται συχνά επιθέσεις στα δάχτυλά τους. Στις περιοχές που καταλαμβάνουν, εξαντλούν τους αλιευτικούς πόρους καθώς τρώνε



αυγά και γόνο ψαριών προκαλώντας μακροπρόθεσμες βλάβες στην τοπική αλιεία, μειώνοντας την παραγωγή και τα κέρδη.

Οι ψαράδες αγωνίζονται να βρουν έναν τρόπο να ωφεληθούν από τα Μπλε καβούρια και να μετατρέψουν την απειλή σε ευκαιρία. Ωστόσο, στη Θεσσαλονίκη, μια μεγάλη πόλη λιμάνι στη βόρεια Ελλάδα, αναφορές δείχνουν ότι η εμπορία Μπλε καβουριών έχει μόνο ένα μικρό θετικό οικονομικό αντίκτυπο. Λόγω της αφθονίας τους και της χαμηλής ζήτησης για αυτούς, η τιμή αγοράς για τα Μπλε καβουριά είναι περίπου 2-4 _ το κιλό. Ωστόσο, οι περισσότεροι καταναλωτές δεν γνωρίζουν πώς να τα συμπεριλάβουν στο καθημερινό τους μενού, πώς να τα καθαρίσουν και πώς να τα μαγειρέψουν.

Η κατάσταση στην πατρίδα μου είναι εντελώς διαφορετική! Το Μπλε καβούρι είναι ενδημικό είδος

στον δυτικό Ατλαντικό Ωκεανό και είναι ιδιαίτερα άφθονο στην περιοχή Chesapeake Bay στο Μέριλαντ. Οι άνθρωποι εκεί έχουν μια ειδική σύνδεση με τον Κόλπο Chesapeake και τα Μπλε καβουριά του. Μεγάλωσα κάνοντας κάμπινγκ κάθε χρόνο στον κόλπο και συχνά έπιανα καβουριά στη ακτή. Η ψυχογωγική αλιεία είναι εξίσου σημαντική με την εμπορική αλιεία στην περιοχή. Το καβουρί είναι εμβληματικό είδος για το Μέριλαντ. Όχι μόνο οι άνθρωποι λατρεύουν τα Μπλε καβουριά, αλλά αγαπούν και το ψάρεμά τους. Το «crabbing», το ερασιτεχνικό ψάρεμα για καβουριά, είναι μέρος του πολιτισμού του Μέριλαντ (Εικ. 4 και 5).

Στις Ηνωμένες Πολιτείες, το 2019, η μέση τιμή δώδεκα μεγάλων Μπλε καβουριών (περίπου 4 κιλά) ήταν 60-70 \$. Αν και τα μικρότερα καβουριά είναι φθηνότερα, κοστίζουν εντούτοις αρκετά. Ο Κόλπος



5 Places to Eat As Many Crabs As You Can

Εικόνα 4. Το Μπλε καβούρι είναι σημαντικό στοιχείο της γαστρονομίας στις ακτές του Κόλπου Chesapeake άρθρο του SJMAG (<https://sjmagazine.net/food-drink/5-places-eat-many-crabs-can>)



Εικόνα 5. Το Μπλε καβούρι στο Μέριλαντ αποτελεί πηγή έμπνευσης. Γλυπτό καβούρι με την τεχνική του βιτρό, στο Διεθνές αεροδρόμιο της Βαλτιμόρης, ΗΠΑ. Το έργο φιλοτεχνήθηκε από την Jackie Leatherbury Douglass και τον σύζυγό της John το 1984 ως εμβληματικό στοιχείο του Μέριλαντ (<https://twistedsifter.com/2013/05/500-pound-stained-glass-blue-crab-bwi-douglass/>).

Chesapeake φιλοξενεί ένα μεγάλο πληθυσμό Μπλε καβουριών που αλιεύεται εντατικά και επί του παρόντος προμηθεύει πάνω από το ένα τρίτο όλων των εμπορικών εκφορτώσεων Μπλε καβουριών στις ΗΠΑ. Η ζήτηση στη τοπική αγορά για Μπλε καβούρια είναι υψηλή καθώς θεωρούνται υποκατάστατα άλλων τύπων πρωτεΐνης. Ο κατάλογος των συνταγών με καβούρι είναι πολύ μακρύς. Οι καβουροκροκέτες είναι ίσως το πιο σχετικό μέρος της ζήτησης (Εικ. 6). Η καβουρόψιχα προστίθεται σε σαλάτες, ζυμαρικά, σούπες κ.λπ. Μπλε καβούρια με το κέλυφος

στον ατμό είναι ένας συνηθισμένος τρόπος μαγειρέματος που αναδεικνύει τη γλυκιά, καθαρή γεύση τους. Μαλακά καβούρια που αλιεύονται τις ημέρες που αλλάζουν κέλυφος, τηγανίζονται και τρώγονται ολόκληρα. Υπάρχουν ακόμη και τα ειδικά προϊόντα καρυκεύματος για καβούρια που έχουν δημιουργηθεί για να αναδείξουν τη γεύση τους!

Η υψηλή ζήτηση στην αγορά για Μπλε καβούρια, σε συνδυασμό με την απώλεια ενδιαιτημάτων τους και τη ρύπανση, ασκούν σημαντική πίεση στα Μπλε καβουριά του Chesapeake Bay. Θέματα διατή-



ρησης και προστασίας συζητούνται έντονα. Στις Ηνωμένες Πολιτείες υπάρχουν αυστηροί νόμοι για την αλιεία του καβουριού. Άτομα κάτω των 13 cm πρέπει ν' απελευθερώνονται, ενώ η εποχή ερασιτεχνικής αλιείας του καβουριού είναι από Απρίλιο έως Οκτώβριο. Ανάλογα με το που φαρεύει κάποιος και την εποχή του χρόνου, μπορεί να απαιτείται άδεια. Εάν η αλιεία των καβουριών γίνεται από την ακτή, υπάρχει ημερήσιο όριο 10 καβουριών ανά άτομο. Το φάρεμα από σκάφος αυξάνει το ημερήσιο όριο στα 20 καβουριά ανά σκάφος. Η σύλληψη αβγομένων καβουριών ή καβουριών που βρίσκονται στη διαδικασία αλλαγής κελύφους απαγορεύεται. Οι βολκοί για καβουριά μπορούν να παραμείνουν στο νερό μόνο για 7 ώρες το πολύ. Αυτό συμβαίνει επειδή τα Μπλε καβουριά θα αρχίσουν να επιτίθενται το ένα στο άλλο.

Το Βορειοανατολικό Αιγαίο και οι πολυάριθμες λιμνοθάλασσές του αποτελούν μια από τις σημαντικότερες περιοχές αλιείας Μπλε καβουριών στην Ελλάδα. Μία από αυτές τις λιμνοθάλασσες, το εκβολικό σύστημα της Βιστωνίδας, φιλοξενεί μεγάλο πληθυσμό Μπλε καβουριών που αλιεύεται από τον τοπικό αλιευτικό συνεταιρισμό του Πόρτο Λάγος (Εικ. 7). Τα καβουριά συλλαμβάνονται εκεί με τον ίδιο τρόπο όπως και τα ψάρια. Οι φαράδες επωφελούνται από την εποχική αναπαραγωγική κίνηση των καβουριών μέσα και έξω από τη λιμνοθάλασσα και

Εικόνα 6. Οι καβουροκροκέτες περιλαμβάνονται στο μενού των περισσότερων εστιατορίων (<http://www.chesapeakecrabcakes.com/shop/eight-crab-cakes>).

τα πιάνουν σε ειδικά κατασκευασμένες μόνιμες ιχθυοπαγίδες (Εικ. 7). Τα καβούρια αποστέλλονται στην αγορά είτε χωρίς επεξεργασία, είτε με τις δαγκάνες τους δεμένες. Η αλιεία των καβουριών είναι προσεκτικά ρυθμισμένη ώστε να διασφαλιστεί ότι φτάνουν στην αγορά ζωντανά.

Πήρα συνέντευξη από τον Δρ. Μάνο Κουτράκη, Διευθυντή Ερευνών στο Ινστιτούτο Αλιευτικής Έρευνας του ΕΛΓΟ Δήμητρα, στη Να Πέραμο Καβάλας, ο οποίος συνεργάζεται στενά με τους αλιείς της περιοχής. Ο Δρ. Κουτράκης ξεκινά με την ομάδα του και σε συνεργασία με τον καθ. Ιωάννη Λεονάρδο από το Πανεπιστήμιο Ιωαννίνων, μια νέα ερευνητική πρωτοβουλία για τη μελέτη των ξενικών Μπλε καβουριών. Καθώς δεν υπάρχουν επαρκείς πληροφορίες σχετικά με τον κύκλο ζωής των Μπλε καβουριών στην Ελλάδα θα παρακολουθήσουν και

“Τα Μπλε καβουριά είναι απειλή για την αλιεία σε ορισμένες περιοχές. Όταν πιάνονται προκαλούν ζημιές τόσο στα δίχτυα και τις παγίδες όσο και σε ότι άλλα ψάρια έχουν πιαστεί. Τα Μπλε καβουριά είναι πολύ επιθετικά, προσπαθούν να δαγκώσουν εκείνους που τα απειλούν και οι εργάτες που δένουν τις δαγκάνες τους με λαστιχένιες ταινίες κατά τη διάρκεια της συσκευασίας, υφίστανται συχνά επιθέσεις στα δάχτυλά τους.



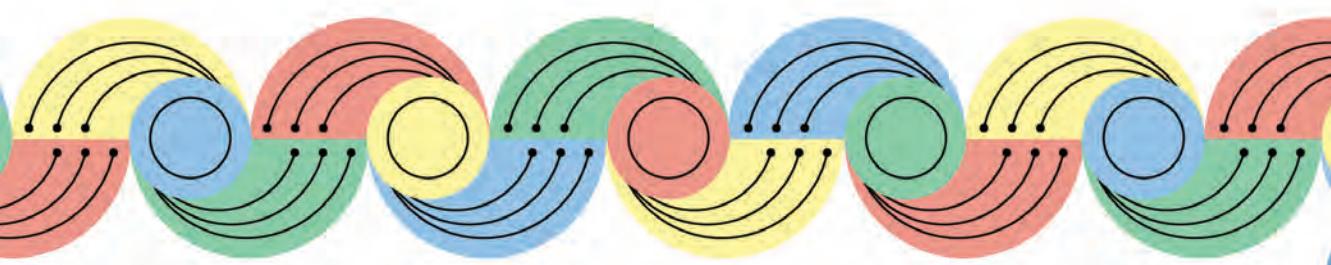
Εικόνα 7. Μπλε καβούρια από τη Λιμνοθάλασσα της Βιστωνίδας που πιάνονται κατά την μετακίνησή τους προς τη θάλασσα (Φωτογραφικό αρχείο PERICLES).

θα καταγράψουν την κίνησή τους και θα μελετήσουν τις διαφορές στη συμπεριφορά αρσενικών και θηλυκών ατόμων. Επίσης θα εξεταστεί η χρήση του κελύφους τους για διάφορες εφαρμογές σε αντικατάσταση πλαστικών, αλλά και σε εφαρμογές ιατρικής φύσης.

«Ο κύριος στόχος μας είναι να βοηθήσουμε τους ψαράδες και επίσης να εργαστούμε για την επιβίωση των παραδοσιακών αλιευμάτων στη Βόρεια Ελλάδα», λέει ο Δρ. Κουτράκης. «Η αλιεία στις λιμνοθάλασσες ακολουθεί μια παράδοση που ανάγεται τουλάχιστον στα χρόνια του Βυζαντίου πριν από μια χιλιετία. Θα θέλαμε να συνεχίσουμε την παράδοση». Τα Μπλε καβούρια δεν αποτελούν μέρος αυτής της παράδο-

σης, αλλά είναι σίγουρα εδώ για να μείνουν, οπότε πρέπει να βρουν τη θέση τους στην αλιεία. Ο Δρ. Κουτράκης και η ομάδα του προσπαθούν να παροτρύνουν το κοινό ώστε να γνωρίσει το Μπλε καβούρι και να το συμπεριλάβει στη διατροφή του. Προτείνουν να καθοριστούν δίκαιες τιμές για την πώληση Μπλε καβουριών. Πιστεύουν ότι στα Μπλε καβούρια υπάρχουν ευκαιρίες τόσο για τους ψαράδες όσο και για τους καταναλωτές. Το έργο που έθεσαν στον εαυτό τους είναι δύσκολο, καθώς υπάρχουν πάρα πολλοί παράγοντες που πρέπει να βελτιωθούν. Εύχομαι πραγματικά να πετύχουν και ελπίζω ότι οι Έλληνες θα ανακαλύψουν τις χαρές που προσφέρουν τα Μπλε καβούρια!

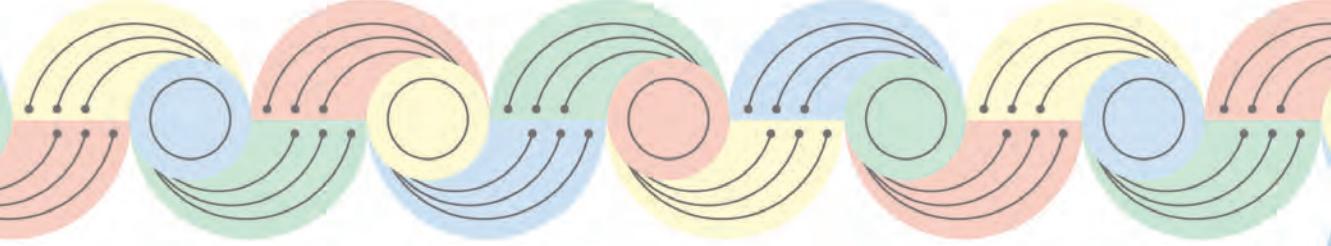
A.16. Moliceiro's tour: A guide to the natural and cultural heritage - Ria de Aveiro



PASSEIO DE MOLICEIRO

UM GUIA SOBRE O PATRIMÓNIO NATURAL E CULTURAL





PASSEIO DE MOLICEIRO

UM GUIA SOBRE O PATRIMÓNIO NATURAL E CULTURAL



Ficha técnica

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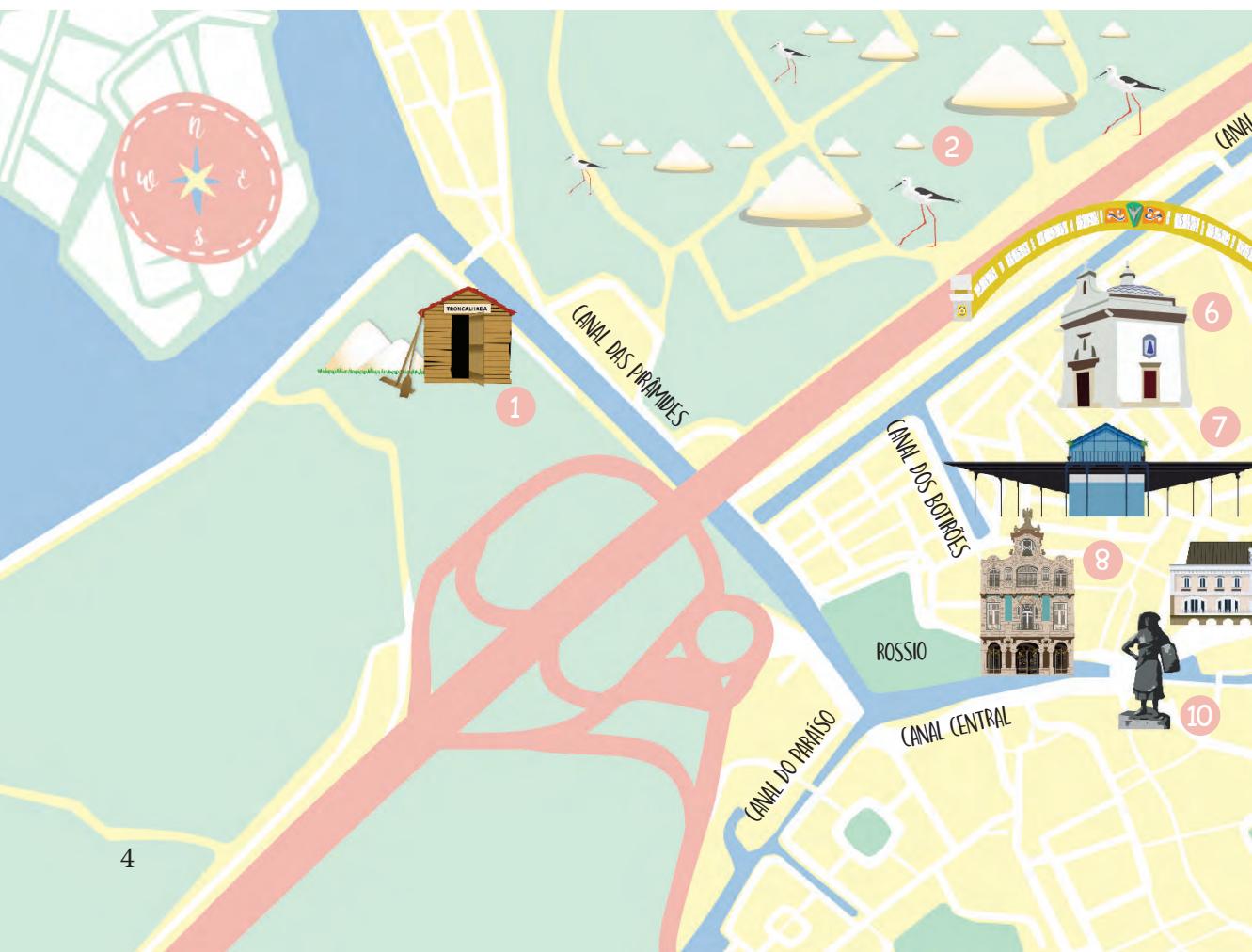
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História de Aveiro

Em épocas remotas, muito anteriores à fundação de Portugal (1143), entre Espinho e o Cabo Mondego, a costa apresentaria uma configuração totalmente diferente da atual. No século XII, os rios Antuã e o Vouga desembocabam diretamente no mar. Com o passar do tempo, um lento processo de deposição de areias levou à formação de dois cordões dunares litorais e algumas ilhas dispersas no interior dessa baía. O processo de formação do cordão litoral de dunas, no século XVI, deu origem a uma laguna (ria de Aveiro) na qual desaguam o rio Vouga e outros pequenos cursos de

água. Cortada por uma série de ilhas, canais e esteiros, articulados com a rede hidrográfica, aumentou, cada vez mais, a distância entre a cidade de Aveiro e o seu porto.

Localizada entre o rio e o mar, Aveiro foi, e ainda é, uma importante cidade portuária, integrada nas rotas do comércio internacional marítimo europeu. Aveiro era acessível pelo mar, pela estrada fluvial do Vouga e pela ria que, através do Canal de São João (atual Canal Central), servia de porta de entrada na cidade. Ligada à produção de sal, pesca da ria e do mar, pesca do bacalhau, olaria, construção



e reparação naval, tinha também um papel fundamental na redistribuição de produtos que chegavam do interior, como por exemplo telhas, ferragens, madeiras e cobre, mas também de cerâmicas da própria cidade. Pelos canais circulavam produtos vindos do resto do país e do estrangeiro, como o ferro e as ferragens, os tecidos, entre outros.

Por alturas do século XV, a vila de Aveiro estendia-se para ambas as margens do canal que atravessava o centro da cidade. A prolongada construção das muralhas (de iniciativa do reinado de D. João I prolongando-se pelo período de regência de D. Pedro,

- 1 ECOMUSEU DA MARINHA DA TRONCALHADA
- 2 MARINHAS
- 3 ARMAZÉNS DE SAL
- 4 BAIRRO DA BEIRA MAR
- 5 PONTE DE CARCAVELOS
- 6 CAPELA DE SÃO GONÇALINHO
- 7 MERCADO DO PEIXE
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- 9 ANTIGA CAPITANIA DO PORTO DE AVEIRO
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- 12 MONUMENTO AOS OVOS MOLES
- 13 ANTIGA FÁBRICA JERÓNIMO PEREIRA (AMPOS)



na menoridade do futuro D. Afonso V) deu uma maior dignidade à vila, distinguindo-a da paisagem que a rodeava. Aveiro tornou-se vila notável em 1581, cidade em 1759, sinal de um prestígio crescente no quadro administrativo nacional. As muralhas desapareceram à medida que a cidade cresceu para fora do seu perímetro, tornando-se a sua pedra útil para a construção e consolidação da barra em 1802.

A zona muralhada encontrava-se a sul do Esteiro do Côjo, numa zona de cota alta, mas ainda próxima do canal onde ocorriam as principais atividades comerciais. Aqui estabeleceu-se o aglomerado inicial e era onde vivia a população mais nobre e com atividades ditas mais urbanas. Também aqui se instalavam os edifícios mais significativos, entre os quais, a igreja de S. Miguel (onde hoje está a estátua de José Estêvão, frente à Câmara Municipal), a Santa Casa e Igreja da Misericórdia, o Convento das Carmelitas Descalças (instalado no antigo paço dos Duques de Aveiro) e o edifício da Câmara (quer o primeiro, quer o atual construído em 1794-1999).

Fora da muralha vivia a população de pescadores e mareantes. A norte, do outro lado da margem do canal, desenvolveu-se a Vila Nova (atual zona envolvente da Beira-Mar), que apresentou um elevado crescimento a partir do século XV devido às atividades ligadas à pesca do bacalhau e à exploração de sal. A nascente da muralha (atual zona envolvente à Praça General Humberto Delgado e Avenida Lourenço Peixinho) encontrava-se uma importante zona intimamente ligada ao canal central e que estabelecia a ligação entre a zona muralhada e a Vila Nova, com grande agitação comercial devido às atividades ligadas à exploração do sal, pescas, comércio de frutas e legumes. A poente da muralha existia um dos mais antigos bairros da cidade, o Bairro do Alboi, que era habitado predominantemente por comerciantes estrangeiros (ingleses, holandeses e flamengos).

A ligação com o mar (o porto) conheceu, durante vários séculos, diferentes localizações, entre Ovar e Mira, chegando a haver anos em que a laguna ficava completamente isolada

do mar devido às acumulações de areias (assoreamento) e a cidade de Aveiro cada vez mais afastada do mar. Os anos em que a barra estava fechada correspondiam, geralmente, a períodos de maiores dificuldades para os habitantes da região de Aveiro (morte de pessoas e animais, interrupção na produção de sal, pesca na laguna e produção agrícola). A obra de implantação da barra, tão complexa que durou meio século a projetar (1757 a 1802) e seis anos a concretizar (1802-1808), fez-se no meio de paixões, até se fixar no local onde hoje se encontra. Na verdade, só no século XIX, mais concretamente no dia 3 de abril de 1808, a barra de Aveiro foi fixada definitivamente no local onde atualmente se encontra. Esta obra, juntamente com a recuperação do movimento portuário e das atividades de pesca, assumiu uma importância extrema para a região de Aveiro, devolvendo o dinamismo à cidade de Aveiro. Nos finais do século XIX e durante o século XX, assistiu-se a um incremento nas construções, dando origem a uma nova etapa de crescimento urbano e industrial. É neste período

que surge o movimento Arte Nova em Aveiro, que se constrói o Liceu de Aveiro (1855-1860), o Teatro Aveirense (1881), a Escola Industrial (1894), que se abrem novas artérias urbanas, como é o caso da Avenida Dr. Lourenço Peixinho, e que se desenvolvem obras de interesse público, como o Governo Civil, o Tribunal, o novo Hospital, o Parque Infante D. Pedro e a Universidade de Aveiro (1973).

Mesmo após a fixação da barra, os canais centrais na cidade de Aveiro continuaram a sofrer influência do ciclo de marés, com eventos de cheia urbana na preia-mar, e mau cheiro na baixa-mar. Em novembro de 1983, foi adjudicada a empreitada do sistema declusas e comportas nos canais da ria de Aveiro com o objetivo de controlar o nível da água nos canais citadinos da ria. Este sistema, inaugurado no dia 23 de novembro de 1985, permitiu, por um lado, reduzir a ocorrência de eventos de cheia na cidade e, por outro, assegurar a naveabilidade dos canais urbanos durante a baixa-mar, incrementando de forma inquestionável o turismo na cidade de Aveiro.



Ria de Aveiro

O valor biológico e paisagístico das zonas húmidas é inegável. A norte do Tejo, a ria de Aveiro é a maior, mais expressiva e biologicamente mais significativa zona húmida litoral, possuindo um elevado valor de conservação da natureza no panorama nacional e internacional.

A ria de Aveiro é uma laguna costeira de águas pouco profundas, ligada ao Oceano Atlântico através de uma única embocadura (a barra, o porto). Localiza-se no litoral centro de Portugal, estando integrada na bacia hidrográfica do rio Vouga. Tem uma área variável entre 83 km² (em preia-mar) e 66 km² (em baixa-mar), uma largura máxima de 8,5 km na sua zona central, um comprimento de 45 km e uma profundidade média relativamente ao zero hidrográfico de 1 m. A hidrologia da ria de Aveiro é essencialmente dominada pela força das marés, responsável pela forte mistura das massas de água. O influxo de água doce deve-se, principalmente, aos rios Vouga e Antuã.

A ria de Aveiro reúne um conjunto diversificado de biótopos – uns de caráter natural, outros com maior ou menor intervenção humana – interligados por uma densa rede de canais, permitindo a existência de água salobra em zonas muito interiores. Podemos distinguir os seguintes biótopos: sapais, juncais, caniçais, lodaçais, ilhas, massas de água livre, salinas, dunas e áreas de piscicultura.

O magnífico enquadramento geográfico e a imensa fonte de recursos naturais disponíveis proporcionaram,

desde muito cedo, a sua exploração por parte da população que aí se fixou, tendo contribuído, em grande parte, para a atual configuração da laguna. A beleza paisagística e a elevada biodiversidade desta valiosa zona húmida, reconhecidas pelos diversos estatutos de conservação da natureza atribuídos (onde se destaca a classificação de Zona de Proteção Especial (ZPE), em 1999, e Sítio de Importância Comunitária (SIC), em 2014, no âmbito das Diretivas Aves e Habitats, respetivamente), reforça a necessidade de valorizar, conservar e promover de forma sustentável o vasto património natural existente nesta região.

A ria de Aveiro teve, e continua a ter, um papel essencial no desenvolvimento económico e cultural da região e da cidade. São exemplo disso a apanha do moliço e a construção naval (atividades já extintas), as salinas, a pesca artesanal, a pesca longínqua à Terra Nova, atividades muito relevantes no passado. De realçar ainda a elevada biodiversidade e a existência de condições propícias à prática de desportos náuticos e ao turismo.

Embarcações Tradicionais

Muito importantes na ria de Aveiro são as embarcações tradicionais, que fazem também parte da sua história, e que nela vaguearam ou ainda vagueiam. A sua utilização adapta-se às características dos canais da ria (profundidade) e à função que desempenham. Seriam vários os tipos de embarcação, exigindo conhecimentos de construção. Parte do segredo da arte estava no pau de pontos, que continha as medidas a aplicar em cada embarcação, e que era transmitido de geração em geração (cultura técnica). De acordo com a sua função, no apoio às atividades na ria no passado, distinguem-se vários tipos de embarcação: o barco *saleiro* ou *salineiro* para o serviço nas salinas; o *moliceiro* para a apanha do moliço; o *mercantel* para o transporte de pessoas e mercadorias; as bateiras da Murtosa, designadas *chinchorra* e *labrega*, e a bateira de Ílhavo, *ílhava*, para a pesca fluvial; a *bateira caçadeira*, usada na caça de aves aquáticas e passagem de pessoas e que é ainda hoje usada para a pesca na laguna e para o transporte de pessoas para as marinhas de sal.

Com as alterações no modo de vida das comunidades ribeirinhas, a maioria destas embarcações deixaram de ter o uso tradicional, assumindo, atualmente, funções associadas ao lazer e cultura. São exemplo disso os *moliceiros* e *mercantéis*, utilizados nos dias de hoje pelas empresas marítimo-turísticas para realizar passeios nos canais urbanos da ria de Aveiro. O *moliceiro* é uma embarcação adaptada

às características da laguna, com canais de baixa profundidade, e à função que desempenhava na apanha e transporte de moliço, ou alternativamente junco. Por este motivo, o barco *moliceiro* tem fundo plano, pequeno calado e costado baixo. O seu comprimento variava conforme a zona de navegação a que se destinava, estando entre os nove e os 15 metros. A sua capacidade de carga variava entre as quatro e cinco toneladas. Era um barco rápido e ágil, usando como meio de propulsão a vela, a vara e a sirga. Quase desaparecido em 1980, voltou a ressurgir com novas funções. Na verdade, atualmente, estas embarcações utilizam o motor como meio de propulsão para o transporte de turistas nos canais urbanos. O *moliceiro* distingue-se pela sua silhueta elegante e bela, e pelo conjunto de painéis coloridos de arte popular que o adornam à proa e à ré. Estes painéis exibem motivos jocosos, religiosos, sociais, históricos e lúdicos, contam histórias, aliando a estética e a vida quotidiana da população local.

O moliço, constituído por algas e algumas plantas aquáticas superiores, era utilizado como fertilizante nos campos agrícolas arenosos, constituindo-se um complemento vital da agricultura de subsistência praticada na região. Pode-se afirmar que foi o fator preponderante da transformação de extensas áreas arenosas em terras de cultura, na região. As principais plantas vasculares que entram na composição do moliço são: *Zostera noltii* (musgo, sirgo, seba), *Zostera marina* (fita), quase extinta na

ria de Aveiro, *Potamogeton pectinatus* (rabo), *Ruppia cirrhosa* e *Ruppia maritima* (ambas conhecidas como erva-do-arganel ou sirgo). As áreas cobertas pelo moliço são de elevada importância biológica, pois constituem abrigo para juvenis de espécies piscícolas, são fonte de produção primária e servem como acumuladoras de energia e nutrientes.

O *mercantel* foi uma das primeiras embarcações lagunares a surgir na ria de Aveiro, dando resposta ao intenso movimento de troca de mercadorias e à necessidade de criar embarcações robustas e adaptadas ao meio em que se deslocavam. Também denominada barca, era a maior e mais possante embarcação que navegava nos canais da ria de Aveiro. Como o nome indica, trata-se de um barco de transporte, com uma capacidade de carga a rondar as 12 toneladas. De grande importância para o desenvolvimento económico da região lagunar, o *mercantel* tinha como funções principais a passagem de pessoas

entre regiões ribeirinhos e a carga e o transporte de mercadorias, como por exemplo vinho, frutas, cereais e outros produtos agrícolas, lenha, caulino, areia e pedra. Quando era utilizado na safra do sal, tomava o nome de *saleiro* ou *salineiro*. Para garantir que não havia discrepâncias entre as medidas dadas pelo marnoto, à saída das marinhas, e as medidas conferidas pelos armazéns salineiros, o *mercantel* era uma embarcação muito fiscalizada.

O *mercantel* tem uma configuração semelhante à do *moliceiro*, mas com traços menos elegantes no que diz respeito à forma da proa e painéis. Distingue-se do barco *moliceiro* por ter maior dimensão (rondando os 18 m de comprimento) e pela forma da proa, em curva não forçada e rematando em bico, de maneira mais natural, não tendo por isso a leveza das linhas do *moliceiro*. O *mercantel* navegava muito bem à vela, distinguindo-se pela sua robustez e construção sólida, sendo muito estável a navegar, mesmo com ventos fortes. A sua decoração é simples, com pinturas mais sóbrias do que o *moliceiro*, apenas ostentando signos à proa e à ré.



Salinas

As salinas, denominadas marinhas em Aveiro (o único local em Portugal que assume esta designação para salinas costeiras), são um elemento singular na paisagem, história e ecossistema da ria de Aveiro. A produção de sal é uma prática antiga que, ao longo de séculos, representou um papel de grande importância na história, com repercussões na economia e na cultura dos povos. Em Portugal, o primeiro documento conhecido a mencionar salinas em Aveiro é do ano de 959 e refere a sua doação, pela Condessa Mumadona Dias (que viveu no século X, senhora de um extenso território no noroeste da Península Ibérica), ao mosteiro de Guimarães, repetindo-se estas referências aos mosteiros como grandes proprietários e administradores de marinhas de sal (em Aveiro, o Mosteiro de Jesus é um exemplo) e outras instituições (como a Misericórdia de Aveiro ou outros).

O conjunto de salinas é designado

como Salgado, existindo em Portugal continental 5 salgados: Salgado de Aveiro, Salgado da Figueira da Foz, Salgado do Tejo, Salgado do Sado e Salgado do Algarve. As salinas de produção artesanal (feita com recurso a mão-de-obra) ainda em atividade encontram-se localizadas em: Aveiro, Figueira da Foz, Alcochete, Alcácer do Sal e Algarve. A produção de sal representou, até meados do século passado, uma fonte de rendimento para as comunidades, entrando em declínio a partir da segunda metade do século. Diversas razões justificam este declínio, nomeadamente o surgimento dos equipamentos de refrigeração para a preservação dos alimentos, o consumo de quantidades inferiores de sal, o surgimento e crescimento da produção com meios mecânicos e a concorrência entre zonas produtoras de sal a nível internacional. Esta produção de caráter industrial permite uma produção em maior escala com custos inferiores. A



diminuição do consumo e a queda de preços, apesar dos custos de produção se manterem, conduziu ao abandono de áreas das marinhais, levando a alterações do uso do solo, de que são exemplo a construção de infraestruturas viárias, o crescimento da aquicultura e o abandono, perante os elevados custos de manutenção destes espaços.

Do ponto de vista cultural e ambiental, as marinhais de sal são espaços construídos pelo homem, que o transforma (escoa água, limpa os fundos, constrói tanques, acompanha o circuito da água salgada, agita-a, colhe o sal), e têm um papel muito importante na preservação da paisagem, conservação da natureza e da biodiversidade. Estas áreas são consideradas habitat de substituição porque criam um ambiente atrativo para diferentes espécies de aves nidificarem e se alimentarem. Ao serem espaços com elevado teor de salinidade limitam as espécies de

flora existentes: espécies resistentes à salinidade, denominadas halófitas. A salicórnia (*Salicornia ramosissima*) é a mais conhecida, sendo utilizada na gastronomia como substituto do sal, sobretudo na cozinha *gourmet*.

As salinas são um local de extrema importância para a vida selvagem, acolhendo várias espécies de animais. Geralmente, são habitantes sazonais que vêm em busca de alimento, abrigo ou reprodução. As aves são as mais visíveis e abundantes, com domínio das chamadas aves limícolas, assim conhecidas por se alimentarem de pequenos invertebrados que vivem no *limus* (lodo em latim) e que têm características anatómicas particulares, como é o caso dos membros inferiores longos e finos que permitem que se alimentem em zonas de águas com alguma profundidade e o bico comprido para a prospeção no lodo. A grande maioria da avifauna utiliza as salinas como local de repouso durante a preia-



mar, quando escasseiam as zonas não alagadas. É nessa altura que podemos observar bandos de limícolas e gaivotas. No inverno podemos observar centenas e até milhares de aves, incluindo as limícolas, aquáticas, rapinas e passeriformes nas salinas.

No entanto, só as salinas ativas e preservadas funcionam como local de refúgio e alimentação e nidificação para as aves, pois estando degradadas, ficam sujeitas ao regime de marés e perdem as características que as tornam tão importantes para a avifauna.

Entre as aves limícolas podemos encontrar o pilrito-comum (*Calidris alpina*), o alfaiate (*Recurvirostra avosetta*), o perna-vermelha (*Tringa totanus*), o perna-longa (*Himantopus himantopus*), o borrelho-de-coleira-interrompida (*Charadrius alexandrinus*), e a andorinha-do-mar-anã (*Sternula albifrons*). Na primavera, estas três últimas espécies nidificam nas salinas. No que diz respeito às aves aquáticas, podemos observar os flamingos (*Phoenicopterus roseus*), o guincho-comum (*Chroicocephalus ridibundus*), a gaivota-de-asa-escura (*Larus fuscus*) e a garça-branca-pequena (*Egretta garzetta*).

De grande importância são também os invertebrados, sobretudo pelo facto de representarem uma fonte de alimentação para as aves, como é o caso das larvas de insetos, os anelídeos (minhocas), os gastrópodes (berbigões) e os crustáceos (camarões e caranguejos).

O solo das marinhas é constituído por argila e areia compactada. É um

solo com uma grande diversidade de organismos que servem de alimento para as aves.

Nos compartimentos menos profundos das salinas a tonalidade rosada da água indica a presença da microalga *Dunaliella salina*, cuja tonalidade é devida ao betacaroteno. O mini crustáceo *Artemia salina* alimenta-se da microalga e os flamingos, ao alimentarem-se da *Artemia* por muito tempo, adquirem a cor rosada.

As marinhas também são “visitadas” por um conjunto de mamíferos como ratos, ratazanas, gineta, doninha, raposa e lontra.

Fazer sal é o “saber fazer” dos homens que trabalham no sal (em Aveiro chamados marnotos): as alfaias (utensílios de madeira) são utilizadas para movimentar os circuitos da água



e do sal em grãos e guardadas em palheiros (pequenos edifícios que o marnoto usa ainda para descansar), o sal é acondicionado nas eiras até ser vendido aos armazéns, transportado (no passado, nos barcos *salineiros* ou *saleiros*, atualmente, por via terrestre) e acumulado nos armazéns de sal para escoamento comercial. O abandono das salinas e o declínio da atividade de produção artesanal de sal coloca em risco todo este património natural e cultural, material e imaterial.

Nos anos mais recentes, as salinas têm sido objeto de interesse por parte de empreendedores que as identificam como áreas multifuncionais, onde podem ser desenvolvidas várias atividades e explorados novos produtos. À data, estão ativas oito salinas, onde se desenvolvem várias atividades

compatíveis com a produção de sal, nomeadamente atividades turísticas de visita e observação de aves, e atividades de saúde e bem-estar, como a sua utilização para banhos (exemplo das marinhas Grã Caravela, Peijota e Noeirinha) e tratamentos com argilas. As antigas marinhas de sal têm vindo a ser também reconvertidas em pisciculturas e em áreas para criação de bivalves, como por exemplo ostras. Como novos produtos das salinas para fins comerciais destaca-se a salicórnia, a flor de sal, também aromatizados com ervas e especiarias, os sais de banho, entre outros.

Na envolvente do Canal das Pirâmides pode-se visitar o Ecomuseu da Marinha da Troncalhada, o único núcleo museológico ao ar livre associado à produção artesanal de sal na região. Este espaço permite que o visitante possa fazer a visita de forma independente com recurso aos diversos painéis interpretativos ou através de visita guiada, mediante pedido ao serviço educativo do Museu da Cidade. O ecomuseu divulga as práticas e vivências associadas à produção de sal, à paisagem e fauna e flora das salinas.



Pesca do Bacalhau

O “nossa bacalhau”, aquele que há muitos séculos pescamos e consumimos, vive nos mares do Hemisfério Norte, perto do círculo polar Ártico, em águas com temperaturas até aos 12 graus celsius. Com a idade de dois anos, o bacalhau pode atingir 40 cm de comprimento e, com sete anos, mede de 70 a 80 cm, podendo pesar quatro quilos. Embora o bacalhau não seja um peixe do nosso mar, a relação de Portugal com a pesca e o consumo de bacalhau é um fenómeno antigo, que remonta à chegada dos europeus à Terra Nova e ao Labrador, no começo do século XVI. Desde então, o bacalhau do Atlântico entrou nos nossos hábitos alimentares, tornando-se um elemento central na cultura portuguesa, o seu principal símbolo de identidade.

A abundância de bacalhau nos mares do norte e a facilidade de o conservar explicam o interesse comercial pela pesca e um consumo que depressa se generalizou. A conjugação da salga e da secagem são processos simples e eficazes de conservação, a bordo e em terra. Depois de curado, o bacalhau mantém, por todo o ano, as suas qualidades nutricionais. A descoberta do bacalhau, como alimento e negócio, relaciona-se com a resposta que ele trouxe ao abastecimento alimentar das populações europeias medievais – uma dieta alimentar pobre em proteínas de origem animal e onde o peixe fresco dificilmente chegava. Do século XVI em diante, o hábito de comer bacalhau também se enraizou por obrigação religiosa. Na Quaresma e noutras



festividades, a Igreja Católica impunha jejum e abstinência de carne. Durante quase um terço dos dias do ano, a dieta católica assentava nos cereais, no peixe de rio e no bacalhau salgado.

No século XV, os portugueses iniciaram a sua corrida ao bacalhau competindo com ingleses, espanhóis e franceses. Atribui-se a Gaspar Corte Real a primeira viagem ao noroeste Atlântico, em 1500. A abundância de peixe nos bancos da Terra Nova, a facilidade de o conservar a bordo e os lucros do negócio interessaram os mercadores e a própria Coroa portuguesa. No foral de Aveiro, em 1515, refere-se já o imposto “dos bacalhaos”. Em 1552 o porto de Aveiro não só tinha maior número de navios no Entre Minho e Vouga, como a maior tonelagem total. Em finais do século XVI, Portugal deixou de enviar navios à Terra Nova, por isso o hábito alimentar do bacalhau passou a depender do que vinha de fora.



A pesca ao bacalhau por homens e navios portugueses foi retomada no século XIX, em 1835, pela Companhia de Pescarias Lisbonense, que pouco depois viria a falir. Porém, as duras campanhas na Terra Nova começaram a ser feitas por veleiros equipados com dóris (pequenas embarcações que se espalhavam em torno do navio principal). A pesca do bacalhau intensificou-se e o consumo cresceu. O bacalhau era “fiel” e “amigo”, desde que acessível no preço e se não faltasse à mesa dos portugueses.

Ano após ano, de vários pontos do litoral português, iam muitos homens ao bacalhau tendo de desempenhar as mais variadas funções a bordo. Procuravam o sustento e um salário menos incerto; mais tarde, alguns também embarcavam para escapar às guerras coloniais. Destreza, coragem e experiência de mar eram qualidades que se procuravam nos homens, tanto para a pesca à linha como para o arrasto.

Exigia-se-lhes disciplina e empenho na tarefa de abastecer o país.

A II Guerra Mundial trouxe grande insegurança à pesca do bacalhau. Perante a teimosia de manter a frota em atividade, os navios que quisessem alcançar os bancos da Terra Nova e da Gronelândia ficavam expostos ao perigo da guerra submarina. A neutralidade portuguesa obrigou à navegação em comboios, com dezenas de navios alinhados, todos pintados de branco. A “frota branca” alimentou uma lenda internacional.

Após a adesão de Portugal à Comunidade Económica Europeia (CEE), a frota bacalhoeira nacional começou a ser desmantelada. Reagindo ao declínio da frota, a indústria adaptou-se e modernizou-se. Alguns capitais interessaram-se pela transformação de bacalhau, agora com base em matéria-prima importada, bacalhau congelado e depois curado à maneira tradicional portuguesa. A tecnologia matou parte da saudade, mas não a vontade de memória, que se alojou em diversos lugares. São diversas as instituições que a guardam e renovam: museus, como o Museu Marítimo de Ílhavo e o Navio-museu Santo André, confrarias e academias, investigadores e artistas, homens e mulheres do mar. Todos quantos se dedicam, em Portugal e nas comunidades portuguesas de todo o mundo, à preservação do património bacalhoeiro e mantêm viva a memória e o gosto pelo “Fiel Amigo”.

Armazéns de Sal

Em Aveiro, o armazenamento do sal é feito tradicionalmente na salina, nas eiras. Para proteger o sal das impurezas e evitar a exposição à chuva, com a sua consequente dissolução, fazem-se montes que eram inicialmente cobertos com junça ou bajunça (*Bolboschoenus maritimus*), e, atualmente, com plástico. Esta forma de armazenamento difere da de outros locais, como a Figueira da Foz, onde os armazéns se localizam nas salinas. Em Aveiro, o sal só era transportado para os armazéns de sal (palheiros de madeira de dimensões maiores do que os existentes nas salinas) na altura da comercialização, ou seja, da venda ao grossista. Estes armazéns estavam situados maioritariamente no chamado Cais de S. Roque, localizado ao longo do Canal com o mesmo nome.

O Canal de S. Roque foi alargado a partir do antigo Esteiro de Sá, em finais da primeira metade do século XX, para o transporte do sal extraído das salinas de Aveiro e armazenado nos palheiros. Foi também aberto

o Ramal¹ de S. Roque (1913) para fazer a ligação entre o Canal e a estação ferroviária de Aveiro, com o propósito de escoar o sal, após um longo processo de modernização deste espaço. Esta zona foi, durante muito tempo, o centro do comércio do sal em Aveiro. Subsistem, ainda hoje, alguns palheiros no Canal de S. Roque, embora em número reduzido. Alguns foram recuperados e convertidos para albergar outras atividades, enquanto outros se encontram em avançado estado de degradação. A Salineira Aveirense é o único armazém de sal que mantém a sua função original.

O Bairro da Beira-Mar

O bairro da Beira-Mar, conhecido na época áurea do sal por Vila Nova, é o bairro mais típico, mas não o mais antigo, da cidade de Aveiro. Aqui moravam os pescadores e marnotos, que exerciam as suas atividades na ria. A arquitetura era simples e incluía casas térreas, estreitas, com apenas uma porta e uma janela, coloridas e revestidas com azulejo, para as proteger da humidade e do salitre.

O bairro da Beira-Mar possui o seu próprio padroeiro: São Gonçalinho.

¹ Não era de um ramal que se tratava, mas de uma simples dependência da estação, o que frustrava as aspirações dos negociantes do sal e do pescado, embora tenham sido construídos diversos palheiros para armazenamento do sal.



Todos os anos, no início do mês de janeiro são realizados os festejos em honra deste santo, de grande devoção, não só pelas gentes da Beira-Mar, mas por todos os aveirenses. Esta é uma festa muito peculiar, onde do alto da capela em forma hexagonal (que terá sido construída em 1714) se atiram milhares de cavacas (um pão doce, em forma de concha e muito rijo), que são apanhadas pelos populares socorrendo-se dos mais diversos objetos (como nassas, guarda-chuvas, etc.). Este ritual, que serve para pagar as promessas ao “santo”, - na realidade é beato - que os aveirenses tratam como sendo o seu “menino”.

Ponte de Carcavelos

Sobre o Canal de S. Roque encontra-se uma das pontes mais emblemáticas de Aveiro. Em forma de arco, decorada com balaústres e com o brasão da cidade, a Ponte de Carcavelos é uma das mais antigas de Aveiro e uma das mais bonitas. Foi construída em 1943, após a queda da ponte original em madeira, que terá ruído durante as festas de Nossa Senhora das Febres devido ao excesso de peso das pessoas que assistiam à corrida de bateiras.

Existem duas teses distintas quanto à origem do seu nome: uma afirma que a designação se deve ao facto de a ponte ter a forma da ferramenta usada pelos construtores navais; outra, que na margem norte da ponte se encontrava uma salina com este nome.

Ponte dos Botirões

A Ponte dos Botirões adotou o nome de uma arte de pesca utilizada, no passado, pelos pescadores de Aveiro na apanha, sobretudo, da enguia. Denominada, também, por “Ponte do Laço” pelos aveirenses, devido à semelhança da estrutura central com um laço, é uma ponte pedonal circular que une as quatro margens de dois canais: o Canal de S. Roque e o Canal dos Botirões. A ponte é única em Aveiro pela possibilidade de permitir atravessar dois canais e pela sua forma e desenho. A ponte permite a circulação a pé, de bicicleta e a utilização por utentes com mobilidade reduzida, pela existência de rampas além do acesso por escadaria. Foi construída ao abrigo do Programa Polis, sendo o projeto da autoria do arquiteto Luís Viegas e do engenheiro Domingos Moreira.



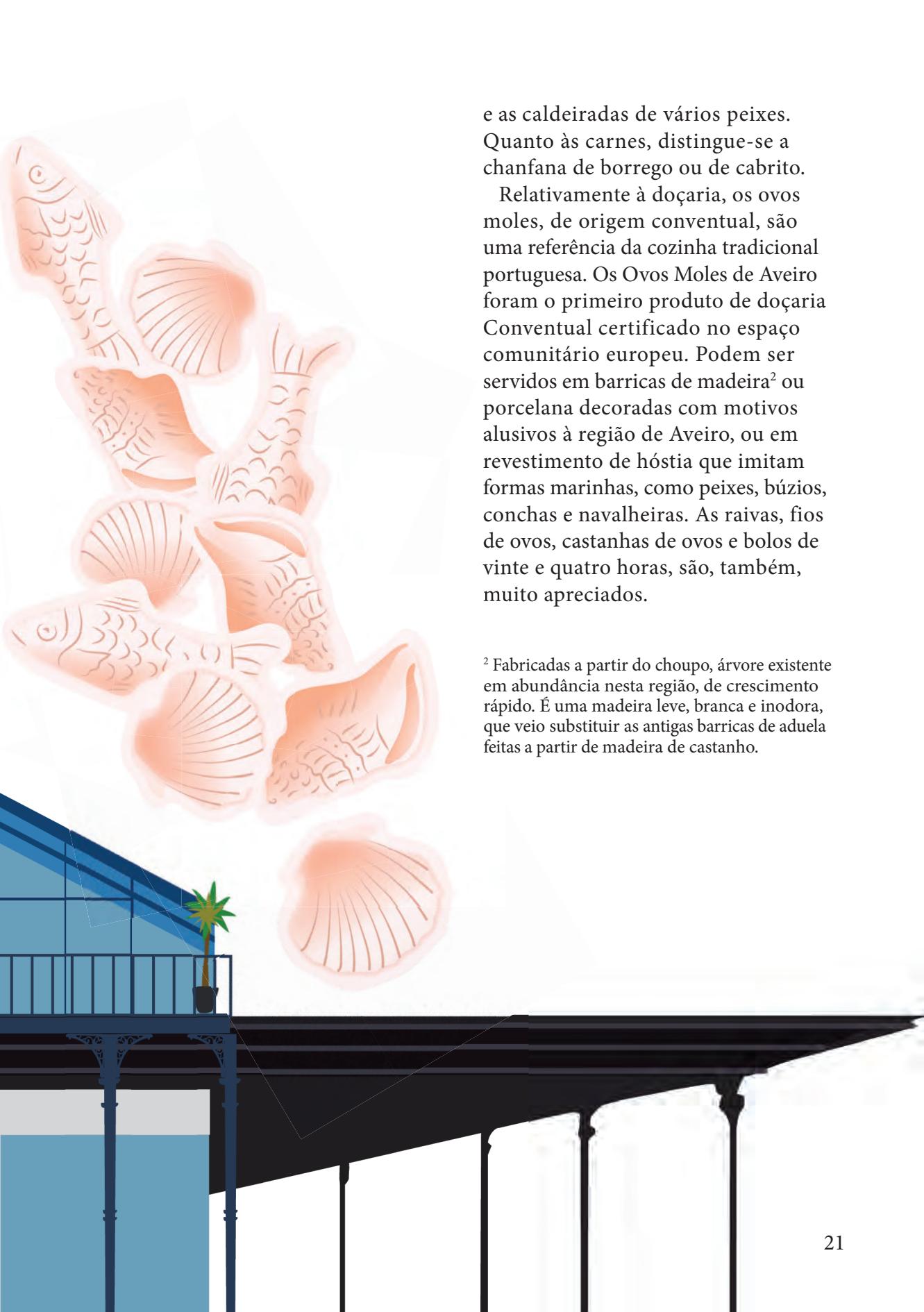
Mercado do Peixe

O mercado do peixe, localizado na conhecida Praça do Peixe, é um edifício com uma arquitetura em ferro, que no século passado foi designado Mercado José Estevão. Este edifício foi alvo de recuperação em 2004, ao abrigo do Programa Polis, que permitiu a sua adaptação para um espaço polivalente, conciliando a sua atividade tradicional de venda de peixe com novas atividades, nomeadamente o desenvolvimento de pequenos eventos culturais. É nesta zona do centro da cidade, envolvente ao mercado, que está situada grande parte da animação noturna e da oferta de restauração.

Gastronomia da Região

A região de Aveiro é também conhecida pela sua gastronomia, enriquecida pela vasta tradição associada à ria e ao mar, mas também pela sua envolvente rural. Quanto às receitas de peixe, a região é conhecida pela caldeirada de enguias, as enguias de escabeche, a raia em molho pitau, as espetadas de mexilhão, o bacalhau (“fiel amigo”)





e as caldeiradas de vários peixes. Quanto às carnes, distingue-se a chanfana de borrego ou de cabrito.

Relativamente à doçaria, os ovos moles, de origem conventual, são uma referência da cozinha tradicional portuguesa. Os Ovos Moles de Aveiro foram o primeiro produto de doçaria Conventual certificado no espaço comunitário europeu. Podem ser servidos em barricas de madeira² ou porcelana decoradas com motivos alusivos à região de Aveiro, ou em revestimento de hóstia que imitam formas marinhas, como peixes, búzios, conchas e navalheiras. As raivas, fios de ovos, castanhas de ovos e bolos de vinte e quatro horas, são, também, muito apreciados.

² Fabricadas a partir do choupo, árvore existente em abundância nesta região, de crescimento rápido. É uma madeira leve, branca e inodora, que veio substituir as antigas barricas de aduela feitas a partir de madeira de castanho.

Arte Nova

A Arte Nova em Portugal surgiu no início do século XX, tardivamente em relação à Europa. Em Aveiro, a Arte Nova surgiu pela mão dos arquitetos Ernesto Korrodi e Francisco Silva Rocha, com trabalhos um pouco por todo o país, mas sobretudo na região de Aveiro. Distinguida como a cidade-museu da Arte Nova em Portugal, Aveiro é membro da “Réseau Art Nouveau Network”³, a par de cerca de duas dezenas de cidades dispersas por toda a Europa e Cuba.

Em Portugal, este movimento artístico assumiu um caráter maioritariamente decorativo, principalmente nos elementos das fachadas. O aspetto mais emblemático da Arte Nova portuguesa, e particularmente em Aveiro, reside na introdução dos motivos característicos daquele movimento artístico, que se inspira na natureza, num suporte tão tradicionalmente português como o azulejo, tirando partido da produção artística de azulejo na Fábrica da Fonte Nova e na Fábrica dos Santos Mártires.

Para além de Francisco Silva Rocha, tiveram relevância neste movimento local os arquitetos Jayme Inácio dos Santos, José de Pinho, Carlos Mendes.

Junto ao Canal Central pode apreciar-se alguns dos mais belos exemplares de Arte Nova de Aveiro, como é o caso do Museu Arte Nova, antiga Casa Major Pessoa, a Casa dos Ovos Moles, o Museu da Cidade, a Antiga Cooperativa Agrícola e a Antiga Capitania do Porto de Aveiro, atual Assembleia Municipal.

Museu Arte Nova, antiga Casa Major Pessoa

A Casa do Major Mário Belmonte Pessoa, situada na Rua Barbosa de Magalhães, constitui um dos exemplos mais significativos da expressão que o movimento Arte Nova alcançou em Aveiro, estando classificado como Imóvel de Interesse Público desde 1997. Construída entre os anos de 1907 e 1909⁴, a Casa Major Pessoa destaca-se pela fachada profusamente decorada, onde foram empregues diferentes materiais, que convergem numa composição geral marcada pela procura da linha curva e pela ornamentação de inspiração floral. Nesta casa localiza-se o Museu Arte Nova de Aveiro, sendo o centro interpretativo da extensa rede de motivos Arte Nova disseminados por toda a cidade de Aveiro, um roteiro com cerca de 28 edifícios classificados e devidamente identificados.

³ Rede de Arte Nova.

⁴ Apesar de o projeto não se encontrar assinado, o jornal “Campeão das Províncias”, da época, bem como a sua bisneta Maria João Fernandes atribuíram a construção a Francisco Silva Rocha. Não existe certezas quanto a uma eventual parceria com o arquiteto Ernesto Korrodi, contudo existe um estudo para a fachada posterior da autoria de Korrodi.

Casa da Cooperativa Agrícola

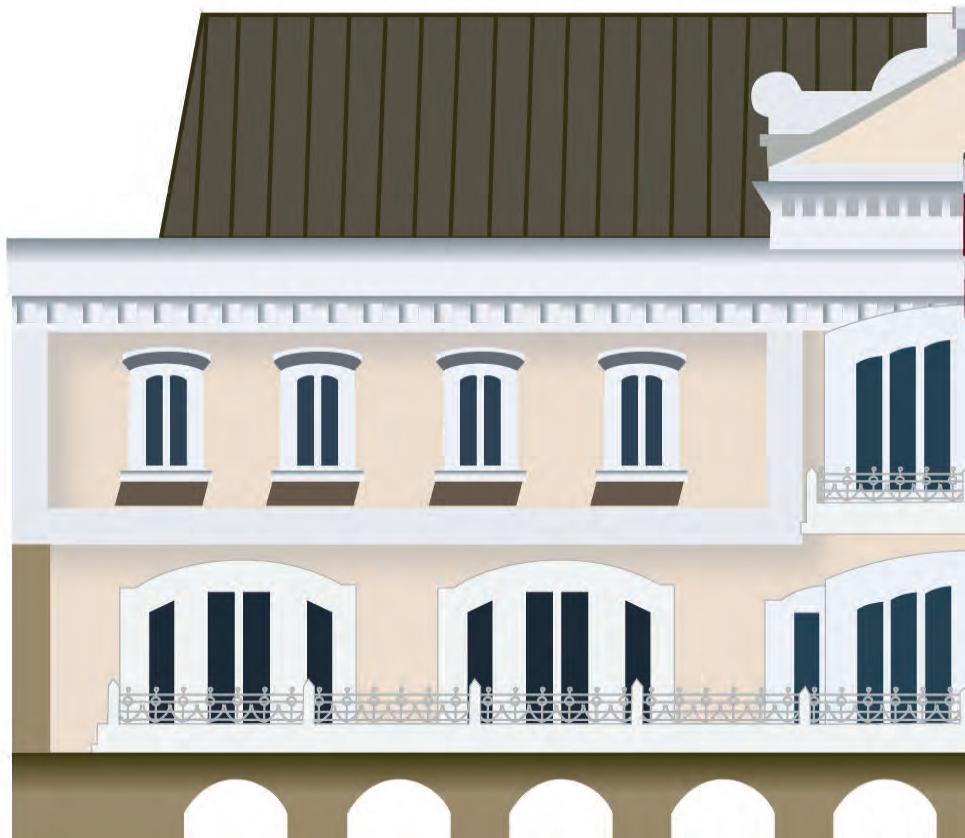
A Casa da Cooperativa Agrícola tem um lugar de distinção entre as casas Arte Nova pelos efeitos conjugados da policromia azulejar com a arquitetura em que esta se enquadra. Classificada como Imóvel de Interesse Público desde 1996, a sua fachada é abundantemente decorada, repleta de linhas curvas e revestida a azulejo com lírios, pintado à mão, um notável trabalho da Fábrica Fonte Nova, datado de 1913.



Antiga Capitania do Porto de Aveiro

A origem do edifício está ligada a um moinho de marés para fazer moagem, cuja construção foi autorizada em 1406. O edifício, de um só piso, assentava sobre os arcos por onde corria a água que fazia andar as mós, no fluxo e refluxo das marés. Estava localizado entre dois esteiros/canais: a norte, o antigo Canal do Côjo – aterrado no século XX, nomeadamente para construção da atual Avenida Dr. Lourenço Peixinho – e, a sul, o atual Canal do Côjo, junto ao qual instalaram-se várias indústrias cerâmicas. Em 1830, Pinto Basto adapta o edifício para instalar uma fábrica de moagens, altura em que é instalada uma máquina a vapor. Mais tarde, serviu de depósito de produtos das minas do Braçal e Palhal (1856), armazém

de encaixotamento de laranjas para exportação para Inglaterra (1856), composição e impressão do jornal *Distrito de Aveiro* (1866) e Companhia Aveirense de Moagens (1880). Em 1893, um projeto de Francisco Silva Rocha adaptou o imóvel para a Escola de Desenho Industrial Fernando Caldeira, acrescentando-lhe algumas características Arte Nova. Atualmente, encontra-se aqui instalada a Assembleia Municipal de Aveiro. No rés-do-chão existe uma sala ampla que é utilizada para a instalação de exposições temporárias.



Rossio

O Rossio é hoje um espaço ajardinado, de lazer, com acesso ao Canal Central e com vista para o bairro histórico do Alboi, a ocidente. As suas palmeiras⁵ evocam o local portuário da navegação à vela e um ambiente tropical trazido da navegação longínqua. Este carismático terreiro conta com mais de 500 anos de história. Antes de ser terreiro, parte era uma marinha de sal, chamada Rossia, aterrada por volta de 1875. Foi morada da Capela de S. João, um pelourinho, dois velódromos, duas praças de touros, um cinema, um teatro, um salão de chá e um campo de futebol – muitas destas funções eram de carácter temporário. O Rossio foi um local de carga e descarga de mercadorias provenientes do mar e aqui realizou-se, durante anos,

a antiquíssima Feira Franca (hoje conhecida como Feira de Março). A primeira edição da Feira decorreu em 1434, ano seguinte ao começo do reinado de D. Duarte. Foi desde sempre um atrativo para a população da vila de Aveiro, das povoações vizinhas e até distantes. Começou por ter lugar junto ao Canal Central, depois passou para o Largo do Rossio, seguindo-se o Parque Municipal de Feiras e Exposições. É considerada uma das maiores montras económicas da região, com uma tradição de quase 600 anos.

⁵ Aqui já estiveram bem assentes 29 palmeiras mas, depois da epidemia do escaravelho-vermelho, a partir de 2016, esse número diminuiu drasticamente.



Arte Pública

Ao longo dos canais é possível observar várias obras de arte pública que mantêm viva a memória de tempos passados, fazendo referência a símbolos característicos da região, a figuras tradicionais da cidade e a atividades tradicionais associadas à ria de Aveiro. São exemplo disso:

- Os painéis de cerâmica em relevo junto ao Canal Central, a revestir a parede que suporta o terraço em que assenta a Praça da República, da autoria de Cândido Teles (1921-1999). Estes painéis evocam atividades tradicionais associadas à ria de Aveiro, como a apanha do moliço e a pesca na ria, bem como as figuras do marnoto e da salineira. A mistura de cores aqui utilizada representa bem a realidade da vida laboral das gentes da beira-mar, nomeadamente nas suas vestes e nos utensílios utilizados.



- As estátuas das pontes, um conjunto de quatro estátuas em bronze, da autoria de Afonso Henrique, colocadas nas quatro extremidades da ponte sobre o Canal Central, atual Praça Humberto Delgado, representando quatro figuras tradicionais da cidade: a Salineira e o Marnoto com os respetivos trajes tradicionais e instrumentos de trabalho (a canastra e o raspão do sal), o Fogueteiro e a Parceira do Ramo com os trajes característicos dos dias de festa.

- Os murais da Praça da República, um conjunto de painéis de azulejo figurativo da autoria de Vasco Branco, integrado no muro do desnível das ruas de Coimbra e Belém do Pará, no acesso à Praça. Destaca-se a representação de algumas atividades tradicionais e símbolos característicos da região, nomeadamente, a produção e transporte do sal em canastras, o barco moliceiro, a pesca, os ovos moles ou a figura típica da tricana.

- O painel azulejar na escadaria do Mercado Manuel Firmino (desenho de Jeremias Bandarra e cerâmica de Zé Augusto) representativo das várias atividades tradicionais da região, como a pesca, salicultura, apanha do moliço, venda de peixe e de amêijoas.

- O monumento aos ovos moles de Aveiro, da autoria do escultor Albano Martins, oferecido à cidade pela Confraria dos Ovos Moles, é composto por um conjunto escultórico representando as formas dos tradicionais doces de ovos de Aveiro – a barrica, o mexilhão e o búzio – e respetivos moldes.

Fábrica Jerónimo Pereira Campos

No final do Canal do Côjo, na área designada por Fonte Nova, encontra-se um imponente exemplar de arquitetura industrial em barro vermelho, considerado um projeto arrojado pela sua grandiosidade e monumentalidade. Situou-se numa área que fora objeto de regularização e beneficiação do esteiro da Fonte Nova. Em 1891, por ali circulavam embarcações que descarregavam e carregavam diferentes mercadorias nas linguetas do cais de pedra. Nesse mesmo ano, começaram os trabalhos para a abertura do esteiro que deveria estabelecer a ligação à estação do caminho-de-ferro, no aterro das Agras. A construção desse aterro foi decisiva para a escolha do local onde Jerónimo Pereira Campos decidiu estabelecer a sua fábrica de cerâmica de construção, em 1896. Este era o bloco central do complexo industrial da Fábrica de Cerâmica Jerónimo Pereira Campos & Filhos. Não produzia azulejos, mas era fornecedora de matéria-prima para as empresas que os fabricavam. A fábrica foi construída entre 1915 e 1917, consoante o desenho do arquiteto José Olímpio. A vasta dimensão das suas instalações permitia-lhe alargar a gama dos seus produtos e acompanhar o que de melhor se fazia na Europa. Nesta área da Fonte Nova

estiveram outrora instaladas várias fábricas de cerâmica do concelho de Aveiro, servindo-se do Canal do Côjo para fazer a ligação entre o mercado tradicional, acessível pela ria, e os mercados servidos pelo caminho de ferro.

Este edifício, juntamente com uma chaminé isolada que hoje se localiza dentro do lago da Fonte Nova, foram poupadados à demolição quase total do complexo industrial⁶ em meados da década de 80. A antiga fábrica alberga, desde 1995, o Centro de Congressos de Aveiro, bem como os serviços municipais e o Centro de Formação Profissional de Aveiro.

⁶ Devido à pressão urbana, a indústria cerâmica presente neste complexo foi deslocalizada, na sua maioria, para as zonas industriais criadas nas zonas limítrofes da cidade de Aveiro.



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Glossário

Alfaias - Utensílios de madeira utilizados na produção artesanal de sal.

Amura - Parte curva do costado, de um e de outro lado da roda da proa (também designada bochecha).

Bajunça (ou junça) - Planta herbácea que nasce e cresce no sapal, usada para cobrir montes de sal.

Biótopo - Meio físico onde vivem os seres vivos de um ecossistema (plantas, animais, micro-organismos); é, pois, o local ocupado por uma comunidade biológica e é definido por parâmetros tais como o clima e características do substrato.

Calado - Altura de água necessária para a embarcação navegar.

Costado - Parte lateral de um e outro lado da embarcação, do casco da embarcação.

Dóri - Pequena embarcação de fundo chato usada nos navios de pesca do bacalhau.

Eclusa - Sistema de comportas que permite aos navios vencer a diferença de nível existente num troço de rio ou canal, por exemplo.

Habitat - Ambiente ou conjunto de condições e circunstâncias físicas e geográficas onde vive e se desenvolve qualquer ser organizado.

Halófita - Plantas cujo habitat natural, possui grande concentração de sais (principalmente cloreto de sódio).

Hidrologia - É a ciência que estuda a ocorrência, distribuição e movimentação da água no planeta Terra.

Junco - Designação comum, extensiva às plantas herbáceas do género *Juncus*, da família das Juncáceas, encontradas

sobretudo em terrenos húmidos ou alagadiços, que se caracterizam por apresentarem hastes cilíndricas e flexíveis que se utilizam para fabricar esteiras e outros objetos.

Marnoto - Homem que trabalha nas marinhas de sal.

Moliço - Vegetação submersa da ria de Aveiro, nomeadamente algas e algumas plantas aquáticas superiores, utilizado no passado como fertilizante nos campos agrícolas arenosos.

Nassas - Camaroeiros na ponta de varas.

Pau de pontos - Vara quadrangular com 1,50 metros de comprimento que tem marcadas, por incisão, todas as medidas necessárias à construção das embarcações.

Plantas vasculares – plantas que possuem vasos condutores de seiva.

Sirga - Cabo que sai do xarolo, circunda o pau da toste, permitindo governar a embarcação de qualquer ponto desta.

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Para mais informações sobre o projeto PERICLES
consulte a página <https://www.pericles-heritage.eu/>



govcopp



CESAM



universidade
de aveiro



Projeto financiado pela Comissão Europeia no âmbito do Programa-Quadro
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O conteúdo desta publicação não reflete necessariamente a opinião da União Europeia.

**A.17. Capacity building course design on Aveiro natural and cultural heritage -
Ria de Aveiro**

O património natural e cultural a bordo do moliceiro

Curso de Formação

2020/2021



Cofinanciado pelo programa
«Horizonte 2020» da União Europeia

O património natural e cultural a bordo do moliceiro

Curso de Formação para Operadores Marítimo-turísticos

Apresentação

Os passeios em embarcações tradicionais – moliceiros e mercantéis – nos canais urbanos da Ria de Aveiro são uma das principais atrações turísticas da cidade de Aveiro, tendo o número de visitantes vindo a crescer significativamente nos últimos anos. Atualmente, existem 27 embarcações a operar nos canais urbanos e cerca de 10 empresas marítimo-turísticas.

Estes circuitos envolvem a transmissão de informação, aos turistas ou visitantes, relativa às embarcações tradicionais, e aos pontos de interesse histórico, natural, cultural, etnográfico e arquitetónico da cidade de Aveiro, com vista a defesa e valorização do património natural e cultural da Ria de Aveiro.

Durante as atividades participativas desenvolvidas no âmbito do projeto PERICLES, foi identificada a necessidade de se desenvolver uma formação dedicada ao património natural e cultural, por forma a garantir a qualidade da informação transmitida. Assim, este curso de formação destina-se aos operadores marítimo-turísticos dos canais urbanos da Ria de Aveiro, e tem como objetivo capacitá-los de competências na área do património natural e cultural da cidade e Ria de Aveiro.

O curso tem uma duração de três horas e compreende três blocos, lecionados por especialistas:

Bloco 1. A história da cidade de Aveiro e o papel das atividades tradicionais no seu desenvolvimento socioeconómico e cultural | Inês Amorim

- Evolução da cidade de Aveiro
- Comércio e trocas comerciais
- Produção artesanal de sal, pesca da ria e do mar, pesca além-mar (bacalhau)

Bloco 2. O património cultural, material e imaterial, da cidade de Aveiro | Gabriela Mota Marques*

- Património material e ocupação do espaço urbano
- Património imaterial: das festividades à gastronomia
- Novas manifestações culturais

Bloco 3. O património natural da Ria de Aveiro | Rosa Pinho

- Ria de Aveiro
- Fauna e flora da Ria de Aveiro
- As salinas enquanto habitat



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Formadores

Inês Amorim



Professora Associada com Agregação da Faculdade de Letras da Universidade do Porto. É investigadora do Centro de Estudos de História Religiosa da Universidade Católica (CEHR) e do Centro de Investigação Transdisciplinar «Cultura, Espaço e Memória» (CITCEM), responsável pela linha de investigação Culturas Marítimas e Ambiente. É especialista em história marítima (história dos recursos marítimos e evolução das paisagens: sal, pesca, portos), entre outros.

Rosa Pinho



Licenciada em Biologia e Mestre em Ciências do Mar e das Zonas Costeiras pela Universidade de Aveiro. Curadora do Herbário da Universidade de Aveiro e investigadora do Centro de Estudos do Ambiente e do Mar (CESAM). Tem trabalho na área da Taxonomia, Ecologia, Educação e Sensibilização Ambiental. É vice-presidente da Associação para o Estudo e Defesa do Património Natural e Cultural da Região de Aveiro (ADERAV).

Gabriela Mota Marques*



Técnica superior da Divisão de Cultura e Turismo da Câmara Municipal de Aveiro. Responsável pela Subunidade Museus e Património Cultural onde se inclui a gestão do Museu da Cidade, Museu Arte Nova, Ecomuseu Marinha da Troncalhada e Galeria da Antiga Capitania do Porto de Aveiro. Coordena a equipa de projeto da Carta do Património. É licenciada em História e em Arqueologia, pela Universidade de Coimbra. Possui o mestrado em História Económica e Social Contemporânea e o doutoramento em Letras, na área de História Contemporânea, pela mesma Universidade.

Modalidade e material

Com o objetivo de minimizar os riscos associados à pandemia de COVID-19 e proteger o bem-estar dos formadores e formandos, o curso será exclusivamente *online*. Cada edição está limitada a um máximo de 20 formandos, no sentido de incitar a participação e promover o diálogo.

Como material de suporte, será distribuído o guia “Passeio de moliceiro: Um guia sobre o património natural e cultural”, em papel e formato digital, e disponibilizadas as apresentações.

Inscrições

O curso é gratuito, mas necessita de inscrição prévia através do preenchimento do formulário disponível na página da UNAVE.



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Equipa de coordenação

Este curso de formação é desenvolvido no âmbito do projeto PERICLES ‘Preservar e governar de forma sustentável as paisagens e o património cultural nas regiões costeiras e marítimas da Europa’, financiado pela Comissão Europeia ao abrigo do Programa-Quadro Comunitário de Investigação & Inovação - Horizonte 2020 (contrato n.º 770504). Conta com a colaboração da UNAVE (Associação para a Formação Profissional e Investigação da Universidade de Aveiro), a unidade de interface da Universidade de Aveiro com a sociedade para a aprendizagem ao longo de vida. A sua coordenação e organização é da responsabilidade da equipa central do projeto PERICLES na Universidade de Aveiro e Centro de Estudos do Ambiente e do Mar (CESAM).



Cristina Pita
Coordenadora científico-pedagógica, especialista na pequena pesca



Lisa Sousa
Experiência em gestão integrada das zonas costeiras e marinhas



Ana Margarida Silva
Experiência em turismo e desenvolvimento

* sujeito a confirmação



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A.18. *Pericles Coastal Interpretation - Scotland/ Northern Ireland*

PERICLES

Coastal Interpretation Webinar



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 730544.

Myles Farnbank

Head of Guides & Training for Wilderness Scotland

Scotland Manager for Wilderness Foundation UK

Vice-chair Scottish Adventure Activities Forum (SAAF)

30 years experience as an international wilderness guide -
Mountain, sailing, sea kayaking, canoeing and wildlife guiding

Created UK's first Guide Training Programme in 2009

Active guide trainer throughout UK & internationally

Lecturer Adventure Tourism, Marine & Coastal Tourism &
Ecotourism

Sit on Cross-party Working Group Recreational Boating & Marine
Tourism - Scottish Parliament



Introductions

If everyone could introduce themselves
and give a brief reason for attending
todays webinar



What is Scottish Coastal Cultural History?

In break out groups - 15 minutes to note down anything that you feel is part of coastal Scotland's cultural history story.

You don't have to agree - go 'high low and wide'



Please agree someone in the group to scribe and feedback on the things you noted down

Overview - morning session

Context - Marine & Coastal Tourism

What is Interpretation?

Archaeology and brief history of the area

Boundary or Bridge - psycho-geography of the coast

Coastal Castles

Coastal food & Net Product

Whaling and seals

Commerce and Culture

Lost at Sea

Lighting the way



We are going to take a very wide view of coastal cultural history which will touch on most of the things you have shared.

Overview - afternoon session

Mystic Places - Folklore

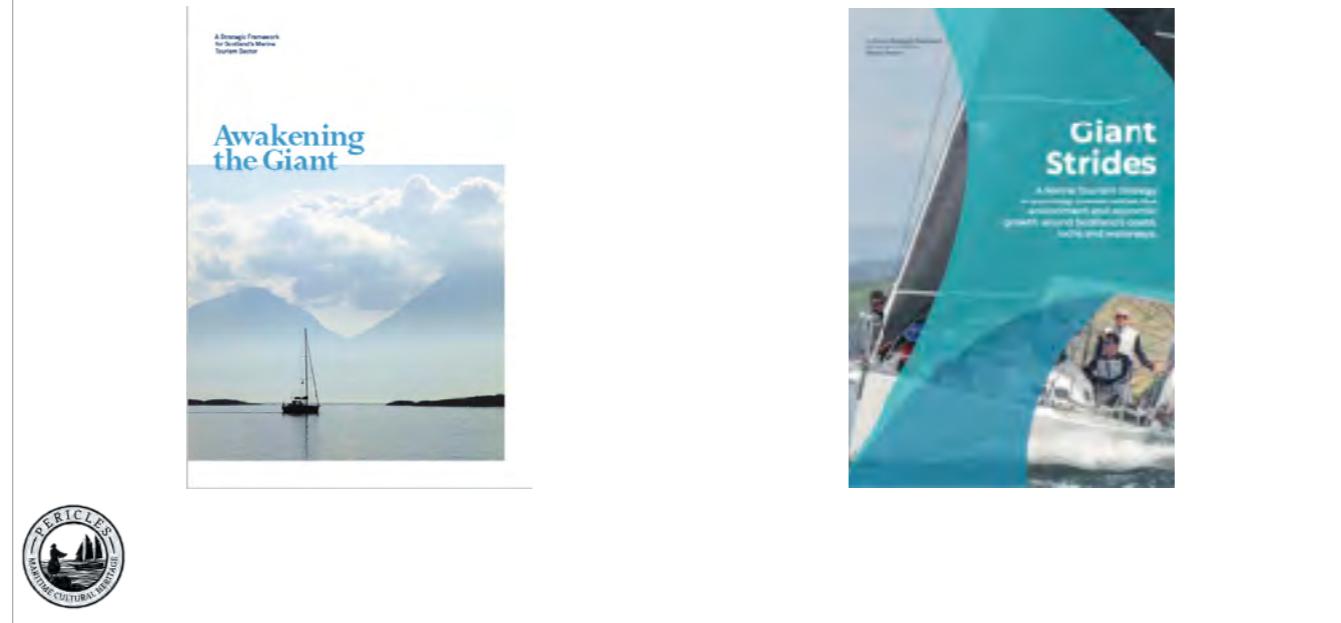
Coastal creations - art, music, poetry and prose

Crofters and Fisherfolk - Personal stories from Mallaig & Arisaig



We are going to take a very wide view of coastal cultural history which will touch on most of the things you have shared.

Scottish Marine Tourism Strategy



Scotland's Second Marine Tourism Strategy, 'Giant Strides 2020–2025' was officially launched in spring 2020. The new strategy represents the next evolution of the successful 'Awakening the Giant' strategy. However, Giant Strides takes a much broader view of marine tourism, its role within coastal and island communities and the significant benefits marine tourism can deliver for communities, the environment and the economy of Scotland. This is intended to be a strategy of influence and takes a partnership approach to strategic development.

The five-year plan aims to boost Scotland's reputation as a world-class sustainable marine tourism destination by meeting changing consumer, workforce, community and environmental needs and grow the industry's economic contribution to over £500 million by 2025.

Year of Coasts & Waters - 2020



As you watch this video please note any historical and cultural elements in the video.

What Is Interpretation?

“Interpretation is a mission-based approach to communication aimed at provoking in audiences the discovery of personal meaning and the forging of personal connections with things, places, people and concepts”

Sam Ham (2013) *Interpretation: Making a Difference on Purpose*





Whilst we will explore many parts of Scotlands coast we will share a range of aspects of this area between Ardnamurachan and Skye

Coastal Archeology

Paleolithic (pre-agrarian Old Stone Age)

Mesolithic - shell middens and worked flint

Bronze Age - burial cairns, Crannogs

Iron Age - vitrified forts



The earliest finds in Scotland have predominately been found close to coasts. In Ulva Cave in Mull a shell midden has been found dated to as early as 7650 BC.

In the area to the west of Fort William and including the small Isles Mesolithic hunter gatherers & Neolithic farmer/hunter gatherers – shell middens and worked flint.

Bronze Age – burial cairns Loch Shiel, Crannog on Loch na Eala

Iron Age – various forts eg An Dun, Loch Moidart and vitrified forts on Eilean nan Gobhar

Brief History of the area

Limited early Christian influence from monastic tradition coming from Ireland with St.Columba

Viking raids lead to area becoming part of the Kingdom of the Isles

C11th mainland becomes part of Scotland

C12th century Somerled Lord of the Isles possesses the area

1266 Treaty of Perth area becomes Scottish Crown dependency - Castle Tioram built

Clan Ranald formed and area given Ranald by John Lord of the Isles



Following raids by Vikings, Moidart became part of the Kingdom of the Isles, a Norwegian dependency. It was in this period that Moidart acquired its name, from the Old Norse mod, meaning mud, and the Norse suffix -art, derived from fjord; the whole name thus means muddy loch, and refers to Loch Moidart in particular. In the late 11th century, Malcolm III of Scotland made a written agreement with Magnus Barelegs, the Norwegian king, which moved the border to the coast; Moidart thus became Scottish.

In the early 12th century, Somerled, a Norse-Gael of uncertain origin, came into possession of Moidart and the surrounding region; no reliable record explains how this happened, but at some point in the 1140s, David I of Scotland's control of the region had been eroded. In the middle of the century, Somerled launched a coup in the Kingdom of the Isles, which resulted in that kingdom joining his other possessions, as a single independent state. Upon Somerled's death, Norwegian authority was restored, but in practice, the kingdom was divided; the portion containing Moidart was known as Garmoran, and ruled by the MacRory, a faction among Somerled's heirs.

Following the 1266 Treaty of Perth, Garmoran became a Scottish crown dependency – the Lordship of Garmoran – still ruled by the MacRory, until the sole MacRory heir was Amy of Garmoran. At around this time, Castle Tioram was built, in Loch Moidart, as the principal seat of the Lordship of Garmoran. Most of the remainder of the Kingdom of the Isles had become the Lordship of the Isles, ruled by the MacDonalds, whose leader, John of Islay, married Amy. After the birth of three sons, he divorced Amy and married the king's niece, in return for a substantial dowry.

As part of the arrangement, John deprived his eldest son, Ranald, of the ability to inherit the Lordship of the Isles, in favour of a son by his new wife; as compensation, he made Ranald the Lord of Garmoran.

However, at the end of the 14th century, on Ranald's death, his sons were still children, and Ranald's younger brother Godfrey took the opportunity to seize the Lordship of Garmoran. Furthermore, the heirs of Ranald's other brother Murdoch now made their own claim. This involved Godfrey's family (the Siol Gorrie) and those of his brothers in a great deal of violent conflict which is not described in much detail in surviving records.

Brief History of the area

1427 James I takes the area due to lawlessness

1469 area granted by James III to Lord of the Isles John, passed to Hugh of Sleat.

Clanranald heirs dispute charter

James IV granted area to leader of Clanranald John

1609 more lawlessness led to area being taken back by the crown from Donald John's grandson

After some imprisonment and agreeing to follow the king's law Donald regains the charter



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In 1427, frustrated with the level of violence generally in the highlands, together with the insurrection caused by his own cousin, King James I demanded that highland magnates should attend a meeting at Inverness. On arrival, many of the leaders were seized and imprisoned. Alexander MacGorrie, son of Godfrey, was considered to be one of the two most reprehensible, and after a quick showtrial, was immediately executed. As Alexander had by now inherited Godfrey's de facto position as Lord of Garmoran, and in view of Ranald's heirs being no less responsible for the violence, King James declared the Lordship forfeit.

Brief History of the area

The Rough Bounds became a hotbed of Jacobite sympathy.

Finally leaving Scotland from Loch nan Uamh, he took seven prominent men with him, who became known as the *Seven Men of Moidart*

Moidart had no road access until the A861 was built, in 1966.

1988 before residents to have a connection to the mains electricity supply.

Strongly Gaelic-speaking area until the mid 20th century.

Training location for special operational units during World War II.



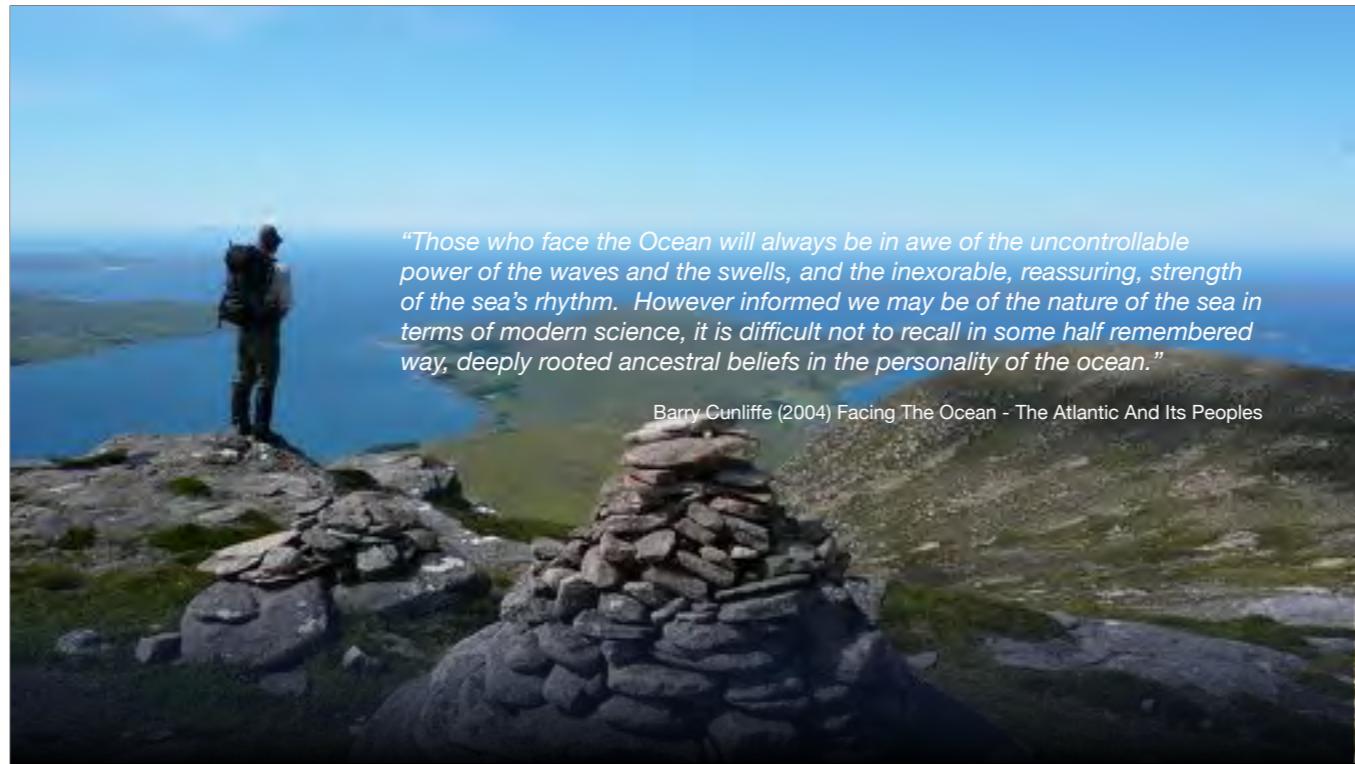
Failure of the Jacobite rising of 1745, the last part of Scotland where Bonnie Prince Charlie found sanctuary.

Seven Men of Moidart (the Second Duke of Atholl, Aeneas MacDonald – brother of the local Laird, Francis Strickland – an English squire, George Kelly – Irish Presbyterian minister, and three Irishmen serving as French soldiers); a commemorative row of beech trees was planted a century later.

Prior to 1966 accessed by a rough footpath or by a ferry running between Lochailort (at the north of Moidart) and Glenug (in the west).

– in the 1881 census, around 90% of the population were able to speak Gaelic and over a third unable to speak English, though by 2001 the share of Gaelic speakers had declined to under 15% of habitual residents.

Several SOE paramilitary training bases were sited in the area, and HMS Dorlin was established at Dorlin, and used for training of Royal Navy Beach Signals and Royal Signals sections.



"Those who face the Ocean will always be in awe of the uncontrollable power of the waves and the swells, and the inexorable, reassuring, strength of the sea's rhythm. However informed we may be of the nature of the sea in terms of modern science, it is difficult not to recall in some half remembered way, deeply rooted ancestral beliefs in the personality of the ocean."

Barry Cunliffe (2004) Facing The Ocean - The Atlantic And Its Peoples

Boundary or Bridge?

[Coasts as liminal boundaries](#)

[Ease of travel](#)

[Kingdom of Dàl Riata](#)

[Vikings & The Kingdom of The Isles](#)



For many a modern psychological sense of the coast is as a terminus or limit – a boundary.

Historically coastal zones were regarded as liminal environments in other words a threshold to cross in both directions. The sea was for many centuries as much a highway as a barrier.

Not so long ago land travel was slow and uncomfortable: as late as 1750 the coach from Edinburgh to London took 12 days. This sense of travel as hard work persisted well into the Industrial Age.

In the sixth century Dàl Riata took in the coast of western Scotland from Arran and Argyll to Lochaber and Skye as well as Antrim on the Ulster side. A kingdom made up of a scattering of islands, peninsulas and coastal glens makes no sense in modern terms, but the north channel back then was far less a challenge than the rugged interiors on either side.

So a psycho-geography determined by maritime links feels very different from our modern perspective.

Dal Riata was by no means the last of these sea spanning kingdoms with the marauding Vikings following on and their descendants establishing autonomous kingdoms in Orkney and Shetland.

The Kingdom of the Isles (9th to the 13th centuries) extended all the way from the Outer Hebrides to the Isle of man. However, not until the 15th Century was this separate state fully absorbed into Scotland when Lord John Macdonald II surrendered his sovereignty to James IV.

Coastal Castles

Fortress or aid to commerce?

Quintessentially Scottish

Castle Tioram



Where do we find coastal castles? Often guarding harbour approaches or inshore sea lanes, yes as defence but also aiding commerce.

Castles go right the way back to the iron age vitrified forts (eg vitrified forts on Eilean nan Gobhar in the sound of Arisaig or brochs in the highlands and islands up and down the north and west coasts.

In modern times they are monuments and are quintessential aspects of the Scottish landscape. Often for some more appealing if they are ruined. They have been an important subject for artists since the sense of the gothic and sublime developed in the 18th Century.

Castle Tioram was the fortress of the Macdonalds of Clanranald who held the lands of Moidart and the Isles of Rum, Canna and Eigg. A fascinating history legend says that the castle was built by the slighted wife of John seventh lord of the isles, however archeology suggest that there was a simple fortress there from the 1200s so after the heyday of the Kingdom of the Isles.

In the 1660's the twelfth clan chief, John was a sadistic man who enjoyed terrorising the local population. He used to sit in the highest turret of the castle and using his favourite gun (nicknamed the cuckoo) he used to shoot at anything within range. Including several unfortunate clansmen coming to pay the rent to their mad Laird. In John's time a strange ghost of a large black frog was said to follow the chief everywhere until the day of his death.

Tioram was destroyed in 1715 on the orders of its last occupant. The chief Allan Mor of Clanranald was setting out to support the 1715 Jacobite rising but a seer had foretold his death at the imminent battle of Sheriffmuir. So he declared, "I shall never come back. It is better that our old family house be given to the flames than forced to give shelter to those who are about to triumph over our ruin"

He watched that castle burn before heading to sheriffmuir where he fell as prophesied.

In 1745 as a ruin the French allies hid artillery there, but they were unable to transport them on the invasion southward and 12 of these vital cannons were abandoned there.

Coastal food as necessity

Nomadic hunter gatherers

Seaweed and shellfish

Fowling

Crofting



This project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No 730584.

Necessity is the mother of invention as they say.

As already touched on nomadic hunter gatherers valued the food resources of the coast, as evidenced by the shell middens left behind.

Seaweed was gathered and eaten very widely and is making a renaissance in recent times.

Lazy beds often fertilised by using seaweed.

Fowling young men abseiling 100's of feet down sheer cliffs to take eggs and birds themselves from Puffin, guillemots, Razorbills, Kittiwakes, Fulmars and gannets among others. Guga (young gannets) have and still are traditionally taken from Sula Sgeir (Gannet Rock) 40 miles north of the butt of Lewis.

In earlier times seabirds were boiled down for their oil and used for lighting. Or a string might be passed through the body of a storm petrel where it could be lit to make a sort of lamp.

Land and sea were brought together through crofting following on from the clearances in 18th and 19th centuries. People dislodged from richer lands in the interior, settled along the coasts where they were more or less forced to supplement their agricultural efforts with fishing.

Net Product

Herring

Fishing ports created

Huge export industry

1880's over 7000 ships involved

Steam drifters arrived in 1900

Scottish Fisheries Museum - Anstruther



Over the centuries Scottish economic life moved from subsistence to a much more complex and specialised system. By the late medieval period a significant herring industry had emerged in the forth and Clyde. Boats and drift nets became an industry in their own right.

Peterhead was probably the first important centre for fishing on the east coast. It began expanding in the 16th century and by the end of the 18th was receiving government support as it produced turned out skilled and experienced recruits for the royal navy.

The early 19th saw Wick emerge as a major fishing port followed by Fraserburgh and Fife's East Neuk. By the 1850's the drifters were fast boats – good for getting the fish back to port where they would be processed by the so called fishwives, working in teams of three – two to cut and gut and one to pack the prepared fish into an ice barrel.

On the west coast Tobermory and Ullapool had been founded in 1788 specifically as fishing ports. Fish was cured in salt and exported on a massive scale to the west indies, Russia and the Baltic countries.

The fishing kept expanding by the 1880's over 7000 ships were involved. Steam drifters involved in 1900 with steam powered winches. However by the Second half of the 20th century the industry imploded due to over fishing. Now there are quotas protecting fish stocks. The whole story is told in the Scottish Fisheries Museum in Anstruther.

Whaling

'Fish' Oil

Whalebone Corsets

Jute manufacture

Scrimshaw



Cetaceans have been hunted since earliest times. Traditional method was to harpoon them or with big whales corral them and drive them into the shallows until they beached and where they were attacked by men with lances. The picture from 1891 shows a traditional caa or whalgrind.

Fish oil has been documented as in the 17th and 18th centuries but its reasonable to assume the practice was part of the economy of northern and western coasts for centuries before that. The oil from whole fish and livers was supplemented by oil from the blubber of cetaceans and apparently one source describes oil being obtained from otter fat!

As an industry whaling took off in earnest in the middle of the 18th century. The main centre was Dundee, with a number of other coastal ports playing their part. Whalebone was the mainstay of the corset trade with the whale oil used for lighting and in jute manufacture, one of the other chief industries of Dundee.

With long hours at sea hunting whales many whalers passed the time by carving often elaborate scrimshaw from whalebone.

Basking Shark

Hunted for oil but also the skin used.

Hunting peaked in 1947 with 250 sharks landed in Scotland.

Hunted until 1994



According to a 1917 volume of *The Journal of Industrial and Engineering Chemistry*, a basking shark liver is "very heavy, often weighing as much as one tonne" and yields a "pale yellow to orange yellow" oil.

In the 18th and 19th centuries the oil was used to fuel lamps before it was replaced by petroleum. Other uses, however, were found for the shark liver oil.

The oil contains squalene, a property that helped in the manufacture of industrial lubricants and, at the other end of the scale, cosmetics, perfume and artificial silk.

As well as the liver oil, the sharks were caught for their skin for leather and for making fishmeal to feed to livestock.

Most of the oil landed in the UK in the 1980s and 1990s was exported to Norway.

However, the rise of synthetic materials in the 20th Century made UK fisheries less profitable. The value of the livers fell from £550 per tonne in the 1970s to about £250 by the early 1990s.

Hunting reached a peak in 1947 when 250 sharks were landed. More than 100 were landed in the 1980s.

Seals

Hunted for meat

Traditionally used to make sporrans



The seal has long been hunted for its meat. Now both species are protected.

It was traditionally used for making sporrans giving the animal a special place in Scottish culture.

The Selkie we'll come to later.

Commerce & Culture

Ports for trade as well as fishing

Coal, salt & raw wool exports

Local trade - Puffers



Many of the east coast fishing ports doubled as ports for trade. Pittenweem exported produce from Sir John Anstruthers coal mines and salt pans.

Raw wool was exchanged for finished textiles.

The maritime trade to begin with was extremely local in character. The nature of the trade changed over time and from the 15th century larger ports like Leith were growing in importance. Timber, iron and luxuries from oranges to wine were all brought in through Scottish ports.

Much internal commerce also took place by sea and still does today. Given the nature of island communities and the inaccessibility of some mainland villages. The flat bottomed puffers which could be beached between the tides to unload their cargo were crucial in supplying communities with everything from coal to candles.

Lost at Sea

7500 shipwrecks of Scotlands coast

1588 Spanish Armada

Scarpa Flow



Many were working vessels in the wrong place at the wrong time.

After the Spanish Armada in 1588 several were wrecked off the Scottish coast, one found in Kinlochbervie in 2002 and the San Juan de Silencia is said to lie at the bottom of Tobermory harbour.

A dutch vessel was lost off mingary castle during the covenanter war in the 1640's and one of Cromwells warships was wrecked off Duart point, Mull in 1653. In 1690 HMS Dartmouth sank in the sound of Mull in the course of a mission to recruit the Clan Maclean to the Williamite cause.

Off Marwick Head on the northwetsren side of Orkney mainland Lord 'Your Country Needs You' Kitchener was lost when HMS Hampshire sank in 1916.

Just three years later the germans scuttled their fleet of 52 vessels in Scapa Flow in Orkney. Most have been salvaged and scrapped but seven remain and are preserved as monuments.

Lighting the Way

Kinnaird Head, Fraserburgh built in 1787

Bell Rock, Angus 1807-10

Skerryvore, Tiree tallest at 48m 1838-44



Wilderness Scotland



206 lighthouses in Scotland, Kinnaird Head Fraserburgh built in 1787 first to be built on Scottish mainland and now houses the Museum of Scottish Lighthouses.

Bell Rock was a feat of engineering being built on a partially submerged rock platform.

Many built by the Stevenson family

In 1900 all three lighthouse keepers disappeared from the Flannan Isles perhaps swept away by a wave – still an unsolved mystery.

Lunch



Lochaber No More

Farewell to Lochaber, and farewell my Jean,
Where heartsore wither I ha'e many a day been;
For Lochaber no more, Lochaber no more.
These tears that I shed they are a' for my dear,
And no for the dangers attending on wier;
Though borne on rough seas to a far distant shore,
Maybe to return to Lochaber no More.



'Lochaber No More' depicts a scene from the time of the Highland Clearances. Nicol treats the subject with a high level of emotional intensity. A man and a woman are aboard ship, bound for a new life in North America, Australia or New Zealand. She weeps inconsolably, while he gazes back wistfully at their homeland. The meagre belongings at their feet, notably their frail dog, poignantly evoke their desperate position. The title stems from both a traditional lament favoured by departing emigrants and a song by Scottish poet Allan Ramsay (1720) – father of the famous portrait painter of the same name – which tells of an enlisted Highlander's nostalgia for his home country.

Fast Castle from below - Rev. John Thomson of Duddingston



Fast Castle, which stands on a rocky cliff on the Berwickshire coast, was generally taken to be the inspiration for Sir Walter Scott's imaginary castle, Wolf's Crag in the novel *The Bride of Lammermoor*. Thomson and Scott were good friends, and in 1823 Thomson presented the writer with one of his paintings of Fast Castle. He made at least eleven pictures of the castle from diverse vantage points and in different weather conditions. Here, the old castle ruin can be made out at the top of the cliff, tiny compared to the rugged rocks, menacing sky and rough sea. A few small boats seem vulnerable in the swell of sea, adding an underlying sentiment of uneasiness, mystery and danger.

The Storm - William McTaggart



McTaggart's energetic brush work and bold colour convey the power of the thunderous sky, lashing wind and turbulent sea. Man's vulnerability and courageous struggle in relation to natural forces are suggested through the tiny fishing vessel at sea and the launching of a rescue boat from the shore. Anxious families wait in the foreground. The figures are fully integrated into the landscape which was worked up in McTaggart's studio, but based on a smaller version painted out of doors at Carradale in Kintyre in 1883.

Jolomo



John Lowrie Morrison a contemporary landscape artist based in Tayvallich

John Cunningham - Sana Bay



John Cunningham was my partner Lorna's uncle and he is a well known and sought after Scottish landscape artist. This is Sana Bay, Ardnamurachan looking North towards Skye

Scottish Music with a Coastal Theme

In break out groups - 10 minutes to note down as much music 'born' or inspired by the Scottish Coast as you can. If its based around a specific place - bonus points!

Hopefully we will all have a playlist to take away at the end of this.



Please agree someone in the group to scribe and feedback on the things you noted down

Famous Locals

Fergie MacDonald
- Accordionist



Fergie Macdonald –Scottish accordionist who specializes in ceilidh music and plays the button key accordion. A trained physiotherapist and an international clay pigeon shooter, MacDonald is considered to be the man who popularised the West Highland style of traditional Scottish dance music. He was brought up in Moidart.

Mendelssohn: Hebrides Overture



It was inspired by one of Felix Mendelssohn's trips to the British Isles, specifically an 1829 excursion to the Scottish island of Staffa, with its basalt sea cave known as Fingal's Cave. It was reported that the composer immediately jotted down the opening theme for his composition after seeing the island. He at first called the work *To the Lonely Island* or *Zur einsamen Insel*, but then settled on the present title. However, in 1834, the year after the first publication, Breitkopf & Härtel issued an edition with the name *Fingalshöhle* (Fingal's Cave) and this title stuck, causing some confusion.

(More) Lochaber No More



A modern version using the lyrics from Allan Ramsay's words from 1720.

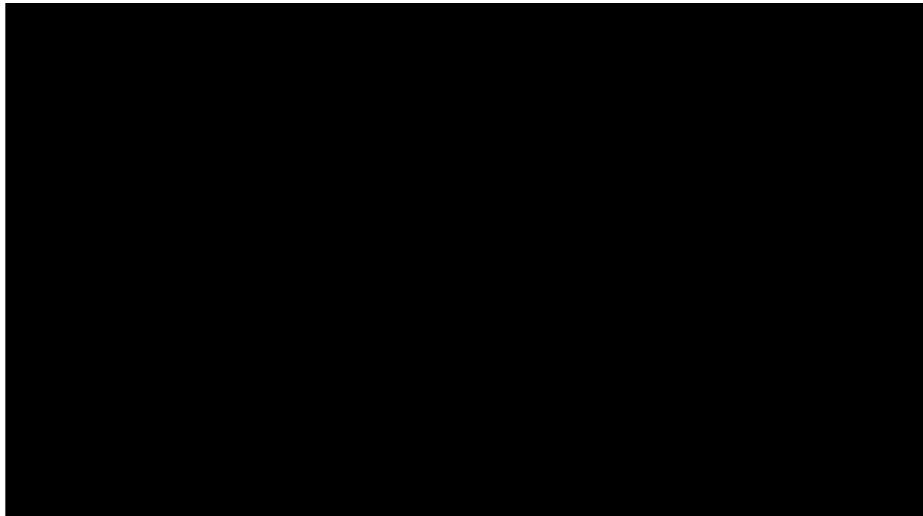
Gairm a'chuain (Call of the Sea)



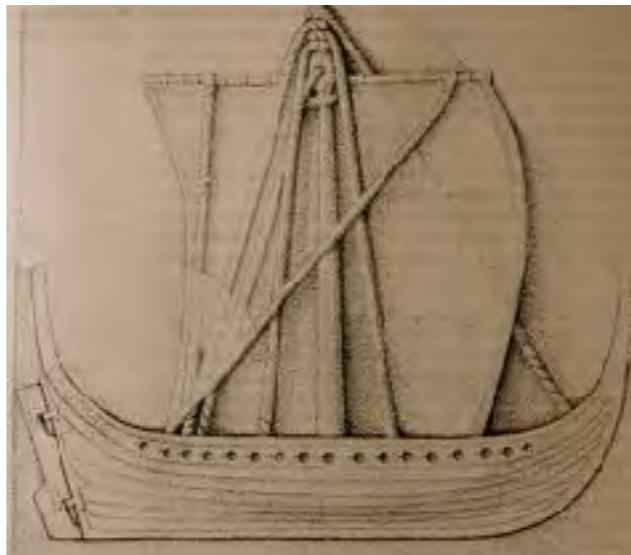
Skipinnish - Walking on the waves



Tidelines - Far Side of the World



Birlinn of Clanranald - Alasdair Mac Mhaighstir Alasdair



Scotlands
Maritime
Cultural
Heritage

Alasdair mac Mhaighstir Alasdair (lit. Alexander, son of the Reverend Alexander) (c. 1698–1770), legal name Alexander MacDonald, was a Scottish poet, lexicographer, political writer and memoirist. He was one of the most famous Scottish Gaelic poets of the 18th century. He served as a Jacobite military officer and Gaelic tutor to Prince Charles Edward Stuart.

Birlinn of Clanranald was published in Gaelic in 1776 and translated by Hugh MacDiarmid helped by Sorley MacLean in 1935. Extending to over 600 lines and divided into 16 parts its an eighteenth century version of the great voyage poetry of the Gaelic bards a sea odyssey described words of awesome power.

Staffa - John Keats



This little known and unfinished poems written a few days after Keats visited Fingal's cave on Staffa in 1818

Sea Changes - David Daiches



David Daiches CBE (2 September 1912 – 15 July 2005) was a Scottish literary historian and literary critic, scholar and writer. He wrote extensively on English literature, Scottish literature and Scottish culture.

“Nach urramach an cuan”

How worthy of honour is the sea



A.19. *Folklore of the Sea - Scotland/ Northern Ireland*

Mythical Creatures
of the sea
& other coastal folklore



Cailleach



Cailleach – old woman

Altough the Cailleach lives in various mountain homes every year she comes to the Coire Bhreacain (Cauldren of the Plaid) to wash her massive yellow plaid in the swirling waters in order to summon the cold winds as Scotia's Winter goddess.

During archeological excavations in 1880 a figure of an ancient goddess was discovered in the peat bogs of Scotland, a figure who 2,500 years ago stood near the shore of Loch Leven as a symbol of an ancient religion or deity that has now been lost to time. .

Today she is known as the Ballachulish Woman & is a figure who stands at almost five feet tall & carved from a single piece of alder wood, her eyes are two quartz pebbles which even today, have a remarkable ability to draw the attention to the face of this mysterious relic. .

Although the identity of the Ballachulish Woman still remains a mystery many have speculated as to who this figure represented, there are some who believe that she is a depiction of a deity known as the Cailleach Bheithir, an ancient goddess of winds &

storms, also known as the Winter Hag, who had associations with a nearby mountain called Beinn a'Bheithir. (Hill of the thunderbolt) Another theory is that she could represent a goddess of the straits, this is due to the figures location near the straits where Loch Levan meets the sea, & was a deity that prehistoric travellers would make offerings too in an attempt to secure their safety while travelling dangerous waters. .

Though the Ballachulish Woman is a figure unique to Scotland she is just one of many similar wooden figures found across Europe, many of which were found in special or sacred places associated with water, which we know were once seen as places that linked the Otherworlds with this one. She may also have been a central figure of an area of worship, the Roman poet Lucan, when writing of the religious practises of the ancient Gauls, made mention of wooden images of gods standing in sacred groves so it is possible that the figure of the Ballachulish Woman may have been the focus of worship in a sacred place.

Shellycoat



Shellycoats are considered to be relatively harmless; they may mislead wanderers, particularly those they think are trespassing upon the creature's territory, but without malice. A common tactic of a shellycoat would be to cry out as if drowning and then laugh at the distracted victim. There is a famous Shellycoat in the port of Leith.

Morag of Mordhobhar



In the depths of Loch Morar, the deepest loch in Scotland dwells a creature of considerable age. Morag of Mordhobhar. Morag a serpent like creature is said to move through the water as a ‘cnap dubh’ – a black heap. When the full moon hits the loch her streaming red eyes illuminate the waves and she often sleeps on one of the Loch’s islands Eilean nam Bhreac.(speckled island) Sightings date back to 1500. Legend has it that Morag can also take the form of a ‘lady of the loch’. An omen of death for the old macdonalds of Morar, when she can be heard wailing. Dugall MacDonald of Clanranald spotted the monster in 1510 and vowed to rid the land of the terrible beast.

Lady of Sandwood Bay



Unlike most mermaids which draw sailors to their fate on the rocks. Isabella of Sandwood is a shy and gentle creature but she will raise the seas if you disturb the peace of her bay. It is believed that if a maid of the waves is ever caught she will grant three wishes. Isabella is most often seen singing ancient melodies at the foot of the bays large sea stack Am Buachaille

Selkie



Many of the folk-tales on selkie folk have been collected from the Orkney and Shetland.

In Orkney lore, *selkie* is said to denote various seals of greater size than the grey seal; only these large seals are credited with the ability to shapeshift into humans, and are called "selkie folk". The type of large seals that might have been seen on the islands include the Greenland seal (aka Harp seal) and the Crested Seal (aka Hooded Seal)

A typical folk-tale is that of a man who steals a female selkie's skin, finds her naked on the sea shore, and compels her to become his wife. But the wife will spend her time in captivity longing for the sea, her true home, and will often be seen gazing longingly at the ocean. She may bear several children by her human husband, but once she discovers her skin, she will immediately return to the sea and abandon the children she loved. Sometimes, one of her children discovers or knows the whereabouts of the skin. Sometimes it is revealed she already had a first husband of her own kind. Although in some children's story versions, the selkie revisits her family on land once a year, in the typical folktale she is never seen again by them. In one version, the selkie wife was never seen again (at least in human form) by the family, but the children would witness a large seal approach them and "greet" them plaintively. Male selkies are described as being very handsome in their human form, and having

great seductive powers over human women. They typically seek those who are dissatisfied with their lives, such as married women waiting for their fisherman husbands. In one popular version about a certain "Ursilla" of Orkney (a pseudonym), it was rumoured that when she wished to make contact with her male selkie she would shed seven tears into the sea.

Finfolk



In Orkney Foklore, **Finfolk** (sometimes Finnfolk) are sorcerers shapeshifters of the sea, the dark mysterious race from Finfolkaheim who regularly make an amphibious journey from the depths of the Finfolk ocean home to the Orkney Islands. They wade, swim or sometimes row in the spring and summer months, searching for human captives. The Finfolk (both Finman and Finwife) kidnap unsuspecting fishermen, or children, near the shore and force them into lifelong servitude as a spouse.

Finfolk are neither romantic nor friendly. Instead of courting the prospective spouse, Finfolk simply abduct them. Regarded as territorial and greedy, the Finfolk, in addition to their lust for humans, have a weakness for silver, including silver coins and jewelry. According to legend, a possible way to escape abduction is to exploit this Finfolk weakness by tossing silver coins away from oneself. The motivation for the amphibious abductions are inspired, in part, because marriage to a human is preferred over other Finfolk.

To capture the unsuspecting human bride or groom, the Orkney Finfolk cunningly disguise themselves and their fins as other sea animals, plants or even as floating clothes. The Finfolk kidnapping attempt begins by approaching the prospective mate cautiously, floating ever closer, until it is possible to leap up and grab the victim.

The Finmen often use another tactic, appearing in human form disguised as fishermen in a row boat or a fishing boat propelled by oars.

The Finwife prefers a more natural form, and often appears as a mermaid with long, flowing golden hair, snow-white skin, incredible beauty, and, sometimes, a long fish tail. In some stories, she has a beautiful voice like that of the Greek Sirens.

Nukelavee



The nuckelavee is a mythical sea creature that appears as a horse-like demon when it ventures onto land. A unique and solitary creature possessing extensive evil powers, its malevolent behaviour can influence events throughout the islands. Islanders were terrified of the creature and would not speak its name without immediately saying a prayer. It was often found in the vicinity of a beach, but would never come ashore if it was raining.

In common with many other sea monsters it is unable to tolerate fresh water, therefore those it is pursuing have only to cross a river or stream to be rid of it. The nuckelavee is kept in confinement during the summer months by the Mither o' the Sea, an ancient Orcadian spirit, and the only one able to control it.

The nuckelavee's breath was thought to wilt crops and sicken livestock, and it was considered responsible for epidemics and drought. Seaweed burning to create soda ash began on Stronsay in 1722. The pungent smoke emitted during the process was believed to enrage the nuckelavee, resulting in a wild rampage of plague, the deaths of cattle and the destruction of crops.¹ The nuckelavee was said to have infected horses on Stronsay with the deadly disease known as mortasheen, to demonstrate its fury and exact its revenge against the islanders for burning seaweed; the infection

subsequently spread to all the other islands involved in the industry. The creature was also blamed for prolonged periods of abnormally low rainfall, leading to water shortages and poor harvests.

Other coastal folklore

[Coastal Witches](#)

[Blue men of the Minch](#)

[Hirta St Kilda](#)



Coastal witches in many accounts as described by Lizanne Henderson are much more destructive and malign than inland witches.

The blue men of the Minch, also known as storm kelpies (Scottish Gaelic: na fir ghorma), are mythological creatures inhabiting the stretch of water between the northern Outer Hebrides and mainland Scotland, looking for sailors to drown and stricken boats to sink. They are mostly found located in the Minch, and they do not seem to have counterparts in any other country of the world. The Minch has also been called *Sruth nam Fear Gorm*, "Stream of the Blue Men"

Apart from their blue colour, these creatures look a lot like normal humans, and are about the same size. Most of the time the Blue Men swim the seas, but sometimes sleep in underwater caves. While the Blue Men sleep the weather could be fine and the seas calm, but if they wake up...They can create storms whenever they want.

One possible origin of the blue men of the Minch may alternatively lie with the Picts, whose Latin name *picti* means "painted people". If they were seen crossing the water in boats resembling the kayaks of the Fin-men they may have given simple islanders and mariners the impression of the upper part of the body rising out of the water.

Another suggested origin of the Blue Men comes from John Gregorson Campbell's *Superstitions of the Highlands & Islands of Scotland* (1900).

"The fallen angels were driven out of Paradise in three divisions, one became the Faeries on the land, one the Blue Men in the sea and one...the Northern Streamers or Merry Dancers in the sky."

The 'Merry Dancers' is a name for the Northern Lights, imagined here as luminous air-dwellers.

Fishermen from St Kilda would never say the name Hirta while out fishing, for fear of misfortune.

Fishermen's folklore

8 seafaring myths in Scotland

Bloodstone

Hawthorn



SCOTTISH seafaring is steeped in myth and superstition with fishermen up and down the coast traditionally observing a potent mix of omens “ both good and bad ” as they set sail.

1. Don't mention a pig, a rabbit or a salmon

Mention a pig in a fisherman's pub and it may well fall painfully silent, with the animal often strictly referred to as a 'curly tail'.

A rabbit is similarly known as a bob tail, a fower fitter or a mappin.

Salmon too are equally feared as bringers of bad luck and are known as the 'reid fish'. Little is known as to the roots of these superstitions, but one possible explanation is that all these animals were powerful Celtic symbols of the old gods. Such as the wise old father Salmon

2. Go back home if you see a minister – or a woman – on the way to your boat

Ian Balgowan, 71, of Stonehaven, Aberdeenshire, a North Sea sailor for more than 50 years, said that seeing a minister on the walk down to your boat was considered

extremely bad luck. The same was true for a woman.

He said: "If you met a minister on the way to your boat, it was a case of about turn, go home, and start your journey again."

It has also been suggested that no mention of the church, a minister or a manse would be made on a fishing boat, particularly amongst men working the Moray Firth. In J.M McPherson's book Primitive Beliefs of the North East of Scotland, it said: "*Any utterance suggestive of the new faith would be displeasing to the ancient god of the ocean, and might bring disaster onto the boat.*"

3. Don't Save a Man at Sea

McPherson also claims that hundreds of years ago it was forbidden to save anyone from drowning, so firm was the belief that the spirit of the sea must have his sacrifice according to folklore in Shetland, Orkney and some parts of the North East.

According to an old saying from Peterhead, which dates to the 19th Century: "*The sea takes the saver of life instead of the saved. The sea maun hae it's nummer*".

It was also considered 'ill luckit' to touch the corpse of a dead fisherman as it was a gift to the sea god. Such superstitions still seemed to endure until the days of the whaling trade in the 1800s. However, it is impossible to imagine these beliefs would endure today.

4. Wear a single gold earring

Morag Skene, in her essay for the North East Folk Archive, suggests that while some fisherman saw the earring merely as a good luck charm, others believe it was a form of insurance policy to give enough silver to bury you, in case you died in a strange port.

5. A bit of metal will bring luck

Ms Skene, in her research, found evidence that fishermen's wives put a coin in their husband's socks before setting sail.

Iron was also thought to be lucky and horse-shoes nailed to the mast were a common protection from bad luck, bad spirits and even witches.

6. When you come out the harbour always turn right

Mr Balgowan said he had seen of relatively recent examples of fishermen doing a turn out at sea to correct a left-turn out a harbour.

"You always have to do a swing to the starboard if this happens," he said.

7. Don't whistle in the direction of the wind.

Thought to relate to sailing ships, it was claimed whistling in the wrong direction could stem the strength of the wind – or even bring about a storm.

8. A woman should not comb her hair at night I

If she had a father, brother or husband at sea, she would not comb her hair for fear that the hairs would find him in the dark and entangle their boat.

Fishermen would carry a piece of bloodstone as a charm to prevent drowning.

Another account described hawthorn in a similar vein. Fisherman carrying a bundle of hawthorn twigs to prevent drowning.

A.20. Coastal History Interpretation reading list - Scotland/ Northern Ireland

Books

Berresford Ellis P. (2003) *The Mammoth Book of Celtic Myths and Legends* Robinson

Calder J. (Ed) (1999) *Translated Kingdoms: Scottish Poems of the Sea* NMSE – Publishing Ltd

Dargie R (2009) *Scottish Castles & Fortifications* GW Publishing

Davidson J (2012) *Scots And The Sea: A Nation's Lifeblood* Mainstream Publishing

Devine T.M. (1994) *Clanship to Crofters War – The Social Transformation of the Scottish Highlands* Manchester University Press

Fairfax D. (1998) *The Basking Shark in Scotland – Natural History, Fishery and Conservation* Tuckwell Press

Gregorson Campbell J. & Black R. (2019) *The Gaelic Otherworld: John Gregorson Campbell's Superstitions of the Highlands and the Islands of Scotland and Witchcraft and Second Sight in the Highlands and Islands*

Henderson L. & Cowan E.J. (2007) *Scottish Fairy Belief* John Donald

Henderson L. (2009) *Fantastical Imaginations: The Supernatural in Scottish History and Culture* John Donald

Kingshill S. & Westwood J. (2012) *The Fabled Coast: Legends & traditions from around the shores of Britain & Ireland* Random House Books

Macpherson G.W. 2nd Ed. (2016) *Celtic Sea Stories* Luath Press Ltd

Marsden J. (1995) *Sea-Road of the Saints - Celtic Holy Men in the Hebrides* Floris Books

Miers M. (2010) Highland and Islands of Scotland (Poetry of Place)

Poole M (2010) *Built Upon Herring: A History of Mallaig and Its Fishing Industry* Mallaig Oral History Project

Riach A. (2015) *The Birlinn of Clanranald: The Original Gaelic Poem with a New English Version by Alan Riach* Kettillonia

Rixon D. (2011) *Arisaig & Morar – A History* Birlinn Ltd

Robertson B. (2018). *The Book of Beasties: A Scottish Bestiary of Old* - Pocket Edition Mirror and Comb Publishing

Strachan M. A. W. (2010) *Scottish Lighthouses: An Illustrated History* Amberley Publishing

Williamson D. (1992) *Tales of The Seal People: Scottish Folk Tales* Interlink Books

Websites

Am Baile – Highland History and Culture

<https://www.ambaile.org.uk/>

Archaeology Scotland <https://archaeologyscotland.org.uk/>

Historic Environment Scotland <https://www.historicenvironment.scot/>

History Scotland <https://www.historyscotland.com/>

Museum of Scottish Lighthouses <https://lighthousemuseum.org.uk/>

National Library of Scotland <https://www.nls.uk/>

Scottish Fisheries Museum <https://www.scotfishmuseum.org/>

Scottish Life Archive <https://www.nms.ac.uk/collections-research/research-facilities/scottish-life-archive/>

Scottish Local History Directory <https://www.slhf.org/scottish-local-history-directory>

Scottish Maritime Museum

<https://www.scottishmaritimemuseum.org/>

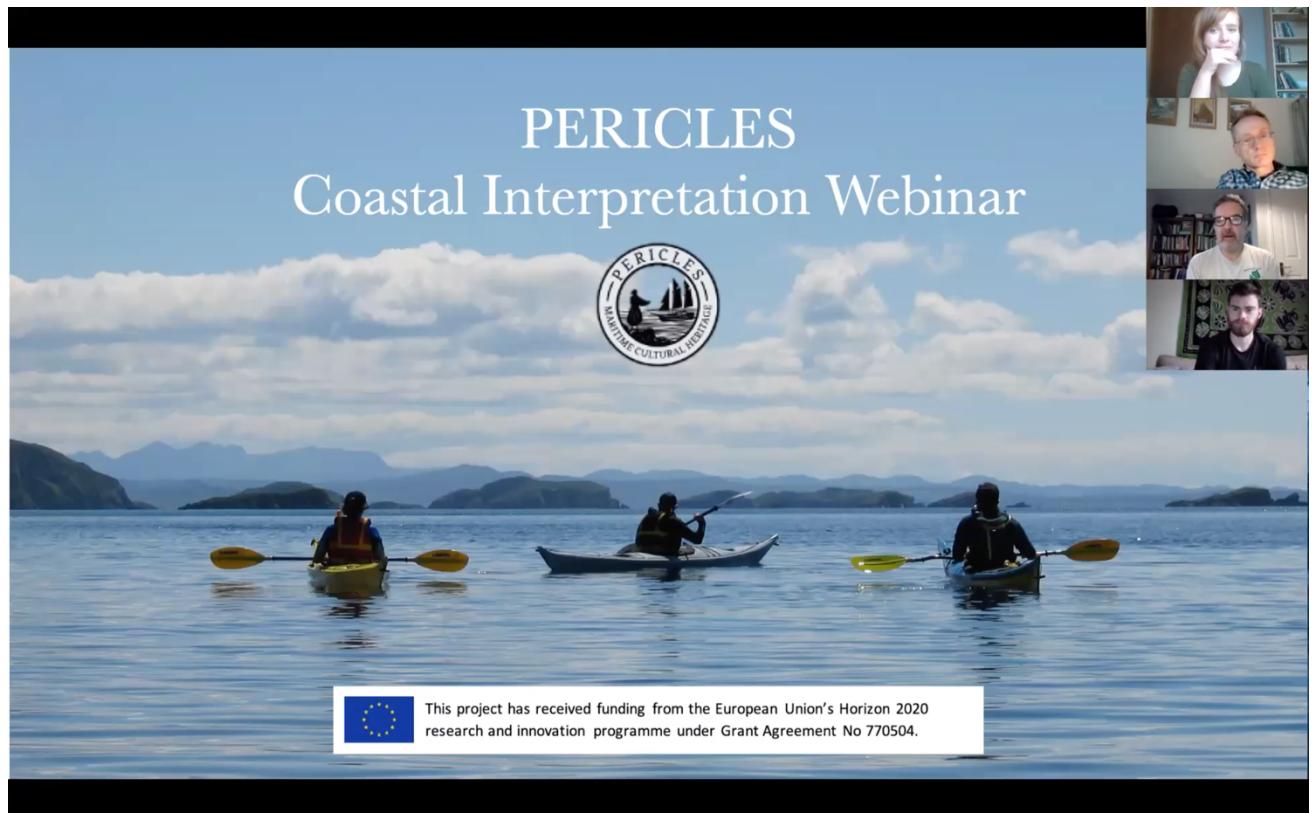
SCRAN <https://www.scran.ac.uk/>

Scottish Places <https://scotlandsplaces.gov.uk/>

The Coast that Shaped the World <https://www.whc.uhi.ac.uk/research/current-projects/coast/>

A.21. Recording of the webinar - Scotland/ Northern Ireland

Print screen of the Recording of the Coastal Interpretation Webinar, which can be visualized here:
https://youtu.be/qb_aeTVglgc



A.22. Recording of the Zoom chat with suggested resources - Scotland/ Northern Ireland

Suggested Resources

'Then v Now' Heritage Map: <https://maps.nls.uk/geo/explore/side-by-side/#zoom=13&lat=56.48560&lon=-6.20765&layers=168&right=BingHyb>

Zoom chat

- 10:01:40 From Eilid Ormiston : full screen
- 10:54:17 From kate connelly : apologies, my internet keeps dropping out, the joys of rural broadband....
- 10:54:42 From Myles Farnbank : Try turning off your video Kate to save bandwidth
- 10:55:03 From kate connelly : cheers, will do
- 11:09:46 From Angus Hulbert : So much stuff there from cuisine, castles, lighthouses, industrial revolution and engineering
- 11:12:31 From Marianne Bailey : personal connection to environment
- 11:13:36 From Susan Webster : Freeman Tilden - Interpreting our heritage best place to start, very readable. Coined the easy to use phrase provoke relate reveal
- 11:13:59 From Marianne Bailey : sense of taking away learning
- 11:20:19 From John Ormiston : bloodstone --Flint??
- 11:20:58 From Basking Shark : Similar to Jasper
- 11:21:24 From emily gal : they were also using a lot of quartz in flint-poor areas
- 11:26:35 From Susan Webster : As an interpreter you surely need to have good but not necessarily encyclopaedic knowledge? You are a facilitator. The expression Edutainment that John Veverka uses is a good one to acknowledge, unless you are communicating with a very specific audience e.g geologists people are searching for nuggets of knowledge they can retain, connect to and share so they feel they are getting more value out of the experience to take home!
- 11:29:39 From John Ormiston : as an interpreter it is very important not to mislead your guest with wrong info
- 11:33:51 From Susan Webster : I have seen a timeline done really well with a line of people and also with a line of natural objects that represent key moments.

- 11:36:17 From emily gal : brochs/castles also so much more than commerce/defence...they are built to display identities and 'show off' how much resources could be gathered and used, etc
- 11:37:00 From emily gal : Yes timelines can be so effective. the simpler and more visually appealing the better!
- 11:43:11 From Susan Webster : Taste and smell is a great memory too for visitors.
- 11:46:25 From Susan Webster : Story of the whaling industry well told in Leith
- 11:50:07 From Susan Webster : Always good to know what your audience's background is - I learned this very early in my career when I ran a guided walk on fungi attended by a forester and a French chef, they very good naturedly took part and shared their knowledge. People do love to share.
- 11:52:43 From John Ormiston : yes good point I had similar situation I had a week long guided trip around Scotland I talked a lot about Geology and then found out I had a retired geology professor and a gent whom still worked for the American geology association so No pressure
- 11:57:05 From Ailsa Raeburn Community Land Scotland : Hi Myles - sorry I can't join the afternoon session. Hope you have a good one Ailsa thanks for the morning
- 11:57:13 From Susan Webster : I worked with a guy who did a great geology story to schoolchildren in their school playground. I am always in awe of these people who can think creatively and communicate well. Steal their ideas!
- 11:58:40 From kate connelly : I have another event this afternoon, can I ask for a recording of the session, or copy slides / notes? Thanks
- 11:59:09 From Susan Webster : What are the best ways other people have experienced interpretation being done well?
- 12:05:10 From Ailsa Raeburn Community Land Scotland : thanks
- 12:16:47 From Marianne Bailey to Centre for Recreation & Tourism Research UHI(Privately) : Thanks so much for this morning, it has been really insightful to me, great inspiration for beginning to consolidate interpretation of coastal stories in the south, very helpful to have context of how it's being done across the rest of Scotland, I won't be able to join this afternoon as I've been called onto other things but enjoy the rest of the day and thanks again!
- 12:47:37 From Steve Taylor to Centre for Recreation & Tourism Research UHI(Privately) : Hi Katie. Are you OK to restart recording please? Thanks. Steve
- 12:48:15 From Centre for Recreation & Tourism Research UHI to Steve Taylor(Privately) : There we go
- 12:48:44 From Steve Taylor to Centre for Recreation & Tourism Research UHI(Privately) : Thanks!

- 12:51:03 From Susan Webster : John A Veverka Interpretive master planning is to be recommended as well.
- 12:57:47 From Angus Hulbert : Yeah I am happy to be fully recorded!
- 12:58:05 From Corin : likewise, I am fine with it all
- 12:58:13 From emily gal : yes that's fine
- 12:58:19 From Basking Shark : roger that
- 12:58:19 From Neil : All good
- 12:58:23 From Kirstin Uhlenbrock : yes
- 12:58:28 From Rachel : I'm fine with that
- 12:58:35 From Susan Webster : yes fine by me
- 13:13:13 From Basking Shark : Sorry, internet cut out in Oban, so missed the last 10min
- 13:14:12 From Centre for Recreation & Tourism Research UHI : No worries Sean- we were in a Breakout Room discussing Scottish coastal folklore.
- 13:15:33 From emily gal : <https://digital.nls.uk/learning/scottish-enlightenment/statistical-account/> - a useful resource we discussed in our breakout group. The Statistical Accounts
- 13:17:34 From Neil : Apologies but I've got to leave a bit earlier than I intended.
- 13:18:18 From Neil : Enjoyed it very much and hope that the rest is recorded!
- 13:18:29 From Myles Farnbank : Thanks Neil
- 13:27:23 From Angus Hulbert : Are there any good sources for these stories?
- 13:29:30 From Susan Webster : I like the drawings - where are they from?
- 13:38:05 From emily gal : that's fantastic
- 13:45:25 From Basking Shark : No bananas allowed onboard with some of our skippers
- 13:50:59 From Susan Webster : Oh, never leave your egg-shells unbroken in the cup;
Think of us poor sailor-men and always smash them up,
For witches come and find them and sail away to sea,
And make a lot of misery for mariners like me.
- 13:51:04 From Susan Webster : <https://folklorethursday.com/folklife/the-witch-files-going-to-sea-in-an-eggshell/>

- 13:54:19 From Basking Shark : Story of smuggled gold and hidden tunnels in the sea cave under here. I've never found any there, despite crawling around there having swam in from a boat! Brilliant place to visit!
- 13:55:07 From Basking Shark : (from shore) precarious rock bridge get to the ruins
- 13:59:28 From John Ormiston : brb
- 14:12:20 From Kirstin Uhlenbrock : <https://www.classicfm.com/music-news/lost-songs-st-kilda/>
- 14:12:53 From Kirstin Uhlenbrock : <https://tannaramusic.com>
- 14:14:52 From Kirstin Uhlenbrock : https://en.m.wikipedia.org/wiki/Fisherman's_Friends
- 14:26:44 From Centre for Recreation & Tourism Research UHI : You can't hear him, bit my dog is howling along to this one (Skerryvore)
- 14:31:52 From Susan Webster : Swim until you cant see land by Frightened Rabbit is great but very sad due to the demise of the lead singer Scott Hutchison
- 14:33:38 From emily gal : Unfortunately I have to leave shortly - thankyou Myles and everyone for the discussion. Lots to think about!
- 14:37:38 From Kirstin Uhlenbrock : yes,please!
- 14:47:30 From Basking Shark : Our favourite by Norman MacCaig 'that room sized monster with a matchbox brain'
- 14:48:39 From Catharine Eyre : We've done percussion type storytelling with kids...very powerful
- 14:48:43 From Angus Hulbert : One exercise we once did was using our senses to create a poem, ended up coming up with a really good group created poem
- 14:51:33 From Centre for Recreation & Tourism Research UHI : I've carried out short story writing competitions (or even Tweet writing competitions!) on a specific theme that last duration of trip and are presented near the end- another way for guests to fill up their time between activities.
- 14:53:14 From Steve Taylor : Talking of which, I will Tweet about the webinar. Please do like/retweet etc, or tweet yourselves
- 15:11:09 From Catharine Eyre : I read that the fisherlassies shouted so loud because if they didn't sell their fish quick enough, their fish would perish
- 15:12:34 From Susan Webster : I do think that hearing voices is a very powerful and emotive method of learning/storysharing,
- 15:23:54 From Centre for Recreation & Tourism Research UHI : Project website- <https://www.whc.uhi.ac.uk/research/current-projects/coast/>
- 15:31:14 From Basking Shark : Upload to youtube as a private video and send people a link/password?

- 15:34:11 From Angus Hulbert : Myles, do you have a method to creating an interpretation?
- 15:49:58 From Angus Hulbert : Have you seen 'GeoTourist'?
- 15:55:19 From Susan Webster : I think it might be pastmap by HES