

COASTAL CULTURAL
HERITAGE IN THE
RIA DE AVEIRO REGION

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The Ria de Aveiro is a lagoon located on the central coast of Portugal, embracing 11 municipalities. Its shallow body of water is connected to the Atlantic Ocean by a single mouth. The lagoon is also integrated into the Vouga River basin. Its area varies from 83 km² on a high tide and 66 km² on a low tide, with 45 km of length.

Its singular geographic framing and vast number of available natural resources have long since allowed to the exploration of Ria de Aveiro by the population that is settled in the region, which has largely contributed to the current configuration of the lagoon.

The history, the culture and the socioeconomic context of the region are highly influenced by its proximity to the sea and by the Ria de Aveiro, which was used as a main communication route in the past. Important economic activities took place in the lagoon, such as fishing, seaweed harvesting and salt production. Moreover, fishing communities from the region were involved in cod fishing activities around Newfoundland, as well as in cod preparation and transformation for centuries. However, these traditional occupations have suffered a sharp decline throughout the last decades. Some activities have been reinvented by exploring cultural heritage for tourism purposes, whereas others have disappeared.

The lagoon is characterized by its high biodiversity, which is recognized by several nature conservation statutes, as well as by its scenic landscape and strong cultural heritage. These features of the Ria reinforce the need to sustainably value, preserve and promote the vast natural and cultural heritage in the region.



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© RA DE AVEIRO

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TRADITIONAL BOATS

MOLICEIRO

The *moliceiro* boat is the ex-libris of the Ria de Aveiro. It is considered the most elegant traditional boat in the region. Despite its humorous and colourful decoration, it is originally a work boat, created for *molicho* (seaweed) harvesting.

STERN

Rear part of the boat, also decorated with artistic panels.



The *moliceiro* was used in the past to harvest and transport *molicho*, a mixture of algae and higher aquatic plants used as fertilizers in agricultural fields.

MOLICHO

MERCANTEL, OR SALINEIRO

It is the largest traditional boat in the lagoon, built to transport people and goods. Commonly called *saleiro* or *salineiro* when transporting salt.



SALT

CATTLE

BOW

The bow is personalized, portraying colourful popular art panels with different motifs representing folk wisdom.

Currently, the *moliceiros* essentially transport tourists who seek to having a closer look at the wonders of the Ria de Aveiro.

TOURISTS

TRANSPORT IN RIA DE AVEIRO

Until the second half of the 20th century, the Ria de Aveiro was the main communication route among riverside populations for the transportation of people and goods. In the absence of larger road and rail systems, the river network, the piers (over 150) and the traditional boats were of great influence on commercial and economic dynamics in the region.

Several types of goods were transported through the Ria from different provenances, as agricultural products, building materials and food, namely: salt, roof tile and bricks from Aveiro; *moliço*, reed and fish from Murtoosa; sand from Esgueira; roof tiles from Válega and wine from Águeda.

These goods were transported by traditional boats with flat bottoms and variable dimensions, which were chosen not only according to the lagoon conditions (shallow with sand banks), but also to the specific uses of each boat and to the inherent needs of each cargo.

TRADITIONAL BOATS

The *moliceiro* boat, considered the ex-libris of the Ria de Aveiro, was originally used for the harvesting of *moliço*. *Moliço* (a mixture of algae and higher aquatic plants) used to be the main fertilizer for agriculture, and was responsible for transforming light, sandy soils into proper soils for agriculture. The *moliceiro* is distinguished by its elegant silhouette and colourful panels picturing popular art on its bow and stern. These paintings portray humorous, religious, social, historical, and playful motifs, which reflect both the maritime and the countryside environments of the region.

The *mercantel* boat, one of the most powerful boats in the Ria de Aveiro, was mainly used for commuting between riverside regions, as well as for cargo and freight transport. When carrying salt, it was called *saleiro* or *salineiro*. The *mercantel* is characterized by its robustness and stability while sailing. It has a simpler decoration with a few floral patterns.

There is also a diverse set of *bateiras* boats, used for fishing (*bateira chinchorro*), hunting (*bateira caçadeira*) and herbs harvesting (*bateira erveira de Canelas*).

However, these boats have lost their traditional use due to lifestyle transformations in riverside communities, being currently applied to leisure activities. *Moliceiros* and *mercantéis* are often used in sightseeing tours in the Ria de Aveiro and in urban canals, while *bateiras* are still used for fishing.

VISITING

The *Museu Marítimo de Ílhavo* (Maritime Museum of Ílhavo) incorporates the representation of maritime and fluvial life, as for the Ria de Aveiro agro-maritime activities and the typical boats from the lagoon. In the *Museu-Estaleiro do Monte Branco* (Shipyard-Museum of Monte Branco), in Torreira, it is possible to have a closer look at the work of local masters, as for Master José Rito (construction and repairing of traditional boats) and Master José Oliveira (painting).



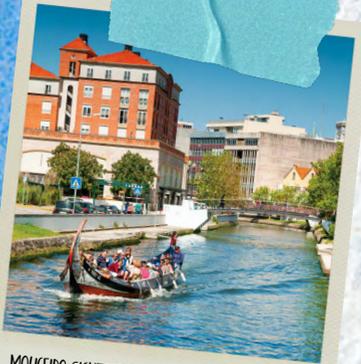
MOLICEIRO TRANSPORTING MOLICO IN THE 1960'S
(SOURCE: COL. IMAGOTECA/MUSEU DA CIDADE)



SALINEIRO BOAT
(© JOSÉ DE CASTRO 1945)



MERCATEL TRANSPORTING PEOPLE IN THE 1920'S
(SOURCE: MUSEU MARÍTIMO DE ILHAVO)



MOLICEIRO SIGHTSEEING TOURS IN THE URBAN CANALS
(SOURCE: CM REGÃO DE AVEIRO 2019)



MOLICEIRO PANEL
(© LISA SOUSA 2020)



MOLICEIROS REGATTA
(SOURCE: CM REGÃO DE AVEIRO 2007)

ARTISANAL SALT PRODUCTION

SALTPANS

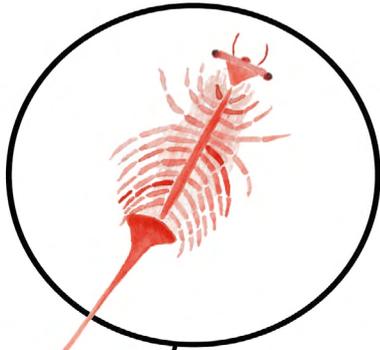
The salt pans are open spaces comprising different compartments (supply, evaporation, and crystallization), used for extracting salt from the water through evaporation, dry winds and sun. The salt pans and the white salt heaps are singular elements in the landscape of the Ria de Aveiro.



SALINEIRA

The *salineiras* were women who worked in the salt pans and head-carried traditional baskets with up to 50 kilograms of salt from the salt pans to the *saleiros*, or warehouses.



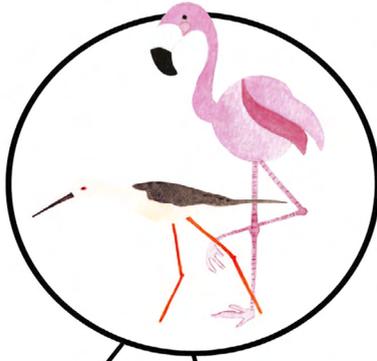


ARTEMIA

The *Artemia salina*, or brine shrimp, is a small crustacean that inhabits the salt pans. It can be light pink, red, white or greenish depending on what they have ingested. This crustacean is of great importance for the ecological balance in the salt pans for being at the bottom of the food chain.

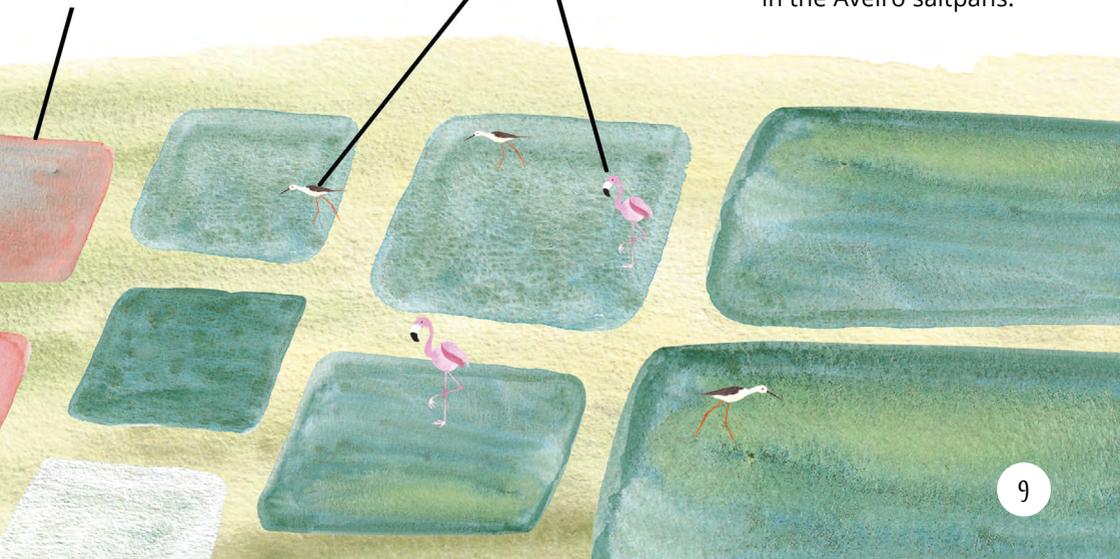
MARNOTO

The *marnoto* is a person who works and controls the exploration of salt pans.



BIRDLIFE

The salt pans are visited by a considerable number of bird species, especially waders, as the black-winged stilt. Flamingos have also become more frequent in the Aveiro salt pans.



ARTISANAL SALT PRODUCTION

Salt production is an ancient activity that has played a relevant role in history, impacting on the economy and culture of nations. Until the end of the 19th century, salt has been an essential good for preserving food. In Portugal, the oldest document to mention the Aveiro saltpans dates from 959, referring their donation to the monastery of Guimarães.

Therefore, the salt from Aveiro had considerable economic extensions and relevance. However, it has significantly declined. In 2021, only 6 saltpans remain active in comparison to 1956, with 270 in production. The widespread use of refrigerators, the decrease in salt consumption, the international competition, and the use of mechanical devices in the production are factors that have contributed to such decline.

Salt harvesting requires the knowledge of ancient techniques, which are operated by *marnotos*, and the activity presents its own lexicon, transmitted throughout generations. Salt harvesting starts in spring and finishes around the first autumn rains. After winter, the saltpans need preparation before the beginning of a new salt production. This means removing *moliço* and mud, repairing walls, and curing the saltpan soil (waterproofing it), hence avoiding the presence of sediments in the salt. As soon as the saltpans are ready, around mid-June or July, the so called *botadela* takes place. On this day, the *marnoto* opens the water gates that allow the brine to flow into the crystallizers (*abrir o tabuleiro*). This sets the beginning of the salt production season, which is followed by a daily routine of crystallization, control of the brine flow

and salt harvesting. The salt is then stored in the *eiras* until it is sold. In the past, salt was transported to warehouses in Aveiro or Ovar on *salineiros*, or *saleiro* boats.

FAUNA AND FLORA

Saltpans are places of extreme importance to birdlife, where different species find food, shelter, and a place for reproduction. Waders are the most visible and abundant birds, namely the black-winged stilt, the dunlin, and the Kentish plover.

As for aquatic birds, the little tern, the little egret, and the flamingos can be observed, among others.

Since these locations present high levels of salinity, the flora variety is limited to halophyte species, from which the most popular is *salicornia* (sea asparagus, or sea beans), also used in culinary as a salt substitute.

OTHER APPLICATIONS

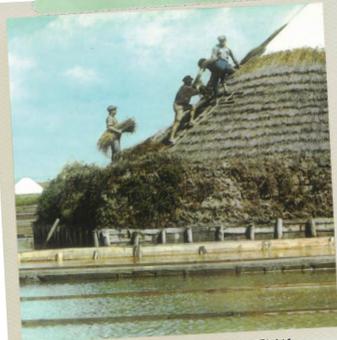
New economic activities associated to the saltpans have recently appeared, namely sightseeing visits, bird watching, health and leisure activities (e.g., clay baths and treatments), pisciculture and shellfish production (e.g., oysters). New products from the saltpans have been explored, as for *salicornia*, *fleur de sel* (also flavoured with herbs, spices, and algae) and bath salts.

VISITING

The *Ecomuseu da Marinha da Troncalhada* and the *Marinha Santiago da Fonte* (property of the University of Aveiro) are among the saltpans where visitors can learn about artisanal salt production techniques, as well as the fauna and flora in the area.



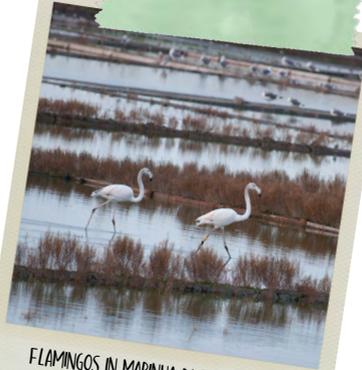
MARNOTO IN THE MID-20TH CENTURY
(SOURCE: COL. IMAGOTECA/MUSEU DA CIDADE)



SALT HEAP WITH A SEDGE COVERING
IN THE 2ND HALF OF 20TH CENTURY
(SOURCE: COL. IMAGOTECA/MUSEU DA CIDADE)



SALT DISCHARGE BY SALINEIRAS
(© JOSÉ DE (ASTRO 1945)



FLAMINGOS IN MARINHA DA TRONCALHADA
(SOURCE: (M REGRÃO DE AVEIRO 2014)



SALICORNIA (SEA ASPARAGUS, OR SEA BEANS)
(© RENATO NEVES 2012)



FLEUR DE SEL WITH IRISH SEA MOSS
(SOURCE: (M REGRÃO DE AVEIRO 2015)

ARTISANAL FISHING IN THE RIA

Fishing is practised throughout the Ria de Aveiro by using different fishing gear, namely fishing rod, or handline, longline, *galricho*, *camboa*, shrimp trawl nets, *chinchorro* and bottom and surface trammel nets. Cuttlefish, sole, shad and lamprey are among the most caught species in the lagoon.



TRAMMEL NETS

Bottom and surface trammel nets are among the most used fishing gears in the Ria de Aveiro.



CUTTLEFISH



SHAD



SOLE



LAMPREY

ARTISANAL FISHING IN RIA

For a long time, the economy of the Ria de Aveiro region was associated with the exploitation of local resources, namely fishing, salt production and *moliço* (seaweed) harvesting. Fishing is still an important activity practised across the lagoon by using different fishing gears, some of them quite ancient. Their use has varied over time: different types of gears emerge and/or disappear due to fishermen inventiveness, to the “import” of ideas, to the evolution of legislation, and to the adaption towards a more selective fishing activity.

FISHING GEARS

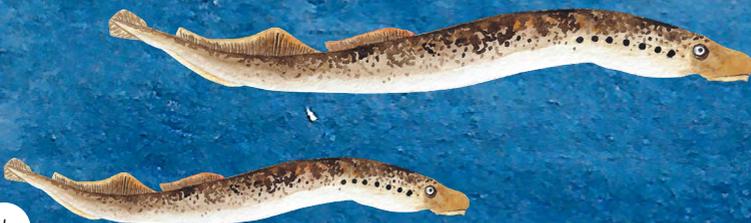
Currently, the main fishing gears used in the Ria de Aveiro are the handlines, longlines, *galricho*, *camboa*, shrimp trawl net, *chinchorro* and bottom and surface trammel nets. The most profitable gear is the bottom trammel net, used for catching cuttlefish and sole, and the surface trammel net, used for catching

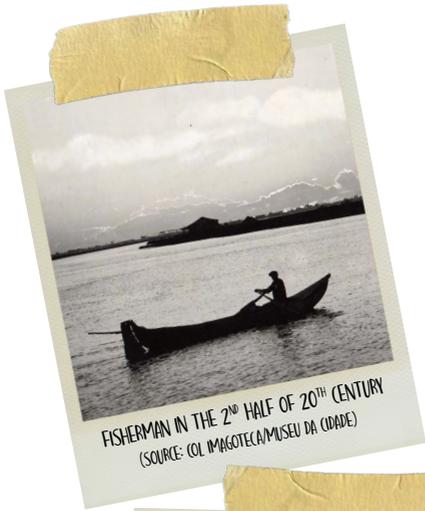
lamprey and shad. Other species are also commonly caught, such as the gilthead seabream, European seabass, eel, sole, sand eel, mullet, and red fish.

TYPICAL FOOD

Some examples of typical food in the region are the so called *caldeiradas de peixe* (fish stew), originated from traditional dishes made by fishermen during their fishing journeys. In Torreira, for example, the *chinchorro* fishing in the lagoon would last for 24 consecutive hours, with successive hauls day and night. Fishermen would have meal breaks according to tidal variations, and the food usually consisted of simple *caldeiradas* cooked by themselves on the shore, using cheaper, freshly caught fish.

Also, several regional festivals are dedicated to emblematic fish species found in the Ria, as for the eel, the lamprey, and the sole, which reflect the typical gastronomy.

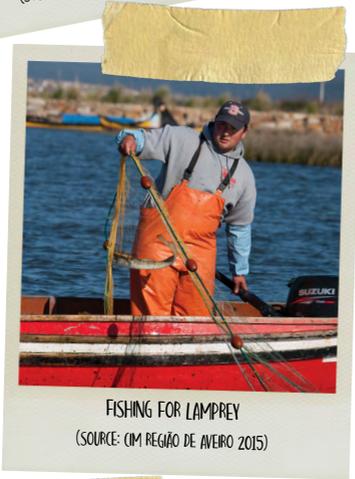




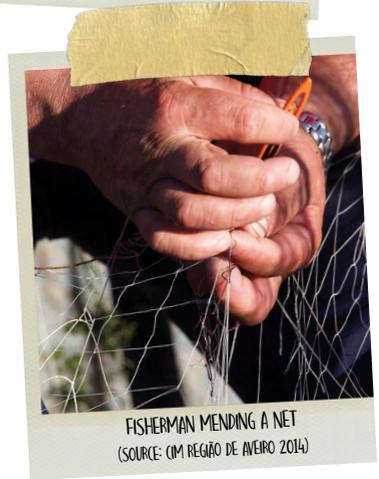
FISHERMAN IN THE 2ND HALF OF 20TH CENTURY
(SOURCE: OLÍMPIA GOTECA/MUSEU DA CIDADE)



FISHING FOR CUTTLEFISH
(© PAULO COSTA 2021)



FISHING FOR LAMPREY
(SOURCE: CIM REGAÇO DE AVEIRO 2015)



FISHERMAN MENDING A NET
(SOURCE: CIM REGAÇO DE AVEIRO 2014)



SOLE
(SOURCE: CIM REGAÇO DE AVEIRO 2015)



CUTTLEFISH
(© LISA SOUSA 2021)

SHELLFISH HARVESTING AND PRODUCTION

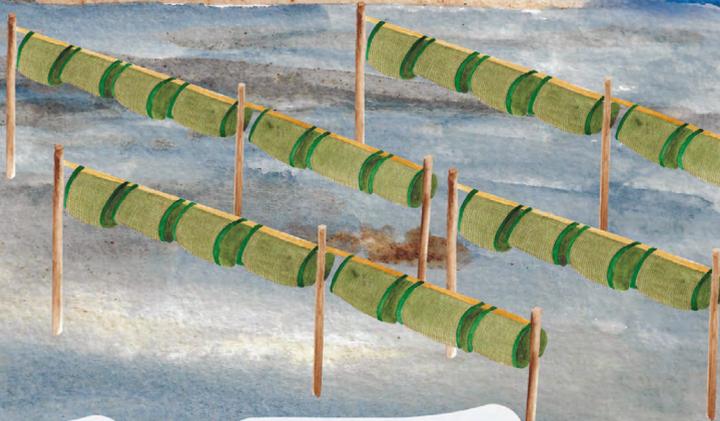
Shellfish harvesting has substantially evolved in the last decades and it is, today, the main or the only income source for numerous families, which mostly catch clam and cockle for exportation.

Also, the production of new species has increased in the Ria de Aveiro, especially oysters



CABRITA

Fishing gear used by professionals for artisanal and subsistence shellfish harvesting.



CLAM



COCKLE



OYSTER

SHELLFISH HARVESTING

Shellfish harvesting is the most important activity of the Ria de Aveiro artisanal small-scale fishing. Many fishermen have been exclusively dedicated to it after facing a decrease in the abundance of fish and the consequent increase on the commercial value of shellfish, which makes the shellfish harvesting activity of extreme social, economic, and cultural importance in the region.

SHELLFISH HARVESTING GEARS

There are different ways of collecting shellfish, namely on foot – directly on the shore during low tides – or through boats. When on foot, shellfish harvesters can use a long cockle rake net (locally known as *cabrita baixa*), hand gathering (collecting shellfish by hand), shellfish knives or cockle rakes. To catch groover razor shells, workers can either make use of specific sticks called *adriça* or pick them manually by using salt. When catching shellfish through a boat, they usually use a specific cockle rake net called *cabrita alta*.

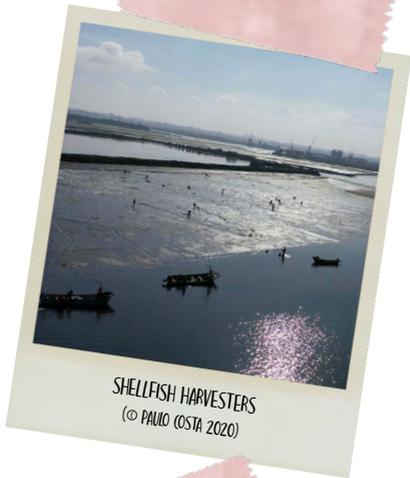
TARGET SPECIES

The most caught species are the cockle (locally called *crico*), the pullet carpet shell, the cross-cut carpet shell, the Japanese carpet shell, and the grooved razor shell. The cockle is the most abundant species and, therefore, the most commercialized in the region. On the other hand, the pullet carpet shell and the cross-cut carpet shell are currently difficult to catch due to their lower abundance.

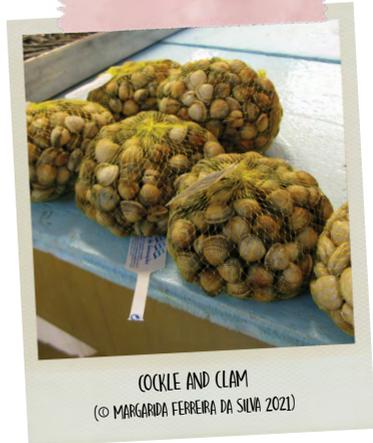
SHELLFISH PRODUCTION

Since several salt pans were flooded due to lack of maintenance in the 1980's, many have been converted into fish farming areas. This is still a tendency, and salt pans have been recently converted into productions areas of shellfish (e.g., oysters, cockle, and clam) and macroalgae. Shellfish are also cultivated in the channels *Canal de Mira* and *Canal de Ovar*. Shellfish production activities in the Ria de Aveiro are particularly developed towards the production of oysters.





SHELLFISH HARVESTERS
(© PAULO COSTA 2020)



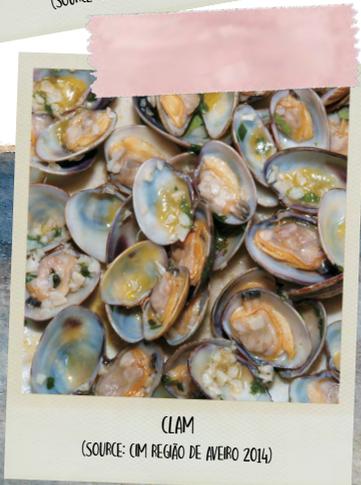
COCKLE AND CLAM
(© MARGARIDA FERREIRA DA SILVA 2021)



SHELLFISH HARVESTER USING A CABRITA
(SOURCE: CIM REGAÇO DE AVEIRO 2014)



OYSTERS
(SOURCE: CIM REGAÇO DE AVEIRO 2014)



CLAM
(SOURCE: CIM REGAÇO DE AVEIRO 2014)



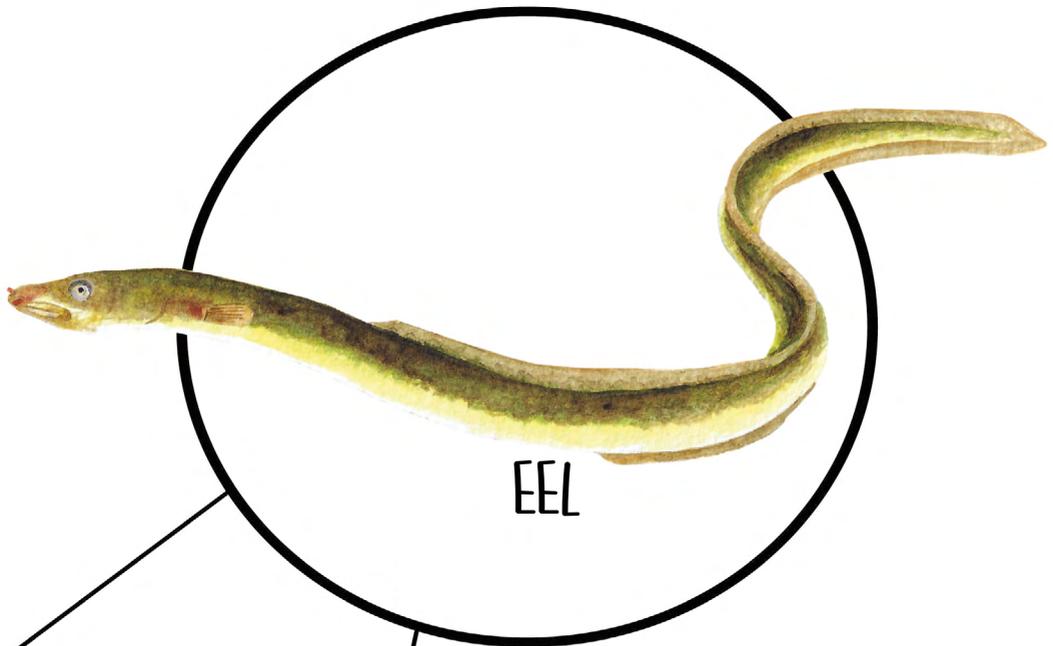
COCKLE
(SOURCE: CIM REGAÇO DE AVEIRO 2014)

EELS AND THE CANNING INDUSTRY

The European eels (*Anguilla anguilla*) were once abundant and an important source of income for riverside communities in the Ria de Aveiro. They were frequently fried and preserved in marinated sauce by women from Murtoesa (*fritadeiras*) and then sold in local and regional fairs. This artisanal production method was later replaced by the canning industry.

Although European eels are currently scarce in the Ria de Aveiro, there is a high culinary interest in them, especially in *caldeiradas* (stew) or fried in marinated sauce.





EEL



EEL

The European eel is a migratory fish that used to be extremely common in the Ria de Aveiro. However, due to the high commercial interest on eels at different stages of its life, their catch has been quite intense. Different factors have contributed to diminish the area where European eels can reproduce, therefore reducing the presence of this fish. Threats such as wetlands drainage, riverbed dredging, waterway barriers and pollution resulted in a drastic decline in the number of European eels in rivers and lagoons.

FISHING GEARS

Eel fishing was an important resource for artisanal fishermen communities. In the past, several fishing gears were used in the Ria de Aveiro to catch this fish, as for *chinha*, *sertela* and *galricho*.

CANNING INDUSTRY

The European eel is an appreciated culinary specialty, both in *caldeiradas* or fried in marinated sauce. In Murtosa, the canned version of the fried eel in marinated sauce is a typical product of the region and one of its trademarks. Since the beginning of the 20th century,

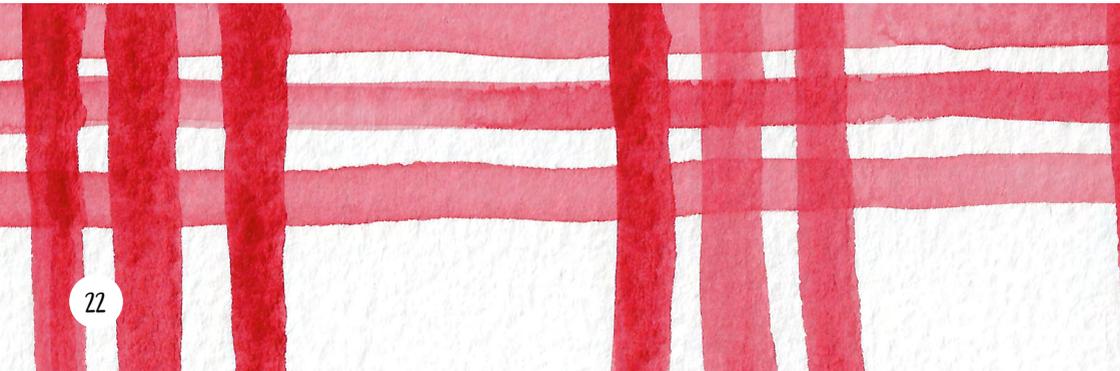
the *murtoseiras* (women from Murtosa) would fry and sell the eels in local and regional fairs. This activity was later replaced by the canning industry.

Founded in 1942, the *Fábrica de Conservas da Murtosa* – COMUR (The Canning Factory of Murtosa) has had the eel production in marinated sauce as its *ex-libris*. Originally, the wooden casks were produced by coopers from Cortegaça and Esmoriz who settled in Murtosa. Later, the production diversified to include canned cod, mussels, trout, octopus, squid and the traditional sardine, mackerel, and tuna.

VISITING

The old COMUR building is currently a museum dedicated to the history of the *Fábrica de Conservas da Murtosa* and its community. The museum presents the specific characteristics of Murtosa and the Ria that originated the factory, portraying its workers, who were mostly women, and the full canning production process, from the arrival of fish to the expedition of products.

Every year, in the pier *Cais do Bico*, there is a local festivity called *Festival Gastronómico da Enguia* (The Eel Culinary Festival), where visitors can try the delicacy.





CASKS OF EEL
(SOURCE: CIM REGIÃO DE AVEIRO 2015)



CANNED EEL
(© LISA SOUSA 2021)



LIVE EELS IN THE COSTA NOVA MARKET
(©SARITA (AMICHO 2021)



COMUR PROMOTIONAL POSTER
(SOURCE: CIM REGIÃO DE AVEIRO)



EEL CALDEIRADA AND GALRICO (IN THE BACK)
(SOURCE: CIM REGIÃO DE AVEIRO 2014)



OTHER CANNED FISH
(SOURCE: CIM REGIÃO DE AVEIRO 2015)

TRADITIONAL COASTAL BUILDINGS

The coast was initially occupied by fishermen communities who built traditional huts, called *palheiros*, to store fishing nets, tools, and other fishing gears. There were also *palheiros* around the lagoon margins, to salt or dry fish, and in the salt pans to store tools and shelter the *marnotos* (saltpan workers). In the absence of rocks, the maritime pine was often used to build these huts. Nowadays, there are only a few samples of such buildings in the region.

PAST



PALHEIRO JOSÉ ESTÊVÃO

Built in 1808 in memory of a great Portuguese statesman from Aveiro, José Estêvão (1809-1862), this *palheiro* is a sample of the original Costa Nova fishermen huts, keeping its original red ochre hue. Important names from the national cultural and political scenes have visited the *palheiro*, as the Portuguese writer and diplomat Eça de Queirós.



PRESENT



TRADITIONAL COASTAL BUILDINGS

The landscape in the Centre Region coast is mostly composed of *gândaras*, lowlands with sandy or alluvial soils, usually not consolidated into solid rock. Therefore, the main materials used in construction were the maritime pine wood (*Pinus pinaster*) and adobe. In the Ria de Aveiro region, several types of constructions are made of wood, namely the coastal *palheiros*, the saltpans *palheiros* and the salt warehouses.

As opposed to sheltered coasts, the coast in this region is more exposed, which means the zone was basically unpopulated, except for a few seasonal fishermen communities.

PALHEIROS

The *palheiros* are coastal wooden buildings initially built to store tools, fishing nets and other accessories typical of the fishing activity. However, with the development of *arte xávega*, these *palheiros* turned into accommodations. They were sometimes supported by piles buried in the sand to allow the passage of water beneath the houses, preventing the accumulation of sand. In Esmoriz and Cortegaça, respectively, there are two groups of eight and four *palheiros* listed as municipal interest property, some of which are built on the dune. In Costa Nova and Torreira there were also the Ria *palheiros*, located on the lagoon margins, which essentially served as warehouses used for salting or drying fish.

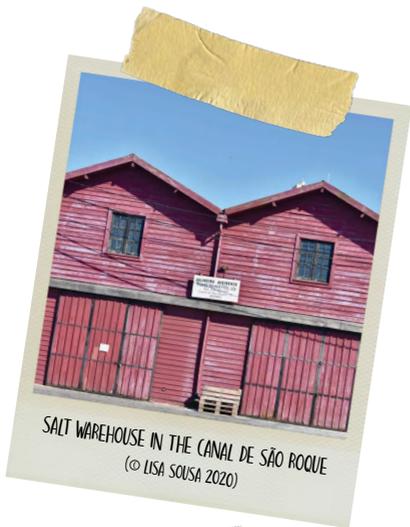
PALHEIROS OF COSTA NOVA

In the 19th century, the coast was gradually becoming a popular summer destination, leading to the leasing of *palheiros* and their posterior transformation into tourist accommodations. Especially, in Costa Nova, where it is still possible to find the wooden, striped-coloured houses with a white background. Originally, these houses were more elemental huts, in shades of red ochre and black.

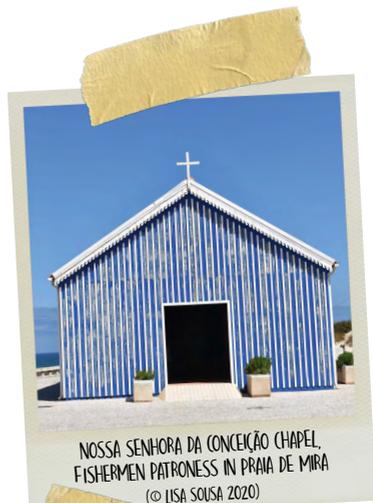
THE PALHEIROS AND THE SALT

Small wooden *palheiros* were often built in the saltpans to store tools and shelter the *marnotos* (saltpan workers). After the salt harvesting, around its commercializing period, the salt was transported to salt warehouses, which were large dimension *palheiros*. In Aveiro, they were mainly located in the current *Canal de São Roque*, which was the centre of the salt trade in the city for a long time. Although in smaller numbers, some *palheiros* still survive. Some have been converted into restaurants, for example, whereas others are in an advanced degradation state. The *Salineira Aveirense* is the only salt warehouse to keep its original functionality.

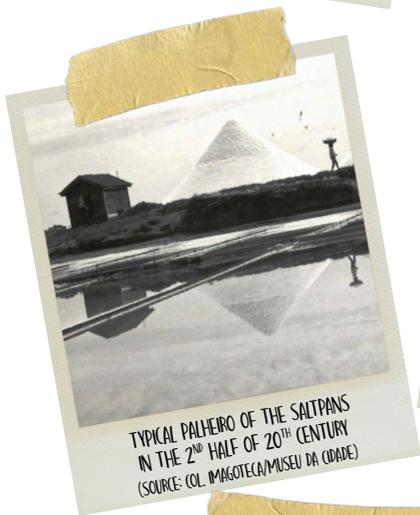
In the saltpan *Marinha Santiago da Fonte* there is a warehouse built in a similar way to the traditional *palheiros* of Aveiro saltpans but larger, probably because it was used for storing shellfish and *pilado* (a small crab used as a fertilizer in agriculture).



SALT WAREHOUSE IN THE CANAL DE SÃO ROQUE
(© LISA SOUSA 2020)



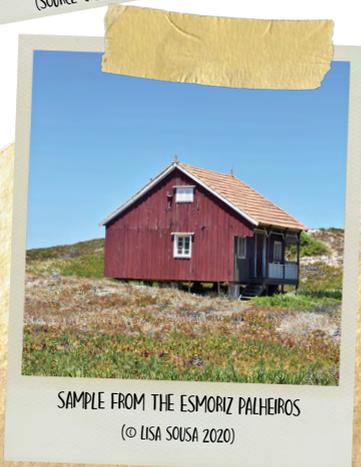
NOSSA SENHORA DA CONCEIÇÃO CHAPEL,
FISHERMEN PATRONESS IN PRAIA DE MIRA
(© LISA SOUSA 2020)



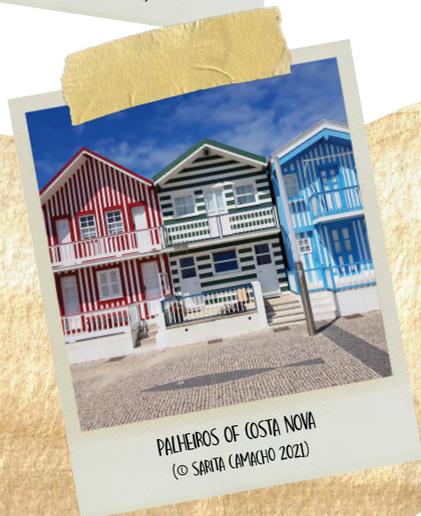
TYPICAL PALHEIRO OF THE SALT PANS
IN THE 2ND HALF OF 20TH CENTURY
(SOURCE: COL. IMAGOTECA/MUSEU DA CIDADE)



PALHEIRO JOSÉ ESTÊVÃO
(© LISA SOUSA 2020)



SAMPLE FROM THE ESMORIZ PALHEIROS
(© LISA SOUSA 2020)



PALHEIROS OF COSTA NOVA
(© SÁRITA (AMÍLHO) 2021)

LIGHTHOUSES AND FORTS

FAROL DE AVEIRO

Also known as *Farol da Barra*. The lighthouse has both the function of warning boats about their proximity from the coast and signalling the entrance to the Ria de Aveiro. Inaugurated in 1893, it was then the sixth largest lighthouse made of stone masonry in the world. Currently, it is the second largest in the Iberian Peninsula and it is amongst the 26th largest lighthouses in the world.



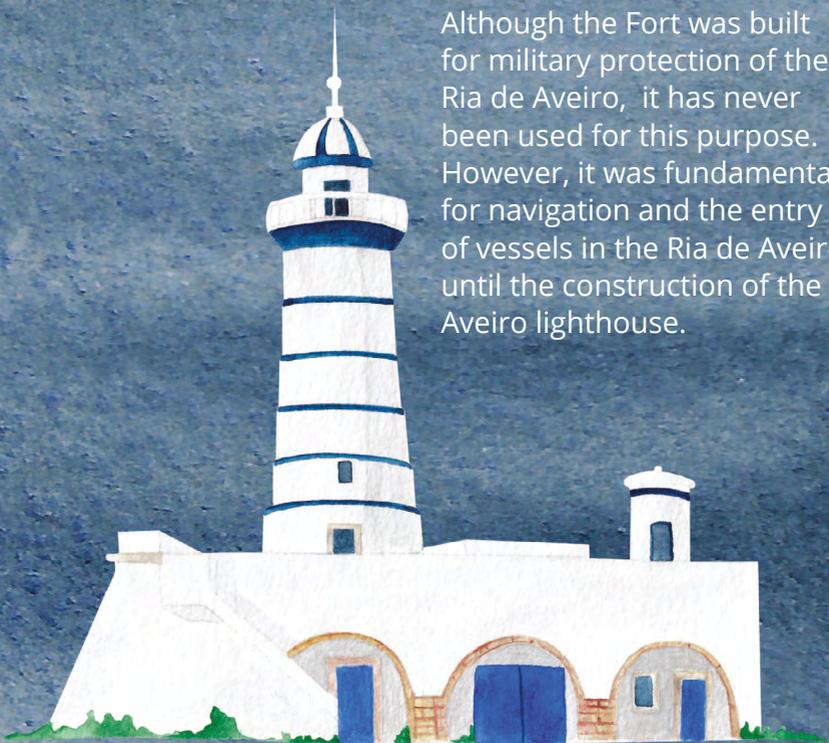
62 M HIGH
AND
288 STEPS



23 MILES

FORTE DA BARRA

Although the Fort was built for military protection of the Ria de Aveiro, it has never been used for this purpose. However, it was fundamental for navigation and the entry of vessels in the Ria de Aveiro until the construction of the Aveiro lighthouse.



LIGHTHOUSES

The lighthouses were created from the necessity of guiding navigators and protecting them from danger. In the 16th century, the first lighthouses were created in Cabo de S. Vicente, Cascais (Nossa S.^a da Guia), and Douro (Nossa S.^a da Luz). They were installed in strategic spots on the coast, and were basically woodfires made with a resinous wood that created a reddish light indicating shelter or a potential danger to be avoided.

For a long time, the navigable Portuguese coast was called the “dark coast” due to its poor illumination. It was only in the 18th century that lighthouses started being built. They represent an important support to navigation, and function as reference points with well-known coordinates. Each lighthouse has its own identity, that is, a specific luminous characteristic that allows navigators in the surroundings to be aware of their location and distance from the coast.

FAROL DE AVEIRO

The project of the *Farol de Aveiro* (Aveiro Lighthouse) started in 1885 by the engineer Paulo Benjamin Cabral and it was concluded by the engineer Maria de Melo e Mattos in 1893. In 1929, it went through a restoration process. It was built with red sandstone from Eírol (a parish in the Aveiro proximities) and granite. It is based on a six-metre-thick massif with 97 green wooden stakes. By the time of its construction, it was the sixth largest lighthouse in the world made with stone masonry. It stands at 66 meters

above sea level, and it is 62 metres high. It is currently the largest lighthouse in Portugal. Also, it is the second largest in the Iberian Peninsula and it is included among the 26 largest lighthouses in the world. This imposing monument is of relevant architectural and cultural value to the region, attracting thousands of visitors every year.

It was first installed in 1893 and replaced in 1947. Its Fresnel optical device produces groups of four lightnings that can reach up to 23 miles (approximately 42,5 km). There are only small differences between the original 1893 lighthouse and its current version since it has been maintained by the lighthouse keepers and adapted according to new technologies.

FORTE DA BARRA

The *Forte da Barra* (Barra Fort) was built for military protection purposes in the Ria de Aveiro, in the 17th century, in 1801.

Throughout the 19th century, some constructions were added to it, including a small lighthouse (signal tower), defining its present configuration. It has never had a defensive relevance, being deactivated from its military duties in the mid-19th century. Until 1893, it had strategic importance as a land and orientation mark for navigation and the entry of vessels in the Ria de Aveiro. It was no longer used for such purposes after the construction of the Aveiro Lighthouse. In 1974, the Fort was listed as public interest property. Currently, it still supports navigation inside the lagoon.



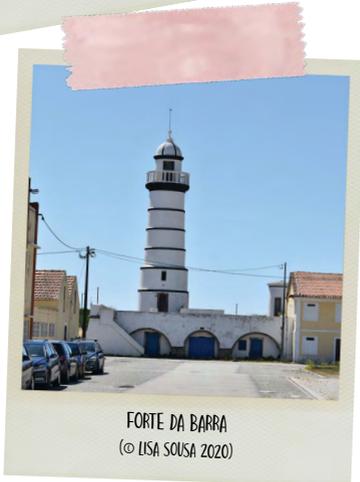
FAROL DE AVEIRO
(© PAULO COSTA 2020)



DETAIL OF THE FAROL DE AVEIRO
(© PAULO COSTA 2020)



FAROL DE AVEIRO
(© PAULO COSTA 2020)



FORTE DA BARRA
(© LISA SOUSA 2020)



FRESNEL OPTICAL DEVICE
(© LISA SOUSA 2020)

ARTE XÁVEGA

Arte xávega is a traditional beach-seine fishery of high importance to the cultural identity of coastal communities in the Aveiro region, and it is still practised at some beaches.

In the past, fishing nets were pulled from the sea with the help of a yoke of oxen, to which Raul Brandão wrote in “Os Pescadores” (The Fishermen), quoting Ferdinand Denis: “What strange country is this where oxen plough the ocean?!”.





PAST

ARTE XÁVEGA

Arte xávega is a traditional fishing gear that consists of catching and dragging fish with a purse seine net. It is commonly used in the Portuguese coastline between Espinho and Vieira de Leiria, in Costa da Caparica, in Santo André, and in Monte Gordo, presenting specific singularities depending on which part of the coast it is practiced.

In the Ria de Aveiro coast (from Ovar to Mira), this local fishing gear is of high cultural and socio-economic value. One of the existing theories suggests that the deterioration of the fishing conditions inside the lagoon (due to the natural interruption in the communication between the Ria and the sea) has led Murtoşa fishers to adapt their lagoon boats (*chinchá* or *chinchorro*) to sea fishing.

BARCO DO MAR

The *barco do mar*, also called “half-moon” of *xávega*, is built with pine wood. It has a flat bottom and a half-moon shape, which allows it not only to face the breaking of the waves, but also to move from the sand to the sea, and vice-versa, with the help of rolls. In the past, these boats had a larger wingspan (around 16,5 metres length and 4,2 metres of width), and some would have up to four oars, which demanded a 45 men crew. Currently, the boats used in *xávega* have two oars and are significantly smaller (around 9 metres of length and 2,9 metres of width), with a crew of 7 to 9 men.

MARINHOA BREED

In the old days, considering the large dimension of *xávega* boats, marinhoa oxen were used to carry them back and forth to the sea, as well as to help fishermen pulling the fishing nets from the water. The marinhoa breed was chosen not only to assist with this demanding *xávega* work, but also with agriculture. It is a native breed from the region, distinguished for its strength and resistance, but it has been mostly replaced by tractors.

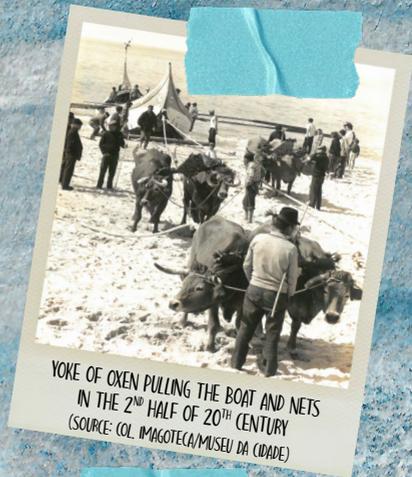
TARGET SPECIES

The *arte xávega* is a non-selective fishing gear, but the mesh size and the net dimensions are controlled. Normally, the most caught species are the horse mackerel, Atlantic mackerel, sardine, European anchovy, and squid. During summer, the activity attracts a lot of people at the beaches who want to see the gear, buy fresh fish, and even help pulling the nets and picking the fish. Despite the progressive decrease in the number of *arte xávega* boats, this fishing is rooted in the traditional culture of coastal communities. It is possible to see this fishing gear, during summertime, in the municipalities of Ovar, Murtoşa, Vagos and Mira, in the following beaches: Esmoriz, Cortegaça, Furadouro, Torrão do Lameiro, Torreira, Vagueira, Areão and Praia de Mira.





HALF-MOON BOAT FACING THE BREAKING OF THE WAVES IN THE 2ND HALF OF 20TH CENTURY
(SOURCE: COL. IMAGOTECA/MUSEU DA CIDADE)



YOKE OF OXEN PULLING THE BOAT AND NETS IN THE 2ND HALF OF 20TH CENTURY
(SOURCE: COL. IMAGOTECA/MUSEU DA CIDADE)



FISH NET
(SOURCE: CÂMARA MUNICIPAL DE VAGOS 2009)



NET OPENING
(SOURCE: CÂMARA MUNICIPAL DE VAGOS 2009)



FISH SELECTION
(SOURCE: CÂMARA MUNICIPAL DE VAGOS 2009)



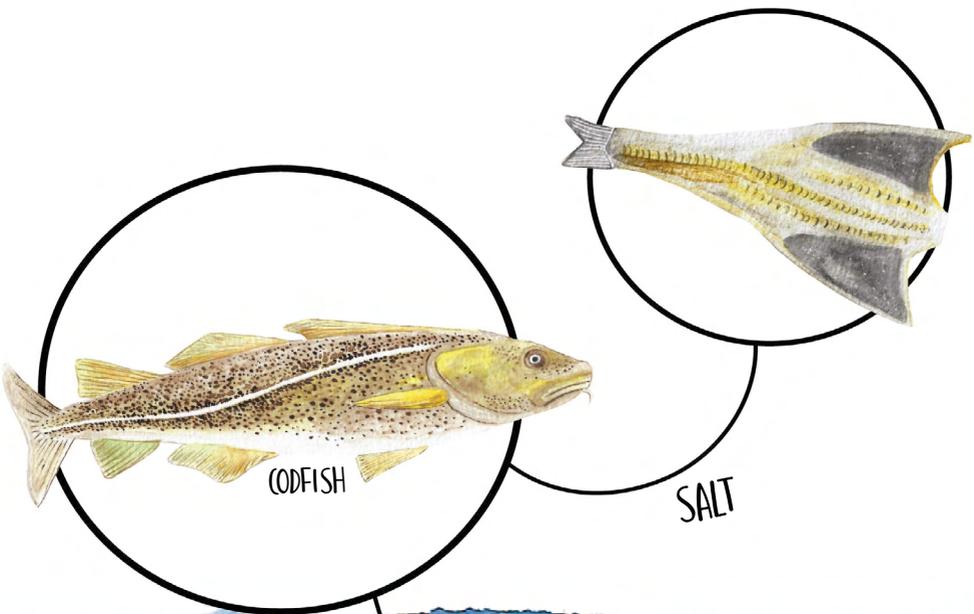
BARCO DO MAR, OR HALF-MOON OF XÁVEGA
(© JOSÉ CARDOSO 2020)

COD FISHING

DORIES

Hand-line cod fishing in Newfoundland seas lasted until April 1974. The cod fishing was made on dories, small wooden boats with flat bottoms which were manned by a single person, spread around the main ship.





CODFISH

SALT

COD FISHING

Although cod (*Gadus morhua*) is not a fish from our sea, Portugal's connection with cod fishing and consumption is an ancient phenomenon, which dates to the arrival of Europeans to Newfoundland and Labrador in the beginning of the 16th century. The Atlantic Cod has been part of our eating habits ever since, becoming a central element of the Portuguese culture as its main identity symbol.

A generalized commercial interest in cod fishing and consumption quickly spread due to its abundance in the northern seas and its easiness to preserve through salting and drying.

By the end of the 16th century, Portugal stopped sending ships to Newfoundland and became more dependent on external suppliers. In the 19th century, in 1835, the *Companhia de Pescarias Lisboense* (The Lisbon Fishing Company) attempted to resume the cod fishing activity by Portuguese ship and men, but it soon went bankrupt. However, sailboats equipped with dories started going on the tough trips to Newfoundland and, consequently, cod fishing activities and cod consumption intensified.

COD FISHING LIFE

Year after year, many fishermen from the Portuguese coast would join cod fishing to work in a variety of roles aboard, both to make a living and to have more stable wages. Later, some men also embarked to escape the colonial wars. Dexterity, braveness, and sea experience were the qualities sought after in men, both for angling and trawling. They were also required discipline and commitment to the task of supplying their country with cod.

THE WHITE FLEET

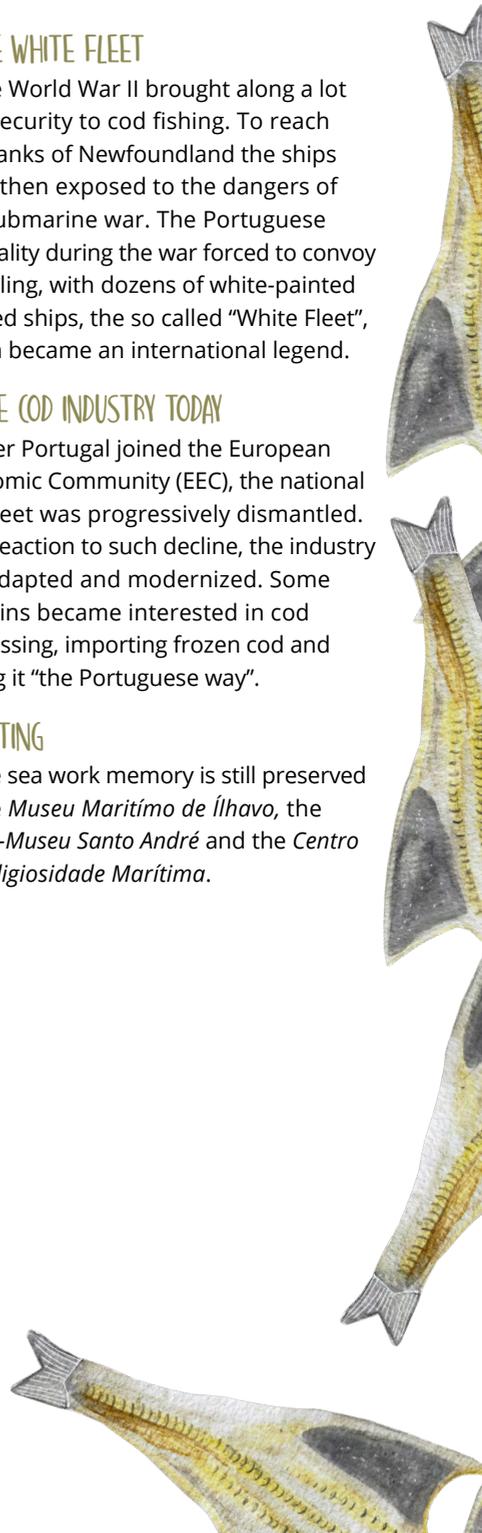
The World War II brought along a lot of insecurity to cod fishing. To reach the Banks of Newfoundland the ships were then exposed to the dangers of the submarine war. The Portuguese neutrality during the war forced to convoy travelling, with dozens of white-painted aligned ships, the so called "White Fleet", which became an international legend.

THE COD INDUSTRY TODAY

After Portugal joined the European Economic Community (EEC), the national cod fleet was progressively dismantled. As a reaction to such decline, the industry has adapted and modernized. Some captains became interested in cod processing, importing frozen cod and curing it "the Portuguese way".

VISITING

The sea work memory is still preserved in the *Museu Marítimo de Ílhavo*, the *Navio-Museu Santo André* and the *Centro de Religiosidade Marítima*.





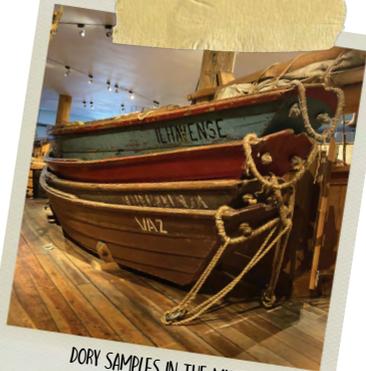
COD FISHING ON A DORY IN 1951
(SOURCE: MUSEU MARÍTIMO DE ÍLHAVO)



NAVIO-MUSEU SANTO ANDRÉ
(© PAULO COSTA 2019)



SANTA MARIA MANUELA
(SOURCE: OIM REGAÇO DE AVEIRO 2015)



DORY SAMPLES IN THE MUSEU
MARÍTIMO DE ÍLHAVO
(© LISA SOUSA 2021)



COD AQUARIUM IN THE MUSEU
MARÍTIMO DE ÍLHAVO
(© PAULO COSTA 2020)



DRY AND SALTED COD
(© MARGARDA FERREIRA DA SILVA 2019)

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TITLE

Coastal cultural heritage in the Ria de Aveiro region

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