



# ΚΟΣΑΜΑΡΕ

Kefalonian Organisation  
for the Study & Awareness  
of the Marine Environment



## Annual Report 2022

*Published in December 2022*

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# INTRODUCTION



As winter draws near on Kefalonia, our boats are out of the water and we are reflecting on a year in which the foundations of Kosamare have become more grounded and begun to spread through widening collaborations, support, and participation from within the local community and beyond. As a small organisation, defining our identity has been crucial since we formed in 2018. Now, as we narrow our focus on local expertise and engagement, we are pushing forward with purpose and intent.

One of the most fruitful experiences of the past year has been our engagement with the school of Magganos. Their participation during the early summer led to the successful launch of our public exhibition in the streets of Fiskardo. There is more on that later.

Once again, we received a visit from the Octopus Foundation, with whom we worked to install additional kits to expand our network of monitoring program with the Mediterranean Monk Seal. Thanks to a community grant from the PADI AWARE Foundation and Scubapro, we were able to carry out thorough monitoring of seagrass meadows in four bays in the locality of Fiskardo. This was part of our scientific diving program, which ran twice over the course of the summer and engaged students from across Europe in a training course that equipped them to take part in the surveys. We also worked with sailing companies throughout the Ionian Islands to spread awareness around seagrass meadows.

As part of wider progress on the island, we were delighted at the possibility of being involved with a marine protected area in the north of Kefalonia. This will have major benefits for local biodiversity and livelihoods, and forms part of wider protection strategies under the Greek government and European Union.

Our awareness work in particular gained real momentum this year and we are looking at widening it through collaborative exhibitions across the island and engagement with both local people and tourists. Keeping in mind our core values of studying and raising awareness of the marine environment, we are already looking ahead to next year with optimism.

# 1. OUR PEOPLE

This year was a reunion of Kosamare members with the return of Tedra Bolger and Dan Green. Tedra is a dive instructor and teacher of mathematics, and has good experience of educational programs as well as lending herself to statistical analysis of our seagrass surveys. Also a dive instructor, Dan was pivotal in the initial development of the scientific diving course and returned this year in September to get involved with teaching it. Working with us for a third year in a row, Alex McMaster and Alma Gombert were with us for much of the season. Both instructors, they continued to work on our seagrass, monk seal and engagement programs. Nicoletta Kavvadia got involved with contributions to our photographic exhibition and the production of a beautiful video about our seagrass project. Jeanne Maillard joined us for an internship through the summer, during which she managed several of our databases and was a fantastic assistant to our staff. Daniel Faget continues to be a crucial member of the team, working with fishers to learn more about invasive species, including the blue crab and lionfish. And of course, Cedric and Roxanne oversaw the various projects and directed the team throughout the year.

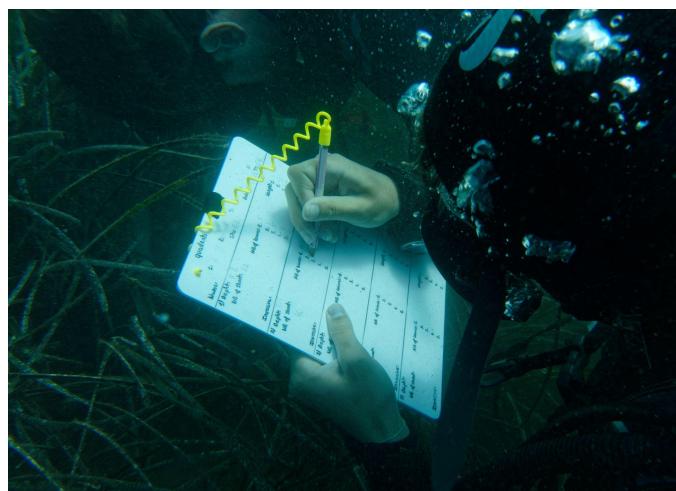
While Alma is leaving us for a while to work in Mexico, we are looking forward to seeing her again soon, and the rest of the team will be returning to Fiskardo during the Spring.



## 2. SEAGRASS

Last year we launched a monitoring program to evaluate the status of seagrass meadows in four bays near Fiskardo. The Mediterranean seagrass *Posidonia oceanica* is a major component of the marine ecosystems, supporting much of the life in our seas as well as mitigating the effects of climate change through significant absorption of carbon. This year we were able to continue and expand our work through a community grant from the PADI AWARE Foundation.

Much of the damage incurred on seagrass meadows in our local area is from boat anchors, especially from superyachts. Not by intention, the huge number of smaller sailing boats that visit the island during the summer months also regularly drop anchor in the fragile bays where *Posidonia* grows. In April, Alex travelled to Lefkas and Corfu to meet with sailing companies that run boat charters and flotilla holidays during the summer. The information was very well received and many of the companies that attended the events were keen to collaborate more in ensuring that their activities have a minimal environmental impact. Their enthusiasm continued throughout the summer, with crews from several of the sailing companies taking up our offer of briefings for their guests when they called into Fiskardo for a day or two. By sharing information as widely as possible, we hope that this effort will be able to have an impact throughout the Ionian Islands, and we will continue to develop positive partnership with sailing companies.



During two sessions of the scientific diving program in June and September, we welcomed students from throughout Europe to take part in our scientific diving course and assist with the surveying of seagrass meadows. We were also able to offer scholarships to Greek students on the course. After just a few days of training, the students were able to gather data on seagrass cover, density, and the associated fish biodiversity, all of which are indicators of the state of health of a meadow. We were also able to qualify them all with the PADI scientific diving techniques distinctive specialty.

### 3. THROUGH THE MIRROR: UNDERWATER TREASURES OF KEFALONIA

Communicating our findings and engaging with the community of Fiskardo is central to our work. This year we wanted to share with people the incredible landscapes and creatures that we find during our work under the Ionian Sea. Gathering photographs taken by our staff, and with contributions from the Octopus Foundation, we created sixteen large prints that showcase the incredible biodiversity of our seas. There were also photographs from above the waves to demonstrate the interdependence of human society with the seas.

In May, Alma, Alex and Jeanne visited Magganos school to show the photos and deliver an interactive presentation with the schoolchildren. They brought along artefacts from our collection including skeletons of marine animals, shells and even shark jaws. The response from the children was incredible and many of them joined us a few weeks later for a scuba diving session at Emplisi Beach. Taking the children diving gave them an insight to what lay beneath the sea and, combined with inspiration from the presentation, they created artworks to accompany our photographs.



Makis Tselentis created two beautiful sculptures that became centerpieces for the exhibition. A crab built from metal and driftwood was accompanied by a large fish that was filled with plastic waste gathered around the village to demonstrate the harm of pollution on our seas. We were also very grateful to the Tselentis family for providing the space to display the exhibition.



In July the exhibition was opened with a launch event in the main square of Fiskardo. Many of the children were accompanied by their families and members of the local community arrived for an evening of celebration. Toulios Kokkolis held a sailing regatta with local children and prizes were presented by the Port Police. Restaurant owners brought along food and drinks, contributions for which we are very grateful.



The event was a wonderful success and the exhibition remained in the center of Fiskardo for the duration of the season. It was illuminated in the evenings so that passersby could marvel at the beauty of our seas and perhaps spare a thought for their protection.



## 4. THE VISIT OF THE OCTOPUS FOUNDATION



In June we were visited by our close partners at the Octopus Foundation, who have been working with us since 2018 to monitor the endangered and elusive Mediterranean monk seal. Using autonomous camera systems created by the team from Octopus Foundation and installed inside caves throughout the Ionian Islands, we have been working with the Ionian Dolphin Project(Tethys Research Institute) and The University of St Andrews.

This year we were able to collaborate in the installation of three further camera systems, which use solar power to capture and send regular photographs from both inside and outside caves where the seals take shelter. Using the Octopus Foundation sailing yacht, Eclipse, and the Fiskardo Divers boat Monachus, we were able to access remote sites where there have been regular sightings of seals. The systems are installed quickly to ensure as little disturbance as possible and the team also carried out some upgrades and maintenance on existing camera systems. There are now a total of fourteen cameras installed throughout the Ionian Islands





The visit ended with a two day project at Agia Jerusalem to excavate the skeleton of a Loggerhead Turtle that had been buried there several years ago. Despite the area being largely destroyed in 2020 by Medicane Ianos, the ground in which the turtle was buried remained intact and the skeleton was in good condition. It will be reconstructed and donated to a museum.



In addition to visiting us in the Summer, the Octopus Foundation released their film this year on the Mediterranean monk seal. This includes the project together with Kosamare and was broadcast on Arte, the French-German television channel. The documentary film can also be found online through the Octopus Foundation website.

In September, Cedric attended a workshop hosted by Ionian Dolphin Project and iSea, aimed at promoting collaboration in the protection of the Mediterranean monk seal. A letter from the Prime Minister of Greece was presented that highlighted his commitment to the protection of the species, marine life, and the livelihoods of fishers. Photographs from the camera systems were used to demonstrate the impact of human disturbance on the seals. There were also presentations from the Director of the Ionian Marine Protected Area and of WWF Greece, alongside representatives of fishers working in the Ionian Sea. Combining the viewpoints of these many actors is critical to ensure a balanced course of action in our combined efforts.

## 5. INVASIVE SPECIES

The invasive lionfish, which has been arriving from the Red Sea through the Suez Canal, continued to be surveyed this year by our divers. All sightings from this program are reported to the International Union for Conservation of Nature, iSea, and the Hellenic Centre for Marine Research. This data will help to monitor the spread of the species, which can cause widespread ecological disruption. In May we met with representatives of iSea in Argostoli, to learn about their work with lionfish and blue crabs, promoting them as delicacies to be eaten and thus reducing their numbers in the wild. This is a great initiative that we were very happy to learn about.



*Callinectes sapidus* is a blue crab native to the American Atlantic coast. Introduced by humans, It was first recorded in the Ionian Islands in 2014 and on Kefalonia in 2018. It prefers brackish or lagoon areas and has developed a large population in the Argostoli Lagoon of Kefalonia. In order to understand the pathway of the blue crab, a genetic sequencing study is underway on a Mediterranean-wide scale under the direction of Professor Jamila Ben Souissi at the Agronomic Institute of Tunis. Daniel Faget returned to the island this summer to gather samples for the database from the Argostoli lagoon. Furthermore, oral surveys are to be carried out in the Spring of 2023 within the framework of Kosamare activities and the research program 'Aliens on fire' (Daniel Faget, AMU/IMERA). These surveys will also address the question of the commercial exploitation of crabs by individual and professional fishers and restaurant owners.

Kosamare is in a good position to collect information on the blue crab along other parts of the island's coastline, as it is doing with the lionfish. We also rely on the loggerhead turtle which is a predator of the blue crab. We therefore continue to ask what effect the presence of the turtle and other megafauna have on the blue crab.

## 6. PROTECTED AREA



In September, Cedric visited Zakynthos to meet with Laurent Sourbes, director of the National Marine Park of Zakynthos and head of the local marine protected area management body. During a two day visit, they discussed the designation of the Ionian Islands marine protected area under the Natural Environment and Climate Change Agency (NECCA).

This is a promising move for the local area and something that we hope to be able to participate with in the near future, through the standardisation of our monitoring techniques with those used by NECCA in line with practices used throughout the Mediterranean.

## 7. PARTICIPATION WITH ARCHIPELAGOS

In July we assisted Archipelagos, who were working with the University of the Aegean, Department of Marine Sciences, in the installation of a hydrophone at a depth of 20m near Fiskardo. This device will monitor cetaceans in the area and general environmental noise underwater.



It is part of a wider project to improve the habitats of the Mediterranean monk seal and mitigate the interaction between marine mammals and vessels in the NATURA sites of Zakynthos, Ainos and Protected Areas of the Ionian Islands. Although playing a very small part, we were very happy to participate with the installation.

## **8. VISITING ERASMUS STUDENTS**

A group of forty students from across Europe – Greece, France, Portugal, Serbia and Macedonia, visited us to learn about marine life in the Mediterranean and the work we are doing in Kefalonia. Later in the season we were joined by another group of students from the University of North Carolina. Both groups had a chance to try out some diving after the information session, which they and their teachers enjoyed. Next year, we are already looking forward to inviting more groups of students to learn about the sea and its many wonders!

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## **9. STRAY CATS**

During the past year we assisted in the sterilisation of five cats from around our office, and adopted two beautiful kittens from the Fiskardo area. Ithaca and Lucifer became important members of our team for the season and have now found a new home in the south of France!



OCTOPUS  
FOUNDATION

