



Kefalonia Marine and Coastal Conservation



Introduction:

We have been actively engaged in conservation and research on the Greek Island of Kefalonia since 2012. Along with sea turtle protection, we have been monitoring the changes in beach profiles over time due to anthropogenic and environmental effects. As sea turtles are part of both coastal and marine ecosystems, we have now broadened our research to encompass the study of the protected *Posidonia oceanica* seagrass meadows and the sand dune systems, categorised as vulnerable on the Red List..

In addition to these ecosystems being important for the nesting and foraging of endangered sea turtles, they are important biomarkers for climate change, and so much more

Program

Our Program studies the *Posidonia oceanica* seagrass meadows and the sand dunes along south-east Kefalonia. Our focus is the coastal and nearshore marine zone of the Mounda Peninsula. Seagrass meadows are a larger carbon sink than the rainforest and play a critical role in mitigating climate change. They form an important ecosystem, providing habitats and nursery grounds for many marine animals as well as other organisms. Sand dunes and their vegetation form a dynamic barrier between sea and land and a specialised ecosystem that is impacted by development and accelerated erosion.

The coastal and marine study areas will be mapped with a drone at regular intervals. Volunteers will not need to have drone skills but will have an opportunity to learn some of the latest uses of drones for environmental science. Surveys over the sea will help locate seagrass meadows and plan snorkel surveys. On the shore, sand dunes will be surveyed by drone to create both topographic and three-dimensional maps, which will help study the ecosystem and track changes over time. Snorkeling teams will survey the nearshore area to collect geotagged photographs of the seagrass meadows. These will later be analysed to identify species, the types of meadows, and their current state as well as changes over time.

The coastal sand dunes will be mapped and studied with beach profile and species identification surveys. The current state of the dunes will be studied, as well as their trends over time. The presence of plastics and other detrimental factors in both the marine and the coastal ecosystem will be recorded, and some shifts will focus on collecting those for recycling or disposal. Volunteers will contribute their time and skills to help collect vital data and help support critical marine conservation work and also understand how marine ecosystems are impacted by direct human activities and by climate change. Data collected by the project will help create one of the most detailed datasets on the coastal and marine ecosystems in the area.

Posidonia oceanica conservation status was last assessed in 2018 around the Mediterranean (European Environment Agency). The outcome for *Posidonia* was “Poor – A habitat is in a situation where a change in management or policy is required to return the habitat to favourable status but there is no danger of disappearance in the foreseeable future”. (European Environment Agency, 2019) Therefore, further studying of posed threats to *Posidonia* is hugely important for the future of the species and the planet. In addition, The Framework Directive (WFD, 2000) and the Marine Strategy Framework Directive (MSFD, 2008) want to support the conservation into *Posidonia* to achieve and maintain an overall ‘Good Environmental Status’ (Mediterranean *Posidonia* Network, 2022). Coastal sand-dune habitats are threatened, yet play a huge part in maintaining plant and animal biodiversity, which contribute to coastal protection. There is a lack of research into dune system changes in Kefalonia highlighting the need for future studies to focus on it.

Requirements:

Volunteers must be strong swimmers and have had previous experience snorkeling in depths of up to 8 metres. Volunteers must be 18 years or older, comfortable riding a bicycle on hilly terrain, and walk/bike during a hot day. All volunteers must have travel/medical insurance. We strongly encourage volunteers to bring their own correctly fitted snorkel masks.

What's Included:

The cost includes apartment style shared accommodation with crockery and cookware provided, transport on the start and end dates to/from the airport (EFL) or Argostoli bus station, snorkel and fins, a rash guard, use of bicycles to get around the area, a Kefalonia Marine and Coastal Conservation Researcher shirt, all necessary field training, and field leader support available at all times. The cost does not include travel to Kefalonia, travel/medical insurance, food and personal expenses.

Field Work:

The programme begins on the 9th of June 2022 and start days will be every second Thursday through September. Volunteers will be getting involved with hands-on research that will allow them to demonstrate standard scientific methodology that can be used in the field. Working with others during their time means they will be building on their teamwork and leadership skills. They will understand the importance of protecting the dune and Posidonia ecosystems around Kefalonia. In addition, will have a clearer understanding of current climate concerns and the impact these can have on both marine and terrestrial environments. This information learnt will allow them to pass on details to others and spread public awareness of current issues. Volunteers will split the majority of their time between exploring the Posidonia meadows and understanding the extensive dune systems found. While surveying both of these areas volunteers will be looking into what lives within the systems, creating topographies, and understanding pressures both ecosystems face. In addition to this, volunteers will be working to keep the beaches of Kefalonia free from trash and debris, as well as taking part in drone surveys and reviewing the footage once the flight is complete. There will be free time every day and most evenings where volunteers can relax or take part in various activities including film and quiz nights. There will be two days off per week.

Accommodation and the Area:

Volunteers will share an apartment in a large villa. It's located on a plot of land full of fruit and olive trees, providing lots of shade and a pleasant outdoor barbecue area. Each room accommodates up to 4 people (mixed gender), with a shared bathroom, kitchenette and a small living area. The accommodation is perfectly centered between the two main areas that will be monitored. The beach of the bustling town of Skala is a 2.3km walk and the tranquility of Mounda beach is a 1.5km walk.

Skala is known for its many bakeries, tavernas and restaurants. It has a long, beautiful beach with water activity centers, beach volleyball, and is backed by restaurants and beach bars. There are several grocery stores, cash points, pharmacies, and fresh fruit markets as well. A perfect place for shopping and free-time activities. Mounda is known for its tranquility and natural setting that has excellent snorkeling and pristine waters. A lovely place to relax and bask in the Mediterranean sun.

Preparation and Safety :

Volunteers will be provided with a “Prep and Packing List” to help prepare for their time in Kefalonia. Although snorkel gear (mask/snorkel/fins) will be provided, we highly recommend that volunteers bring their own correctly fitted masks. A wet suit is optional and may make some more comfortable. A rash guard will be provided and useful during in-water and land based surveys as the Mediterranean sun can be intense during summer months.

During their snorkel survey shifts, volunteers will snorkel within a pre-determined area and will be monitored by a safety supervisor on a paddleboard. The safety supervisor will accompany the research team throughout their in-water shift. All team members will wear a life jacket provided, will be limited to a small group size during snorkeling and will rest on land mid-shift before finishing the remaining shift in the sea. All snorkel shifts are weather-dependent and will be canceled if the sea conditions are deemed unsafe.

Volunteers will be given a bicycle safety briefing. Helmets and safety vests are required and provided. Bicycling is only permitted during daylight hours.