Guide to become a Guardian of the Sea

This Project has been funded with support from the European Commission

Guardians of the Sea

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1. Introduction

Aims of the guide

The sea, and the animals that live within it, do not belong to any one person but are there for all of us. We can all enjoy them but we are also all jointly responsible for securing their future.

This 'Guardians of the Sea' Guide is to help you to get to know the sea and its marine life and feel closer to it. It will let you meet the volunteers and professionals who work day-in-day-out for its conservation and will show you how you can join in. The main purpose of the Guide is to:

- **Help young people to meet the sea and love it!** The guide shares with you the wonders of the sea and introduces you to some of the incredible animals that live within it. It contains information that will help improve your knowledge and shows you ways that you might get involved or even find a career working with it. There are examples of conservation projects, volunteering opportunities, learning courses and even fun activities… Once you meet the sea, you cannot stop loving it.
- **Promote the protection of sea life**. Many of the habitats and species in the sea are threatened because of man's activities. It is important for us to act sustainably and demand that organisations, companies and governments also do so.
- **Encourage volunteering and action!** It is your opportunity to take action. You can make small changes in your daily life to help the sea. You can also join other like-minded people in local environment groups.
- **Promote social and professional networks and international cooperation for nature conservation.** This Guide is put together by organisations from different countries and will give you an international insight into marine conservation. It has ideas of how to act globally to help sea life.
- **Improve the skills and employability of young people.** You will find information and resources about species, about the sea, but also about the skills you need for a job related with the sea and its conservation.
- **Establish good habits** in people's home and working lives. This guide will give you some easy steps to a more sustainable life. These are just a few examples; there are plenty more you can add.
- **Promote environmental education.** We hope this guide helps you to respect nature whilst living your daily life or visiting nature. We also hope you spread the word how to do this.

What is a Guardian of the Sea?

A hero? A scientist? An environmentalist? A new technology? An animal? A person?

The seas cover 71% of the Earth's surface; so what do they do for us?

They provide 80% of the oxygen that we breathe and they are the main source of protein in the diet of for 1 in 4 people worldwide. They regulate air temperature; adsorb 80% of climate change heat; and 50 times more carbon than the atmosphere. The seas give us medicine; they provide economic opportunities such as fishing, transport, minerals and recreation; and they recycle nutrients that we need to live. The seas support habitats (like mangroves, wetlands, coral reef) that protect us from natural disasters and they are home of the greatest diversity of life on Earth. This is what the seas do for mankind. The seas are not only "water".

The seas provide us with our heritage and our culture. They inspire legends and myths; poems have been created and dedicated to the "big blue". Waves, tides, moonlight and sunset have the power to touch our hearts and souls like anything else.

But what do we do for the seas? For the most part, people don't treat the seas as they deserve.

We pollute them. We use them to deposit trash. We kill or extract their inhabitants without any sense of limit. We devastate the natural ecological balance of the oceans - every year almost 70 million sharks are killed, one of the major top predators.

So to answer the question "what is a guardian of the sea?"

A super hero? No, because super powers are not needed to save the oceans.

A scientist? Not necessarily because as we explained, the sea is "our common home", the home of everyone, from which we take all the resources that we need to survive. Not only of scientists.

A new technology? No, this still needs the control of people that invented it and apply it. For sure a technology can help us to conserve the seas but without our actions, without consciousness, they will be useless.

A person? Yes. Who? You! All of you, all of us! The sea is in our blood; is in our lives and is our life. If the seas die; we die. We must all play our part in saving the seas across the World. With a little knowledge, awareness and by taking small actions every day, we can do it. We must spread this message to our friends, to our family and to our community.

So, what is a Guardian of the Sea?

A hero? No. A scientist? No. An environmentalist? No. A new technology? No. An animal? No. A person? Yes. Who? You!

How to use this guide

This guide is divided into seven chapters.

- **Introduction**: here you will learn a bit more about what a Guardian of the Sea is, about us and what do we are hoping to achieve with this guide.
- **Species**: we have chosen four animal species to introduce you to marine biodiversity. Each one of the four animals (European eel, loggerhead turtle, Cory's shearwater and bottlenose dolphin) belongs to a group of vertebrates (fish, reptiles, birds and mammals). You will find out some incredible facts about their lives; the threats to them; and some solutions that have been put in place to help save them.
- **Guardians in action**: Meet our Guardians of the Sea. Many people contribute to the conservation of the sea, including volunteers and those who make their living from it. Here you will meet some of these people and also find out how you could get involved and join in with them.
- **Be a Guardian of the Sea every day**: some advice for your daily life. Of course there are a lot more! But these will help you to be more conscious and think about your routines. Could you be more sustainable? We have divided this in two parts: one for your daily life; and the other for enjoying wildlife responsibly when at work or at play.
- **Erasmus+: funding your way to become a Guardian of the Sea**. Do you want to be an environmental volunteer? Do you want to carry out conservation actions? The expenses are higher than you can support? Here you will find how to fund environmental conservation.
- **Laws and Conventions**: How the environment, the sea and the biodiversity is protected by laws. Here you will find some information about the main International and European laws and conventions that protect the environment, the sea and the biodiversity.
- **More information and links**: we know that you want to know more than we can fit into the guide. Here are some links to enable you to find out more information about the sea, its biodiversity and some networks to help you to take action.

Who we are?

We are five European organisation working together for the protection of the sea:

- **ANSE** (Association of Naturalist of the Southeast, Spain) was born in 1973, with the target of monitoring, preserve and disseminate of Nature and the Environment. Since its beginning, ANSE has worked on the protection of the sea and the coast, fighting against the pollution and coastal destruction. Thanks to the boat Else, in 1998, ANSE started to improve its study of the sea and its biodiversity, pointed in cetaceans, sea turtles and sea birds, but also in coastal clean-up and other campaings.
- **ZSL** (Zoological Society of London, UK). Founded in 1826, ZSL is an international scientific, conservation and educational charity whose mission is to promote and achieve the worldwide conservation of animals and their habitats. Our mission is realised through our groundbreaking science, our active conservation projects in more than 50 countries and our two Zoos, ZSL London Zoo and ZSL Whipsnade Zoo. ZSL works in collaboration for the conservation of the marine environment including the establishment of marine protected areas, free migratory passage and undertaking research on key ecosystems and species.
- **CIIMAR-Madeira**. Interdisciplinary Centre of Marine and Environmental Research of Madeira (Portugal) is a private, non-profit organization based in Madeira Island. It is a unique organization specialized on insular environments, which is currently involved in the development of fundamental and applied scientific research, both in atmospheric and marine sciences. One of the main goals of our institution is to assist the decision making process, providing scientific knowledge and technology transfer to private companies, state and regional public agencies. CIIMAR PhD members are currently involved in the training of graduate and post-graduate researchers.
- **GreenRope** (Italy) was born in 2013 in the heart of Puglia from passion and from the energy of ideas of a group of young people. Our local and European projects are based, overall, in the protection and conservation of the environment and biodiversity and in the topic of sustainable development. We want to achieve a dream: we want to give values to our territories, doing the first step to create a better future and a better world for us and for our society. We want to increase awareness of people and we want to spread the voice of positive messages thanks to concrete actions, active participations, youth mobility and due to formal and non-formal education. The key-words of GreenRope mission: preservation of environment and biodiversity, education, research, scientific information, slow-food, fair-trade, ecotourism, sustainable development, healthy life-style, open-air sports, giving values to local territories.
- **WFMF.** (World Fish Migratory Foundation, The Netherlands) was founded in November of 2013. Our mission and vision is to contribute towards protecting and conserving migratory fish through projects that facilitate rehabilitation, ecosystem protection and communication on fish migration. We strive and ultimately look forward to: Healthy migratory fish populations swimming in full abundance, more free-flowing rivers and communities, specialists, industry and government all working together to create a sustainable environment for humans and fish alike. WFMF created projects as WFMD (World Fish Migration Day) which reaches over 60 countries and thousands of people, aiming to educate and aware citizens and stakeholders about the important role of migratory fish and healthy rivers.

2. Species

Seas support an incredible variety of life, from microorganism to the world's largest mammal, the Blue Whale. Marine species provide important ecosystem services such as the provision of food, medicines, and jobs. They also support tourism and recreational activities around the world.

From those species, we have chosen four of them: each species is from a different group of vertebrates and each of them has a very different ecology and lifecycle from the others. But they have something in common: they are some of the most well-known sea animals, and they are all endangered. We also include some examples of how volunteers and organisations work for the conservation of these species.

They are just examples of the incredible biodiversity that live in the sea, the threats that suffer and how we can help them by being a Guardian of the Sea. The four marine animals are:

- Bottlenose dolphin
- European eel
- Loggerhead Sea Turtle
- Cory's Shearwater

Bottlenose dolphin

Tursiops truncatus

Photo: AnaDinis©MadeiraWhaleMuseum

The dolphin that everyone knows!

The bottlenose dolphin is the best known of all cetaceans. It figured in the legends of ancient Greeks and Romans in the past and, is a well-known star of movies and television shows, (Perrin *et al*, 2009, Mead *et al*, 2002).

In the wild, some individuals have developed social interactions with humans, such as cooperating with fishermen in the capture of prey (Perrin *et al*, 2009).

Distribution

This species inhabits most warm temperate and tropical shorelines, adapting to a variety of marine and estuarine habitats, even ranging into rivers. They are primarily coastal but are also found in pelagic waters, near oceanic islands, and over the continental shelf (Perrin *et al*, 2009).

There appear to be two main varieties of this species: a smaller, inshore form, and an oceanic one, larger and more robust that lives mainly offshore (Shirihai and Jarret, 2006, Carwardine, 2002).

Ecology

Bottlenose dolphins have very fluid social groups. In their fission–fusion society, group composition changes very quickly. However, some long-term relationships have been documented with individuals sighted together for years at a time. They are typically found in groups of 2–15 individuals, although groups of more than 1000 have been reported (Perrin *et al*, 2009).

Threats

Threats of human origin include entanglement in nets, entanglement in or ingestion of recreational fishing gear, pollution, boat collisions, noise, tourism and direct hunt (Perrin *et al*, 2009).

Conservation

Although there are many threats operating on local populations, bottlenose dolphins are widespread and abundant, and as a species it does not appear to merit concern for major global population decline (Perrin et al, 2009).

The species is listed in Annex II of Habitats Directive (Natura 2000 network) and Appendix II of CITES. EU governments, throughout the Habitats Directive, are required to consider the areas where this species occurs for the establishment of Special Areas of Conservation (SACs; Cañadas 2006; Wilson *et al*. 1997).

Interesting facts

- Bottlenose dolphins can reach 4.1 meters in length and weight 650kg (Shirihai and Jarret, 2006).

- Female common bottlenose dolphins can live to more than 57 years, and males up to 48 years (Perrin et al, 2009).

- They produce a large variety of whistles, including "signature whistles" that are individually specific and appear to be used to communicate identity, location, and possibly emotional state (Perrin *et al*, 2009).

- Bottlenose dolphins are one of the few species, besides humans, that can recognize themselves in mirrors (Perrin *et al*, 2009).

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VOLUNTEER

Alberto Molina Serrano

What do your volunteering day looks like

Volunteer days with ANSE start in Cartagena. After a few preparations, the emblematic schooner Else is ready to set sail and go to look for the dolphins. All day long, volunteers and scientists take observation turns in the prow of the ship. With any luck, we find the dolphins quickly. Besides all the information we need to take, the association carries out a catalogue of the dolphins so we have to photograph all the fins we can. During the observation turns, we also take information of the birds, fishes and rubbish that we see.

Why volunteer?

Like many people, I have always wanted to be a marine biologist and work with these wonderful animals. Nevertheless, when I grew up I realized that this is not so easy. Lot of people just study a degree and wait to get that "dreamy job". Volunteering is the perfect chance to know this world and get more preparation and experience for the future.

Why dolphins?

Personally, dolphins and whales have always fascinated me. The more we learn about their biology and behaviour, the less we really know and understand. These are very complex creatures. Dolphins have an essential role in marine ecosystems. They can help us to know better the oceans functioning and even to learn more about our own intelligence.

What does it mean to be a volunteer for ANSE

Being an ANSE's volunteer is a perfect chance to see up close these amazing animals. You can also know the lifestyle and the work of a marine biologist. Besides, it is a great experience to be part of ANSE, a small association with a large story and importance in the environment protection.

How did you get involved?

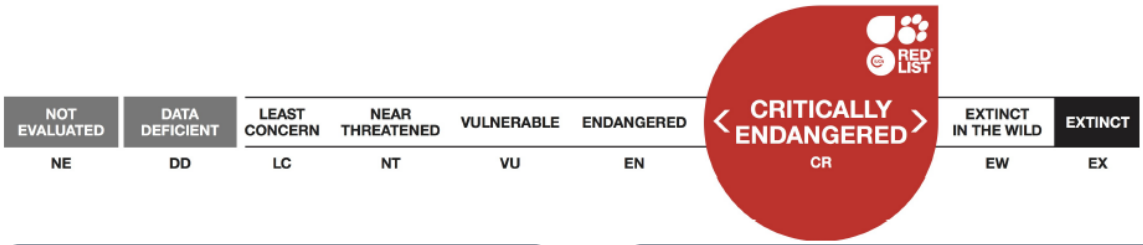
Although I had heard about ANSE, I did not start to collaborate with them until I made a course of identification of cetacean and seabirds. Since then, I have participated in three different campaigns with dolphins. Recently I've started to help with birds ringing as well.

European eel

Anguilla anguilla

Photo: Joe Pecorelli

Photo: Pedro García



The mystery of the eel

For centuries, scientists have wondered where the European eel reproduced. Different theories have existed since the time of the Romans and the Greeks. Aristotle believed that eels belonged to the worm family and that they would reproduce spontaneously, in the soil. It was not until the late 18th century when eels were accepted as a type of fish. The exact location where they spawn is still a mystery.

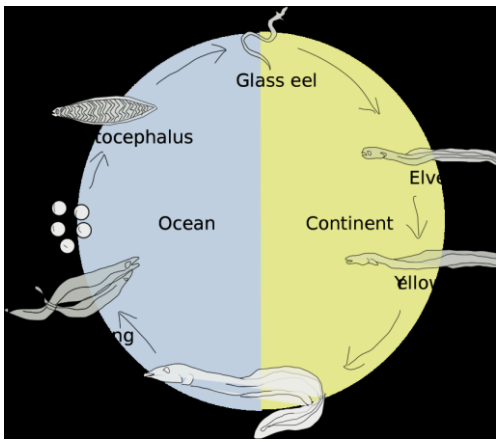
Distribution

European eels are widely distributed within European freshwaters. From North Cape in Norway, southwards along the Atlantic coast of Europe, all coasts of the Mediterranean including the North African Coast.

Small populations also exist in the White and Barents Sea and eastward to the Pechora River in northwest Russia.

Lifecycle

The European Eel is the only European fish that is catadromous, meaning that it spawns in the sea having spent most of its life in freshwater. It has a complex lifecycle which involves travelling 10,000km - from spawning grounds in the Sargasso Sea across the Atlantic Ocean to the rivers and lakes of Europe, where the eels grow and develop for up to 30 years before travelling back to the Sargasso Sea to spawn the next generation.



Threats

The European eel has seen a decline in recruitment into European Rivers of up to 90% since the 1980s and is now registered on the IUCN Red List as Critically Endangered.

Threats are suggested as being a combination of habitat loss, barriers to migration, parasites, pollution, over-fishing and climate change affecting oceanic currents.

What conservation solutions have been put in place?

The European Union established a Regulation in 2007 (EC 110/2007) that requires member states to develop Eel Management Plans (EMPs) for all eel habitats

Each EMP aims to reduce mortalities resulting from human activity "to permit with high probability the escapement to the sea"

An example of work within EMPs is the building of eel passes in zones where there are artificial obstructions in rivers which stop or reduce upstream migration of eels

It is also important to monitor eel escapement in order to fully protect the different migration pathways

Interesting facts

The European eel can spend up to the first three years of its life drifting in the plankton being brought to the coasts of Europe on the Gulf Stream.

They then undergo metamorphosis and turn into glass eels – they are called this because they are transparent.

They then become pigmented and so darker in colour and are actively able to swim. They start to move into freshwaters in large numbers and are known as elvers.

The elvers become 'yellow eels' when they grow longer than 120mm. They spend much of their life as this before turning 'silver' and starting their long migration back to the Sargasso Sea.

The European Eel can grow up to 1 metre long and can live for over 20 years.

References

To find out more about their amazing life cycle, check out this video! HYP (https://www.youtube.com/watch?v=WBRnNk_uo9Y)

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VOLUNTEER

Anna Patel

What do your volunteering day looks like

I arrived at ZSL offices at 9am. I often spent my days monitoring eel migration up tributaries of the Thames in London so the first thing I had to do was collect together equipment such as data sheets, waders, buoyancy aids and buckets. We then drove to the project sites where we checked for eels in our traps and if we found any, counted, measured and weighed them before releasing them.

Why volunteer?

Many conservation organisations require volunteers to carry out all of their projects. I volunteered with ZSL to gain experience in a variety of projects from field surveys to data analysis to help me get a job in conservation. Volunteering has given me skills in monitoring, data analysis, report writing and working in teams. It has also given me experience of working in the offices of an international conservation organisation and has given me a network of contact. I have now moved on to another role within ZSL.

Why eels?

Eels are endangered! European Eels are Critically Endangered and the Thames is a crucial habitat in their migratory route. ZSL provide alternative routes for eels to overcome boundaries such as weirs and the eels are monitored as they pass along these routes in their upstream migration. By counting them we can monitor their trends across years and hopefully see an increase in the population.

What does it mean to be a volunteer for ZSL

Volunteering requires a lot of work and therefore it is important to volunteer for a project you really care about. ZSL offers so many different opportunities for volunteering and as a charity really rely on the extra hands and knowledge such as by educating the public about endangered species and their conservation. Often volunteering can be the first step in a career in conservation.

How did you get involved?

I got involved with volunteering in the ZSL through an internship advertised on the ZSL website and other environmental websites. This internship gained experience in monitoring marine and freshwater species.

VOLUNTEER

Sandra Chevret

What do your volunteering day looks like

I believe there are many ways to volunteer and my typical day is in the office, helping with important tasks. I join my colleague at her home office every morning and we work together on the coordination of educational events around the World. I get in touch each day with people from different countries to join us. By doing so, I help my organization reach more people and raise awareness on fish migration issues.

Why volunteer?

Volunteering is giving time and energy to an organization that promotes issues we care about. But it is actually the volunteer who gets the most benefits in my opinion! It can sometimes open doors to new work opportunities and for sure creates a new professional network. It gives access to activities that could be difficult to endorse otherwise and experience in a new field. It is always very rewarding!

Why fish migration?

Fishes that migrate accomplish amazing journeys in rivers and oceans. Not only it is important to protect those remarkable species, but also all that comes with it (rivers, other fishes, fresh water ecosystems and activities, etc.). So, fish migration brings the focus to a wider picture and it reaches all of us because we all have our own bond with this environment.

What does it mean to be a volunteer for World Fish Migration Foundation?

For me, it is to participate to the World Fish Migration Day 2016 on May 21st, 2016 and contribute to make it a success.

Aside from the WFMD2016, coordinate the events that are organized worldwide on that same day and invite new ones to join.

But mostly, it means to enjoy working, which is the leitmotiv of the Foundation.

How did you get involved?

I first entered in contact with the Founder of WFMF via a professional network on internet. After a few exchanges we talked on Skype and we discussed about this opportunity to work on event coordination in Spain. The work he offered me to do as a volunteer benefits us both greatly. So here I am now!

Loggerhead sea turtle

Caretta caretta

Photos: José Luis Murcia Abellán

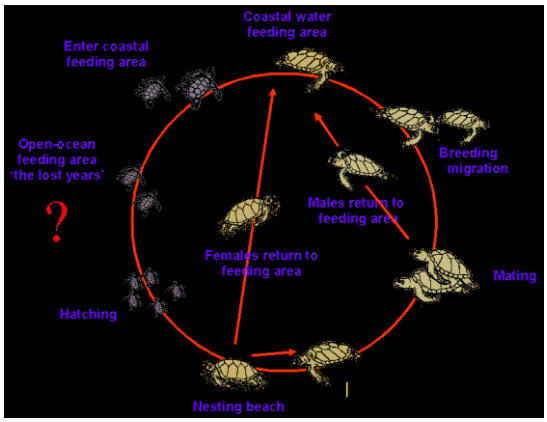
Ocean traveller

The loggerhead is one of the most widespread of all the marine turtles and also the most highly migratory. This turtle's common name comes from its relatively large head, which contains powerful jaws. Loggerheads are the most common turtle in the Mediterranean, nesting on beaches from Greece and Turkey to Israel and Libya. However, many of their nesting beaches are under threat from tourism

Distribution and Habitat

The loggerhead sea turtle has a cosmopolitan distribution, nesting over the broadest geographical range of any sea turtle. It inhabits the Atlantic, Indian, and Pacific Oceans and the Mediterranean Sea. Loggerheads can be found hundreds of miles out to sea or in inshore waters. Coral reefs, rocky places, and ship wrecks draw large amounts of marine life and are great feeding areas.

The sea turtle life cycle starts when a female lays its eggs on a nesting beach. Two months later a tiny hatchling makes its heads to the water and begins an epic 8,000-mile solo journey around the world. Young loggerheads will return to the coastal waters in about 6 to 12 years where they forage and continue to mature. A female reaches maturity when her carapace is 90cm (12-30 years). In nesting season the female will lay 2 -5 nests each with 100 eggs.



Interesting facts

Diet: Primarily carnivorous and feed mostly on shellfish that live on the bottom of the ocean. They eat horseshoe crabs, clams, mussels, and other invertebrates. Their powerful jaw muscles help them to easily crush the shellfish. In the their early age, in the period called "black period", for the lack of knowledge about it, their feeding is related with their pelagic environment and their diet is based overall on jellyfish.

Male or female: The temperature of the nest determines a hatchling's gender. This is called Temperature-Dependent Sex Determination (TSD). Warmer temperatures produce mostly females, and cooler temperatures produce a majority of males. There is a pivotal temperature that produces an equal ratio of males and females. The temperature determining sex ratio differs between nest locations.

Threats

The main threats which affect marine turtles are: habitat loss and degradation, wildlife trade, collection of eggs and meat for consumption, incidental capture (bycatch), climate change, and pollution. The main cause of mortality is attributed to fisheries bycatch, and abandoned drift nets continue to drown loggerheads in unknown numbers (ghost fishing) & habitat loss or disturbance and pollution. Hatchlings use the natural light horizon, to reach the water when they emerge from the nest. Any other light sources such as beachfront lighting, street lights, light from cars, campfires etc. can lead hatchlings in the wrong direction.

Conservation

There is much work being undertaken to throughout the world through specialist programs and regional projects devoted to the conservation of marine turtles. Activities includes: monitoring the migration patterns of marine turtles; improving and supporting trade controls; protecting nesting sites and reducing bycatch and promoting smart fishing.

NGOs such as Greenrope and WWF are working to establish a fully representative network of protected areas in the Mediterranean and are collaborating with governments and partner conservation organizations to protect loggerhead nesting beaches in Turkey and Greece. Work is also underway in South Africa, Madagascar and Australia among other locations.

Another great example of conservation initiatives are carried on by Project Biodiversity in Cape Verde, extremely important hot spot for the nesting season of these animals. To know more: http://www.projectbiodiversity.org/

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VOLUNTEER

Claudia Serrone

What do your volunteering day looks like

I take as example one specific day in summer 2015: I wake up early to travel from my home town to another almost 100 km away for the GreenRope "ECO DAY" at the beach. We held some workshops & games for children, local people and tourists to increase awareness on environmental issues related to marine biodiversity. Our friends of KiteSurf Taranto gave free trials of sea sports like surfing, SUP, body boarding and sailing to increase the consciousness of the eco-tourism. In the afternoon, we moved to another town to help GreenRope monitor nest of a hawksbill turtle with WWF Policoro... because that night there was another hatch of some "little babies".

Why volunteer?

Thanks to GreenRope I realized something that I couldn't ever have imagined! I can travel around Europe and even more... I can meet young active people from different countries; increase my knowledge, my experiences. I can act at local level with all the other volunteers taking part in all the local initiatives related to conservation of biodiversity, promoting ecotourism and active citizenship. All of this on top of having a lot of fun. In four words: think global, act local.

Why loggerhead turtles?

Loggerheads are in extreme danger because of human impact: bycatch (accidental capture by fishing boats) & ghost fishing by abandoned fishing nets are killing them; we are destroying their habitat and nesting area. Sea turtles are important animals for the whole marine ecosystem and they are "flag species", it means that preserving them thanks to awareness of local people, we can preserve the whole ecosystem.

What does it mean to be a volunteer for Greenrope?

Volunteering with GreenRope means travel, education, meeting new passionate people, team work, new experiences, important initiatives that have a huge impact at local and international level. It means to do something concrete for my territories. It means have fun and it means go out from my comfort zone. It means being young and active, for real.

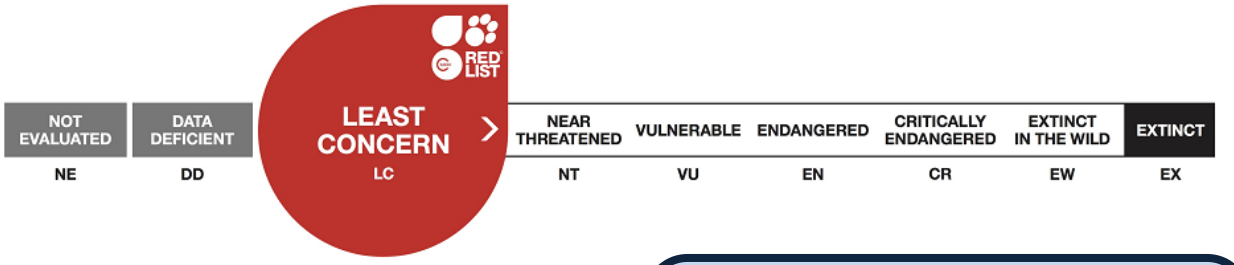
How did you get involved?

I got involved with volunteering in GreenRope through an advertisement on Facebook when in 2014 they were looking for volunteer to preserve a nest of *Caretta caretta*. Since that moment, I have done several experiences at local level and also abroad, in a project dedicated to the preservation of marine life in Greece.

Cory’s shearwater

Calonectris diomedea

Photo: Juan Bécares



Masters of flying

Cory's Shearwaters are great travellers that can fly for hours gliding and soaring without active flying.

They have long migrations in a loop shape that go from their breeding places in Europe to the coast of South America, then to the coast of Namibia and South Africa, then they travel to the coast of North America and finally back to their breeding places again.

Distribution

Breeders from the Atlantic and Mediterranean have recently been considered as different species. The Atlantic species breed mainly in Azores, Madeira, Selvagem and the Canary Islands. The other species breed in islands of the Mediterranean Sea.

Both species have similar non-breeding range that extends through the Atlantic Ocean as far as the coast of Brazil and Uruguay.

Lifestyle

Cory's shearwaters are pelagic birds, - birds that spend most of their lives on the open ocean and rarely stop on land except to breed-. A young Cory's shearwater that flies for the first time won't land again after five or six years when it will breed for its first time.

They can be thousands of miles offshore and when they rest, they do so by floating on the water.

Threats

The population of both species appears to be decreasing. Their main threats are:

- Predation by invasive mammals at the breeding colonies
- Accidental bycatch by fisheries
- Light pollution at the colonies
- Poaching of chicks
- Shearwaters are especially vulnerable to invasive cats, rats or mice in the islands where they breed. As they are not use to this animals, they don´t avoid them and are easily trapped by them.

What conservation solutions have been put in place?

Portugal and Spain have led a pioneer project to design Marine Important bird Areas.
Following this project, new marine protected areas (SPA) have been designed under European legislation (the Birds Directive) in both countries. This is part of the Natura 2000 network.
Eradication programmes of rats and cats have been done at some small islands.
BirdLife support a new Common Fisheries Policy model of sustainable fishery and promotes a European Action Plan to reduce accidental bycatch.

Interesting facts

- A Cory´s S]shearwater can fly 30,000 km in one year (Gonzalez-Solis *et al*. 2007)
- In 2015, a Cory's shearwater ringed in Tenerife (Canary Islands) was recovered in a beach of Massachusetts (SEO/BirdLife, 2015)
- Cory's Shearwaters are long-lived birds that can live more than 20 years (EURING, 2014)

References

Gonzalez-Solis, J., Croxal, J., Oro.D. y Ruia,X. 2007. Trans-equatorial migration and mixing in the wintering areas of a pelagic seabird. *Front. Ecol. Environ* 5: 297-301.

EURING. 2014. Longevity list: http://www.euring.org/data-and-codes/longevity-list

VOLUNTEER

Antonio Zamora

What do your volunteering day looks like

I start my volunteer day at Cartagena's harbour from where we drive a small boat to the island of "Palomas". When we arrive to the island is quite late in the evening, short before than the shearwaters begin to visit the colony. My task is to stay near the entrance of a cave where we know some pairs are breeding. I have to be ready to catch the birds that are going in or out from the cave. When I trap one, I check for a geolocator, in the legs, ringed, measured and weighed them before releasing them.

Why volunteer?

I volunteered with ANSE to have the chance to work closely with wild animals in conservation projects. Particularly, I was interested in work with birds and to live. Volunteering has given me skills in bird ringing and the chance to get my ringing licence. Also has given me experience in monitoring and field work. Thanks to the volunteering I have met many people and contact some researchers whom I've been able to work with.

Why Cory's shearwater?

Cory's Shearwater is a wonderful bird with an extraordinary lifestyle, wandering the oceans and landing only to breed. They are usually offshore and it is not easy to watch them from the coast. To work with them in a breeding colony of Cory's Shearwater is a unique and unforgettable experience, a dream for those who admire these animals.

What does it mean to be a volunteer for ANSE?

ANSE is a local organization with only a few workers so volunteers are essential for most of the projects. In fact, many of the projects don't have any money and are done only by volunteers.

How did you get involved?

I got involved with volunteering in ANSE through a ringing course at the University given by this organization. Since then, I began to join them during the ringing sessions and now I'm involved in many different projects.

3. Guardians in actions: Meet our guardians of the Sea

Many people work for the conservation of the sea. Do you want to join them? Of course you can! You can spend some of your free time training directly in the field and helping the sea as a volunteer. But you can also become a professional. Do you want to know how?

Here we show some examples of professional workers. They will explain you directly what they do for the sea conservation, why they choose their profession, and how can you help them; join their work or act sustainably in your everyday life.

Nature Ranger

Valter Miranda

What is a nature ranger?

A nature ranger is someone who works for the environmental public administration and that has the duty of promote and preserve the natural heritage.

What do your normal day look like?

My job schedule is variable it depends on the work that I need to do each day. It includes the supervision of the protected areas of Madeira Autonomous Region, environmental education actions for schools and other official groups, maintenance of the existing facilities on the protected areas, and attendance to scientists on research programmes.

Which motivations led you to be a nature ranger?

I wanted to be a ranger because I love nature.

Being a ranger makes me feel free because we work outdoor and with the wildlife.

What does it take to be a nature ranger?

To be a nature ranger you need a compulsory education and a nature ranger specific formation.

Skills like responsibility, agility, humbleness and ecological mind are required. Ability to work in team (with other rangers, scientists and volunteers) is also important.

Any advices for those people who want to became a nature ranger working for conservation?

If you want to become a Nature ranger first of all you must love nature. You also should be prepared to work isolated because some protected areas are located in very inaccessible places (like Desertas, Selvagens and Porto Santo islets in Madeira, Portugal, where I have to work sometimes).

Marine Biologist

Oscar Esparza Alaminos

What is a marine biologist working for an NGO?

Working in Seascapes Conservation is working for Nature preservation, through different tools: science, communication, lobby and promoting stakeholders participation. The most interesting part is to transfer the scientific knowledge to the governments and to involve the stakeholders to achieve improvements in laws that allow balancing human activities and biodiversity protection.

What do your professional day looks like?

My day is divided between office work, where I plan and coordinate various conservation projects, draft information, follow policies or prepare allegations against projects that could threaten marine environment; trips and meeting with foreign or local colleagues, scientist, journalists, governments or stakeholders (mainly fishermen); and finally, field work doing awareness and dissemination on board the solar catamaran with volunteers and other NGOs.

Which motivations led you to be a Marine Biologist?

When I was a child, I loved maps, and look at geographical atlas. The only unexplored places, without names, where in the deep seas. What led me this way was improving the knowledge about the marine ecosystems, combining research, the sea and conservation with scuba diving and working in the sea.

What does it take to be a marine biologist?

An international organisation requires a wide variety of specialist, as biologist, engineers, journalist, lawyers, and some others. What we have in common is a commitment in improving the Earth.

Having environmental training, previous collaborations with NGOs or have been a member of multidisciplinary groups is appreciated.

Any advice for those people who want to preserve the marine environment

Two things: be a responsible consumer daily - be informed, ask about the product traceability and recycle, mainly plastics; and be responsible as citizen, being a role model, educating and divulgating, participating in their community and lobbing to the governments for improving environmental management.

Scuba Diver

Pedro Vasconcelos

What is a professional scuba diver?

A professional scuba diver is a diver who has the knowledge, skills and experience to teach others how to dive in a safe and fun way, never forgetting the respect for the environment.

What made you have professional environmental concerns?

In my life I always had environmental awareness. Also as a professional I should give the example because without the protection and preservation of the environment our life will end.

Unfortunately, not everyone shares the same feeling about the nature.

Which sustainable actions do you apply in your job?

During dives we try not to touch anything so we don't damage nature. We also organize cleaning beaches events for the divers and for children in the coastline.

We also try to alert the politicians and local authorities for issues about the environment, especially the ones that affect most directly the underwater world.

What do you do when your clients have inappropriate behaviour towards the ocean conservation?

Fortunately, situations like that have been very rare but when it happens my response tries to go always in an educational way. I try to explain them how important it is to preserve the places that we visit and to respect biodiversity.

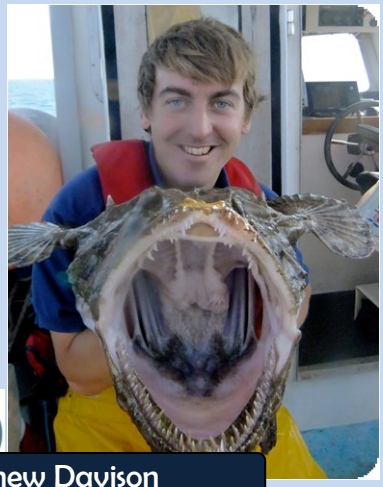
Immediately I call their attention because all should contribute to the ocean conservation.

Any advices for those people who want to became a professional scuba diver working for conservation?

First, it is very important to know that only protecting nature NOW, we can have more generations interacting in harmony (humans and underwater life).

Then, find a person with years of experience to teach you, work hard and never give up. Nature also doesn't quit.

Environmental consultant



Matthew Davison

What is an environmental consultant?

Being an environmental consultant here at WYG means you get to work across a variety of disciplines and sectors. Ultimately we aim to address any environmental issues that our client might have. Our clients can be based in the public or private sector, which means we need to keep up to date with the latest guidance and legislation. We also undertake a diverse range of field studies to collect data to inform our reports.

What do your professional day looks like?

Days are varied and are often spilt between the office and the field. When in the field I undertake a range of activities that include habitat mapping, trawling and marine mammal recording. These activities can be conducted from a survey vessel or I can be on foot. When I'm in the office I analyse and interpret the data gathered in the field. I then report the results to the client who may ask me to present my findings at a conference or public enquiry.

What motivated you to become an Environmental Consultant?

Perhaps the biggest motivation was the opportunity to work across such a wide variety of projects and disciplines. No project is the same and I'm always faced with a unique set of challenges that I need to overcome. As a result I am constantly interacting with experts and learning new techniques. You're also able to travel, which gives you the opportunity to experience new places and explore new environments.

How do you become an environmental consultant working in the marine sector?

You will need a degree, or equivalent qualification, in a relevant subject like marine biology. Most people go on to undertake post graduate studies to obtain a Masters or a PhD. However, this is not always necessary as good practical experience as counts. This may be gained through volunteering or by working in a related industry for a time. Some marine consultancies occasionally employ seasonal workers during busy survey periods. It is therefore worth contacting them directly to discuss opportunities.

Any advice for those people who would like to work in the marine environment?

Pay attention to the marine industry and direct your studies to fall in line with future trends, developments and concerns. Try to attend as many industry events as possible and whilst there establish connections and give out your CV. Register with professional institutions and pay close attention to their newsletters and websites. These provide a good chance to spot opportunities as marine consultancies, such as the WYG Group, often advertise through these outlets. Social media sites are also a good source of information and spotting job adverts.

Fisherman

Jesus Gómez Escudero

What do your professional day looks like?

The daily schedule of a fisherman depends on the fishing gear, the time of the sunrise and the time of selling in the rashers. We start working 2 or 3 hours before the sunrise.

We revise the nets and take the fish to the rasher (fish market). Then, we go back to the sea to check the nets, and take out some of them for drying. In the afternoon, we repair our nets.

We can go to the sea 5 days per week. Some passive gears have been broken off for stealing us, so we have been allowed to revise and extract the fish 7/7, just on those gears.

Do you think that caring the sea is necessary?

Sea conservation is fundamental. Fisheries are the first injured parties when the sea is degraded.

Fisheries are regulated, and the laws related with the sea must be respected, because we are all harmed when one of us breaks the law.

Other sectors, as tourism and motor sailing, should be also regulated. We all should avoid pollution and the complying of the rules should be more monitored.

Fisheries should be also regulated for being sustainable environmentally, but also economically.

Which sustainable actions do you apply in your job?

In the 1990s, catches decreased and we decided to change some gears temporally. Some companies and fishermen had to change their economic activity. Currently we-the fishermen guild- have decided to give back the smallest fish to the sea, although they are bigger than the minimum size. In this way, after some days, we will find bigger fish.

I consider that the restrictions are positive if these are based on good studies and if all the organization and administration get an agreement. Some new technologies should be forbidden, because they allow the overfishing. New technologies should not allow depleting fisheries.

What do you do when you see someone having a poor attitude toward the ocean conservation?

I am really against damaging behaviour in the sea, and it makes me feel bad. Doing something individually is really difficult, but something can be done by fishermen guilds. Some fishermen take advice to the fishermen guilds, but others do not do that because they do not want to have problems with other colleagues.

Advice to other fishermen and people going to the sea for conservation?

The Mar Menor coastal lagoon is a really sensible ecosystem; fishermen should avoid having damaging attitudes that affect it. They should not poach or throw rubbish. People should be educated in not throwing rubbish in the sea.

Professional fishermen should respect the regulations.

Councils and Administrations should enforce laws, and monitor the status of the sea.

Whale-whatching operator

Luís Dias

What is a whale-watching operator?

It is a person who organizes whales and dolphins watching tours, a unique experience. It is also a person that brings out a great understanding about humans interaction with nature.

Which sustainable actions do you apply in your job?

I always try to promote a responsible and sustainable whale watching activity, namely:

- offering educational experiences for participants which motivates them to care about marine mammals and the sea;
- causing the smallest impact possible on whales and dolphins; respecting relevant regulations and codes of conduct; ensuring vessels are fit for purpose; approaching with care and attention; respecting approach distances; limiting time spent in their area;
- providing opportunities for researchers to gather scientific information and to share them with the public;
- providing experiences with a nature guide who can give accurate information, help to find the whales and describe their behaviors.

Which environmental concerns do you have in your job?

When planning the whale-watching activities, I'm committed to responsible wildlife viewing, to research, and to education through our extraordinary access to these sensitive populations of marine mammals. Also, I always have in mind the need to contribute to develop a critical consciousness for conservation in our customers.

What do you do when you see someone having a bad attitude toward the ocean conservation?

I try to inspire them by promoting positive attitudes towards ocean conservation through our specialised and personalised service that blends professional knowledge of the marine environment with our passion and care for nature.

Any advice for those people who want to became a whale-watching operator working for the ocean conservation?

To work directly with nature and wildlife species always requires a great connection and understanding of the natural world. Some advice that I think are important are:

- Invest in your knowledge about the whales and dolphins of your area;
- Remember to “put the animals first” - you will have the responsibility to cause as little disturbance as possible;
- Collaborate with companies who follow the whale-watching regulations of the area.

Researcher

Margarida Hermida

What is your main area of research?

Fisheries biology. My research is currently focused on tunas, as these are very important commercial species for local fisheries. I'm trying to understand what are the factors behind the seasonal and inter-annual variability in the abundance of the different tuna species in the region. This could be related to environmental conditions and/or abundance of prey species.

Which environmental concerns exist in your area of research??

Overfishing, which means fishing more than what the fish populations can withstand, is an important concern. Fisheries biologists try to assess how much fish can be removed from the population without causing its collapse. It is essential that we have accurate information on how much is being fished. For this reason, the existence of illegal, unregulated and unreported fishing is a huge concern. You can find more information in http://www.ices.dk/

How does your research contribute to the conservation of the ocean in your local community?

Research on commercial species like tunas is important both from a conservation perspective, since these species are under fishing pressure, and from a food security perspective, because we need healthy fish populations to provide valuable protein for human consumption.

How is your research disseminated?

The principal means of research dissemination is always to publish peer reviewed papers in international scientific journals. However, since fisheries biology is important for society in general, I have also published a few articles in the regional press, and in 2014 I developed an app (with my colleague Carlos Lucas) called MadeiraFish about the commercial marine species of Madeira, including not only information on biology and fisheries, but also nutritional composition and gastronomy.

Any advices for those people who want to became a researcher working for conservation?

For any researcher, really: read widely and listen to other people's points of view. Don't be afraid to be wrong sometimes and change your mind if that is the case. It's also important to be able to work as part of a team, because science is fundamentally collaborative.

Sea Sport Instructor

Mario Tagarelli

What is a sea sports instructor?

A Sea Sport instructor is a person that loves sports in contact with nature and wants to enjoy life and to share his passion with other people. “Surf” (as long board, kite surf, SUP, and body board) is one of the friendliest sports. It allows you to overcome your limits, to challenge you and to share this with other people, helping each other. But a Sea Sports instructor is also a person that knows the sea that loves the sea and wants to preserve it and all its creatures. They can help doing that disseminating the preservation of nature and involving in ecotourism initiatives

Which motivations led you to be a sea sport instructor?

I wanted to share this love for the sea and for sports with other people. I practiced more and more, I studied, I made and I do courses to be qualified as professional.

Through these sports I give a new way to people to enjoy our beautiful territories, our beautiful sea, because trough the practice of these sports you will love the sea and you can challenge yourself, your body and your soul, becoming a better person.

What do your professional day looks like?

In summer time we work a lot, I work with my team of ASD Kite Surf Taranto, a group of people like me, a family. We share the same passion and the same goals. Renting boards, realizing courses to people of any age, open day to show to tourists and locals these sports and to make awareness about the preservation of our territories.

Advises for anyone who wants to become a sea sports instructor?

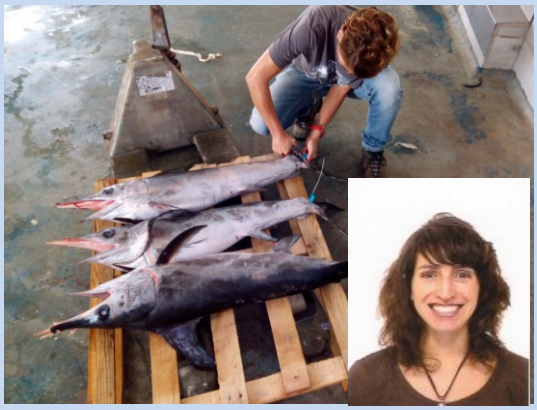
Don’t be selfish - share this love that you have for the sea. Happiness is real only if you share it and because we need to share love and positive messages nowadays, all over the world. Too many times the sea is treated badly.

What advises would you give to people for preserving sea & coast?

Start to look them with different eyes. Try to live them. Try to enjoy them and you will start to love them. Then, share this love with other people.

There are some very active surfers who do a lot to make the seas cleaner. Check out Surfers Against Sewage in the UK who stop water pollution.

Fisheries Inspector



Carmen Gómez

What is a fisheries inspector?

A Fishery Inspector is a Civil Servant employed by the General Government Administration, who is the responsible of the control, inspection and surveillance of fisheries and related activities, in order to comply with the obligation from the European Union of establish a control system of the fisheries sector.

The ultimate goal is ensuring the protection, the conservation and the regeneration of the fisheries resources and its ecosystems.

The control is a key element in a management system.

Which motivations led you to be a fisheries inspector?

The main reason for becoming a Fishery Inspector is the desire of conserving the environment in general, and the sea environment in particular.

Is you do your job properly, you feel that you are helping species and marine ecosystem conservation, controlling one of the threats facing the Sea.

Furthermore, my work is diverse and nurturing, you do it outdoors and in touch with the sea, and you need to be fitness.

What do your professional day looks like?

A Fishery Inspector is an agent of the public authority. Their functions are developed in three ways.

- In the fishing ports, inspecting fish landings.
- Inspecting the fishery activity "*in situ*" from different police and authorities' ships.
- Controlling the fishery activity from the air, by helicopter.

The schedule of my work depends on the fishery activity, so it could be 24/7, although, you get clearing days.

Advice for anyone who wants to become a fisherries inspector

To become a Fishery Inspector you need to pass an exam for been a General Government Administration Civil Servant, and you need an University Degree, but it is no determined which.

In my personal opinion, a good Fishery Inspector should have a deep knowledge of the marine ecosystem and be aware of its conservation. Sometimes you must punish fishermen, and it is hard, so you should balance the environmental conservation with the social and economical issues.

What advises would you give to people for preserving sea & coast?

Fisheries could threat the Sea, destroying marine ecosystems and overexploitation of the species. So, for preserving the Sea, the awareness of the fishery sector is needed. Fishermen should be involved in the sea conservation in long-term avoiding the resource depletion because of the higher economical performance at short time.

Therefore, investigation and diffusion of the Sea and the awareness of the Fishery sector and people in general is needed, in order to change the relationship between the human beings and the Nature.

River Restoration Technician

Eduardo Lafuente

What is a river restoration technician?

It is a technician who works for river restoration, doing projects in an office or supervising the fieldwork. The main objective is recovering of the good status of the river ecosystems. Ideally, the technician has a wide training or a good multidisciplinary team, because for good restoration, knowledge about flows, sediments, biology, migratory species, etc. are needed which all impacts on the marine environment.

What do your professional day looks like?

I am civil servant. Currently, I am in charge of River Restoration Projects Management in Segura Hydrographical Confederation. This include office work applying for projects of managing or controlling actions, field work and meeting with stakeholders, like Councils, Administration, organizations, owners, farmers that use the water of the river...

Which motivations led you to be a river restoration technician?

Although I studied mountain engineering, I already knew that I wanted just to work in something related with water or rivers. I started working in private companies and, when I could, I apply for the opposition, for working in river restoration in the Hydrological Confederation.

My work makes me feeling completely realized.

What does it take to be a river restoration technician?

The training could be a university Degree, as Biology or Environmental Sciences or no university studies, because it do not exist any specialized degree.

The more experience and practical training you get, the better. The experience could be reached through internships or volunteering in specialized organism with fieldwork.

You need to be open-minded and empathetic to negotiate with colleagues and stakeholders, and bring out the best in everyone. Team work is essential.

For getting an employment, you should be made known in restoration companies or apply for being a civil servant.

It is a future oriented job, because the Water Directive forces the EU states to improve river ecosystem quality.

Advices for those people going to rivers and sea to conserve nature

Think about there will always be somebody downstream from you and your actions.

In our day by day, we should avoid dumping trash and contaminants through the toilet or sewer, because treatment plants work more and more difficult; reduce water consumption and do some volunteering work or collaborate with land stewardship organisation: you are learning while you are enjoying.

Dam Removal Engineer

Laura Wildman

What is a dam removal engineer?

I am a civil engineer who focused on water recourses and then focused even further on fisheries issues. I often refer to myself now as a fisheries engineer or ecological restoration engineer. There are other engineers who remove dams that have focused in other aspects such as general civil works and/or geotechnical. It would help marine species to migrate, as the eel or salmon.

Which motivations led you to be a Dam removal engineer?

I enjoy restoring river systems in a permanent manner. I found other restoration techniques to often just be quick fixes or patches and did not have the same long term benefits as barrier removal and restoring dynamic function.

What do your professional day looks like?

A lot of computer work on many projects. I also conduct field work and construction oversight of my projects. Still there is a lot of coordination, contracting, technical oversight and staff management associated with my job as well since I manage a team of experts all working on these dam/barrier removal projects.

Advises for anyone who wants to become a dam removal engineer?

You will need an engineering degree, preferably civil or environmental engineering with an emphasis on water recourses. It helps to have a love of rivers and a passion to restore them. I often look for H&H modelling and AutoCAD design skills. And good outdoor field work skills.

What advises would you give to people for preserving sea & coast?

Give the river room to do what it does best and take infrastructure out of its way. Then make sure there are good planning & zoning and regulatory controls that help keep it healthy and with the room it needs.

4. Be a Guardian of the Sea every day

Sometimes we are not conscious that, although we live far from the sea and nature, our actions can still affect it. You can help to conserve the sea by just taking a few simple steps. Here are a few examples, be sure to add your own.

In your daily life

Eat sustainable seafood. Overfishing is one of the main threats that affect our oceans. Sustainable seafood is defined as species that are farmed or caught with techniques that can assure the long-term stability of that species as well as its ecosystem. Avoid eating of buying endangered species. Some examples can be found in "More information and links" chapter.

Reuse your water bottle. Did you know that 50% to 80% of ocean debris is plastic? Each year around 1 000 000 plastic bottles are found during international beach clean-up events. The best way to reduce plastics in the ocean is to reduce its use — using reusable water bottles and shopping bags is one way to protect our oceans. Even, you can replace plastic products by other materials, - like glass or metal bottles, cotton bags. Remember to Reduce, Reuse and Recycle all your waste.

Bike more and drive less. Reduce the effects of climate change on the ocean by leaving the car at home. Being conscious of your energy use at home and work is also important! A few daily tips: public transport and biking to work are good ways of minding your carbon footprint. At home you could switch to long-lasting light bulbs, take the stairs and put an extra layer on or use a fan to avoid oversetting your thermostat.

Flush for wildlife. Think before flushing something down the toilet. Some things should never be flushed, like cigarette buds, wipes, cotton bud sticks, medication, plasters, etc.

Short showers. Did you know that an average shower of 8 minutes could use up to 136L of water? Simple things like taking shorter showers (4 minutes) with water efficient showerheads could reduce water consumption up to 32L! This, combined with other small changes like not letting the water running while brushing your teeth and not putting the dishwater on if it is not completely full, already makes a positive difference. Besides saving water, this will also help you save money at the end of the month!

Look for ocean-friendly products. Many substances come from marine organisms. Certain of these contribute to the harming of marine life, like jewelry and other products coming from corals or pearl oysters. Avoid purchasing items like shark liver oil (labeled as well as *squalane* or *squalene*) which can be found in moisturizers, lipsticks, deodorants but also sold in capsules from health stores as a remedy for some diseases. The alternative is to buy synthetically produced squalene or from vegetable sources.

Choose green detergents and household cleaners (or make your own). Besides being better for your own health, these products are safer for the environment since what goes down the drain can end up in our oceans. Click here if you would like to have more information on how to replace toxic cleaners with more environmentally – friendly ones.

Avoid using chemical fertilizers or pesticides. Even if you do not live close by the coast, these products are filtered and pollute the soil and surface water. Once they are in the water system, they can finish up in the ocean. Try to find alternatives such as organic or ecological fertilizers. It will also be better for your own health! Help companies doing that, choosing products with no pesticides or with green label that guarantee you that they have not used it near water points.

Get hands on with a coastal clean-up event. In these events, the garbage is removed by the volunteers for a more responsible and healthier disposal and, where possible, recycling or reuse of the material fetched is encouraged.

Educate yourself about marine life and spread the word! All life on Earth is connected to the ocean and its inhabitants. The more you share what you know, the more people will become conscious about the problem and how they can contribute to protect our oceans! Share that knowledge to educate and inspire others. Talk to your friends, your kids, etc. Every person in your environment can make a change if they are conscious about the effect we have with our daily activities and how we can improve it.

Campaigning: Support initiatives protecting marine environment. Be active in protecting your local coast by supporting local actions or getting involved with local environmental groups. Lobby your local authorities and politicians to stop unsustainable and damaging development.

Enjoying wildlife responsibly

Do not alter natural places. Avoid leaving the beaten path and stepping the sensitive areas such as dunes and small wetlands.

Leave everything where it was (including rocks, plants, animals, eggs…). If you want to remember the day, you can take a picture.

Do not disturb the animals. Do not touch or feed them. Avoid sudden loud noises. If you observe marine animals from your boat, leave a good distance between you and them as recommended by international and national regulation. Follow good practice codes such as those for marine mammals such as seals and whales.

Be careful of aliens! Do not accidently release nor plant alien (non-native invasive) species. They may out-compete local species. For example, if you visit several wetlands in the same day, make sure you clean your shoes in order to avoid transporting potentially invasive alien microorganisms.

Responsible driving and boating. Reduce the speed in places where there are animals. With your car, avoid creating dust on paths and park in designated marked areas.

Keep nature clean. Do not leave garbage or residues. Do not pour pollutant liquids (petrol, paint, solvents…), especially near rivers, wetlands and the sea. Maintain the engine and the tanks of your boat in good condition, avoiding spills.

If you sail with your boat, **do not anchor in fragile sea communities.** If you dive, do not touch anything and avoid skim or hit underwater communities.

If you see illegal actions, tell it to the authorities: it is illegal to hunt or fish using forbidden methods or in out-of-bounds places. Illegal discharges or dumping could affect Nature.

5. Funding your way to become a Guardian of the Sea

Erasmus Programme

Monnet, Mobility for Youth

These are just some of the opportunities that you may have to find grants for yourself to do the first steps to become a Guardian of the Sea, taking part in international initiatives granted by the Programme Erasmus Plus, as individual or as organization.

What is Erasmus Plus?

It's the European Union programme for education, training, youth and sport and it takes place from 2014 to 2020.

Erasmus+ will support:

- Opportunities to study, train, gain work experience or volunteer abroad.
- Education, training and youth sector staff to teach or learn abroad.
- The development of digital education and the use of ICTs.
- Language learning.
- Recognition of skills, including those learned outside the formal education system.
- Strategic Partnerships among educational institutions and youth organisations with peers in other countries in both their own sector and other sectors, in order to foster quality improvements and innovation.
- Knowledge Alliances and Sector Skills Alliances, to address skills gaps and foster entrepreneurship by improving curricula and qualifications through cooperation between the worlds of work and education.
- A loan guarantee facility for master's degree students to finance their studies in another country.
- Teaching and research on European integration.
- Exchanges, cooperation and capacity building in higher education and the youth sector worldwide.
- Initiatives to foster innovation in pedagogy, and progressive policy reform at national level through Prospective Initiatives.
- Good governance in sport and initiatives against match-fixing, doping, violence, racism and intolerance, particularly in grassroots sport.

Who will benefit?

More than 4 million young people, students and adults will gain experience and skills by studying, training or volunteering abroad through Erasmus+. The programme will also support over 125,000 institutions and organisations to work with peers in other countries to innovate and modernise teaching practice and youth work. Together they will help ensure that young people and adults get the skills they need to succeed in today's world. Erasmus+ replaces seven programmes with one, so it's easier to access. And changes in the rules mean it has never been simpler to apply.

Why Erasmus+?

Europe must equip its citizens with the education, skills and creativity that they need in a knowledge society. The world is changing fast, and education systems need to modernise and adapt to new ways of teaching and learning and embrace the new opportunities that

exist. Education, training and non-formal youth learning are key to creating jobs and improving Europe's competitiveness. That's why Erasmus+ will make a key contribution to addressing these challenges.

To know more:

http://ec.europa.eu/programmes/erasmus-plus/index_en.htm

Some other opportunities

EDGE of Existence

EDGE of Existence programme (conserving the world's most Evolutionarily Distinct and Globally Endangered (EDGE) species) invests in conservation at a grass-roots level by helping aspiring conservationists in developing countries to take the lead in researching and conserving their local EDGE species. One of the most effective ways in which the EDGE of Existence programme is working to secure the future of EDGE species is by helping to build conservation capacity in regions in which they occur. This is achieved though awarding two-year Fellowships to future conservation leaders ("EDGE Fellows") working on poorly-known EDGE species. The EDGE Fellows programme aims to create a new global network of in-country conservationists trained in cutting-edge wildlife management techniques and well-equipped to design and implement a project for a local EDGE species. EDGE Fellows follow a comprehensive two-year training programme designed to equip them with the tools to become successful conservation leaders.

www.zsl.org/conservation/get-involved/edge-fellows

Royal Geographic Society

The Society's Grants Programme develops new knowledge and advances geographical science, supporting geographical research in the UK and overseas. They include grants for students, expeditions and researchers.

www.rgs.org/OurWork/Grants/Grants.htm

National Geographic Grants

Applications can be submitted under three headings: Research, Conservation and Exploration

www.nationalgeographic.com/explorers/be-an-explorer/

FCT: Fundaçao para a Ciencia e a Tecnologia

Through competitive calls FCT grants and administers, directly or indirectly, in cooperation with other agencies, PhD studentships and several types of fellowships.

www.fct.pt

CIIMAR - Interdisciplinary Centre of Marine and Environmental Research

CIIMAR is a research and advanced training institution which wants to contribute to the knowledge of the ocean as a basis for the sustainable management and exploitation of resources.
www.ciimar.up.pt

ARDITI – Agência Regional para o Desenvolvimento da Investigação, Tecnologia e Inovação

ARDITI is a private non-profit association that aims to promote and support research and development through funding projects and grants.
www.arditi.pt

IEFP- Instituto do Emprego e Formação Profissional

IEFP is a public service of national employment. Its mission is to promote the creation of employment and to implement effective training programmes.
www.iefp.pt

Ciência Viva

This organisation aims to promote public access to scientific culture, manly wit young people.
www.cienciaviva.pt

FCG - Fundação Calouste Gulbenkian

FCG is a charitable foundation with cultural, educational, social and scientific interests.
http://gulbenkian.pt

6. Conservations laws and regulations

How are the seas and the sea life protected? Here, you can take a look to the main Conventions and International Laws. If you want to know more, you can follow the links.

International Conventions				
	Tursiops truncatus	*Calocnetris diomedea*	*Caretta caretta*	*Anguilla anguilla*
CBD	General protection and use of biodiversity			
CMS	Appendix I and II		Appendix I and II	
MAP	Annex II	Annex II	Annex II	
CITES	Appendix II		Appendix I	Appendix II
RAMSAR				Protection of habitats
MARPOL	Protection against pollution			
OSPAR			OSPAR List of Threatened and/or Declining Species and Habitats	

European Strategies, Conventions and Regulations				
	Tursiops truncatus	*Calocnetris diomedea*	*Caretta caretta*	*Anguilla anguilla*
Bern Convention	Appendix II	Appendix II	Appendix II	
Habitats Directive	Annex II		Annex II	
Birds Directive		Annex I		
Biodiversity strategy for 2020	General protection and use of biodiversity			
Water framework Directive	Body of water protection			Body of water protection
Invasive alien species	Protection against alien species			
				Special interest by invasive parasites
Marine Strategy	General protection of habitats			
Protecting cetaceans from incidental catches	Protection about incidental catches			
Recovering the stock of European eel				Global management

7. More information and links

International Organisations related with Nature Conservation

- **IUCN** (International Union for Conservation of Nature): www.iucn.org

IUCN is the world's oldest and largest global environmental organisation with the target to help the world find pragmatic solutions to our most pressing environment and development challenges.

- **UNEP** (United Nations Environment Programme): www.unep.org

The United Nations Environment Programme (UNEP) is the leading global environmental authority that sets the global environmental agenda, promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system and serves as an authoritative advocate for the global environment.

- **FAO** (Food and Agriculture Organisation of the United Nations): www.fao.org

FAO target is achieving food security for all, including the sustainable management and utilization of natural resources for the benefit of present and future generations.

Fisheries and Aquaculture programme: www.fao.org/fishery/en

- **MSC** (Marine Stewardship Council): www.msc.org

The MSC is an international non-profit organisation established to address the problem of unsustainable fishing and safeguard seafood supplies for the future.

- **WWF** (World Wild Fund for Nature): www.wwf.org

WWF's mission is to build a future in which people live in harmony with nature, working to safeguard the natural world, helping people live more sustainably and take action against climate change. They work with communities, with politicians and with businesses to find solutions so people and nature can thrive.

- **Ocean Conservancy**

Ocean Conservancy is the world's largest volunteer effort for our ocean and waterways by participating in the International Coastal Clean-up.

Erasmus PLUS Programme and other resources for youth

- **Erasmus PLUS**: http://ec.europa.eu/programmes/erasmus-plus/index_en.htm

The Erasmus+ programme aims to boost skills and employability, as well as modernising Education, Training, and Youth work.

Formal learning

There is a wide range of universities and colleges which run marine conservation courses. You can also do joint degrees with other subjects such as oceanography, zoology, chemistry etc.

United Kingdom

- Marine biology degrees: www.marinebiology.co.uk/marine-biology-education-in-the-uk/education

Spain

- Marine Sciences Degrees: www.educaweb.com/carreras-universitarias/ciencias-mar
- Environmental Sciences, Zoology, Veterinary(...) Degrees: www.educaweb.com/carreras-universitarias/medio-ambiente-zoologia-veterinaria
- Postrgraduates courses related with sea and oceans: https://oceanografos.wordpress.com/formacion

Online learning

- **United for Wildlife – Introduction to Conservation**. United for Wildlife has created free massive open online courses which are available to everybody. Be part of the solution – find a new career, find a new hobby, or simply be more environmentally aware. https://learn.unitedforwildlife.org/
- **Future Learn:** Explore the natural world and understand the causes and impact of climate change with our free online environment and biology courses. www.futurelearn.com/courses/categories/nature-and-environment
- **edX.** In this platform you can take online massive open online courses in environmental science, natural resource management, environmental policy and civic ecology. www.edx.org/course/subject/environmental-studies

Some national and local organisations

Some organisations you can contact or do volunteering with:

- **UNEP Internship** www.unon.org/content/internship-programme
- **BEGT** Global Training Internship Program. This programme is for young people with Universitary or Vocational Training www.global-go.net/Corporativa/Default.aspx?Xqp5O3l6Vf3ypmSB3ixoUg907 85678d90785678d
- **CONFEBASK** Confebask allows young students or graduates to enjoy an internship in an European Company. http://formacion.confebask.es/Corporativa/Default.aspx
- **World Fish Migration Platform (WFMP)** wants to create awareness, share knowledge and build solid networks on a global scale around the themes of fish migration and free-flowing rivers. www.worldfishmigrationplatform.com
- **Adaptive Management of Barriers in European Rivers (AMBER).** AMBER will apply adaptive barrier management to help reconnect Europe's rivers, the smart way. AMBER will make the first global assessment of stream connectivity across Europe, and use the power of citizen science and the latest developments in remote sensing, molecular methods and assessment of ecosystem services to prioritize areas for conservation and optimize barrier management. www.AMBER.International
- **European Rivers Network (ERN)** seeks to promote the sustainable wise management of living rivers and water in opposition to the exploitation, pollution and degradation that has occurred in the past. ERN's aim is to link groups, organisations and persons working

for the protection of rivers and to improve communication between them. (environment, culture, education and human rights). www.rivernet.org/ern.htm

- **Fish Passage Conference** **(FP**) is an international conference of interest to researchers, educators, practitioners, funders, and regulators who have an interest in advancements in technical fishways, nature-like fishways, stream restoration and stabilization, dam removal, road ecology, and the myriad of funding, safety, climate change, and other social issues surrounding connectivity projects. In their homepage you will find every year's session presentations. https://fishpassage.umass.edu/

Spanish Organisations

- **FEDAS**. Comité de Medio Marino. This organization and Oceanidas have set up the Marine Guard Network. http://fedas.es/medio-ambiente/
- **Asociación Hippocampus.** Local organisation for the Mar Menor and Sea horse Study and Conservation. http://www.asociacionhippocampus.com/
- **Bioblau**. Grup d´Estudiants de Biologia Marina de la Universitat de València. Marine Biology Student Group from University of Valencia. http://bioblau.wix.com/biobl00au

British Organisations

- **Our bright future** are developing an unstoppable force of young, engaged, empowered and skilled citizens who believe in Our Bright Future. Our Bright Future is a forward-thinking social movement that supports young people to lead progressive change in their communities and local environment. Through a portfolio of 31 projects across the UK, they are helping young people step up and take what is rightfully theirs: a healthy planet, a thriving economy. www.ourbrightfuture.co.uk/portfolio/your-shore-beach-rangers/

  The Your Shore Beach Rangers Project will work within Cornish communities to encourage an appreciation of, and engagement with, marine heritage by providing opportunities for local people to get involved in the marine environment at Cornwall's local Marine Conservation Groups.

  The Wildlife Trusts - http://www.wildlifetrusts.org/
  Marine Conservation Society - https://www.mcsuk.org/
  Royal Society for the Protection of Birds - www.rspb.org.uk/

Portuguese Organisations

- **OOM** – Oceanic Observatory of Madeira: http://oom.arditi.pt
- **MARE** - Marine and Environmental Sciences Centre: www.mare-centre.pt
- **MMF** - Natural History Museum of Funchal: www.cm-funchal.pt
- **PNM** - Service of Natural Park of Madeira: Biodiversity Conservation: www.pnm.pt
- **SPEA** - Portuguese Society for the Study of Birds: www.spea.pt
- **Marine Biology Station of Funchal**: www.cm-funchal.pt
- **Madeira WindBirds** - Madeira Bird watching and Nature Tours: www.madeirawindbirds.com
- **Madeira Whale Museum:** www.museudabaleia.org/pt
  - **APRAM** – Administração dos Portos da Região Autónoma da Madeira, S. A.: www.portosdamadeira.com/site/index.php/pt

Be sustainable

- **Eat sustainable seafood**

  Websites: Marine Stewardship Council website

  APP: Marine Conservation Society

  Monterey Bay Aquarium

  MSC Seafood Finder

- **Find a tap for refilling your water bottle** "Give me Tap" App.
- **Look for ocean-friendly products**

  Too Precious To Wear

  Sustainable Pearls

Other resources

- Red List of Threatened Species**: www.iucnredlist.org**

The IUCN Red List of Threatened Species™ provides taxonomic, conservation status and distribution information on plants, fungi and animals that have been globally evaluated using the IUCN Red List Categories and Criteria.

- **Natura 2000 Network Viewer**: http://natura2000.eea.europa.eu/

A great took for viewing in a map the European Protected Areas, LIFE projects and much more.

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