Mission Statement, Objectives, Development - v.07-09

Our mission is to contribute -fostering scientific, educational and popular activities- to marine reforestation and seashore stewardship to help slow down and reverse climate change, to protect biodiversity of the Mediterranean Sea and to contribute to a sustainable, renewable, and rational use of natural resources for human activity. To the fullest extent of our ability we will make concrete efforts towards the preservation and betterment of the beautiful Mediterranean Sea so it may be enjoyed for many more generations to come. To this end, we will also work to raise awareness within the local community through educational and motivational activities.

Main Natural Instrument

Posidonia Oceanica is a sea plant, historically endemic to the Mediterranean Sea. This marine plant forms underwater meadows. Posidonia Oceanica (1) provides an ideal, rich environment for the thriving of all sea creatures and their offspring; (2) is one of the biggest carbon capturers in the sea; (3) captures micro-plastics (one of today's worst enemies of fish and seafood animals) and combines them within small balls (called "olives") produced during its reproduction cycle (still not fully understood), according to preliminary research; (4) significantly reduces levels of acidity and conversely, acidity levels grow in ecosystems where it is eliminated, according to preliminary research; and (5) is a strong natural barrier and a shield against beach erosion.

Thanks to its leaf development, Posidonia Oceanica releases up to 20 liters of oxygen per day into the environment for every square meter of prairie. On average it captures carbon up to 35 times faster than tropical rainforests and, even though it only covers 0.2% of the seafloor, absorbs 10% of the ocean's carbon each year, making it an incredible tool in the fight against climate change. The captured carbon is held for millennia. Growing Posidonia Oceanica will help protect and rebuild the sand beaches and other traditional seashore environments that have been disappearing at an alarming rate. Over the last 50 years, Posidonia Oceanica meadows have seen a general growing trend downwards, to the point that now this seagrass is one of the most threatened ecosystems on the planet.

Location

Mari Pintau and Gulf of Cagliari—Foxi Zone. Concentrating efforts in these areas has powerful reasons: there is a significant and historical presence of the Posidonia seagrass, at one time being endemic and therefore the growth conditions are historically strong. In recent times, due to lack of awareness about its essential importance to the ecosystem, Posidonia has been seen as bothersome to the local tourist, fishing, sporting and navigation businesses rather than complementary and helpful. This has even led to the use of machinery to remove Posidonia from Cagliari and Quartu Sant'Elena beaches. Notably but not surprisingly, this zone has not been officially classified as "protected area." This may create a serious obstacle to repopulation efforts. Efforts to re-classify as Protected Area, even if partial, may have to be part of our task.

Objectives: We support scientific institutional and popular research, investigation and actions intended to help repopulate the sea floor by creating conditions where Posidonia seagrass can naturally grow, protected from being extirpated and even by reintroducing it over a significant area, eventually reaching 500 m2 (500 square meters = 5,400 square feet).

Short- and medium-term plans

1 The educational campaign will publicize the need for Posidonia stewardship and protection of its existing fields; conscientization of its importance for the environment, the health and well-being of the end-users, and even for the local industries; understanding its benefits and demystifying its negative effects; reforestation;

2 Classical Roman Arts Foundation (CRAF) will contribute to research, empirical and scientific, of Posidonia's short and long term effects on its environment, how it can be made more effective, and what uses can dead seagrass have to minimize the negative effects on the local tourist and boating industries.

3 Planting and caring for potentially 500 m2 of Posidonia field; research and support water platforms, submarine stations, shore support, support of scientific and practical projects

4 CRAF will develop a network of interested and potential stakeholders through support of work in university, research centers, and other institutions, whether public or private. Stakeholders include: professional fishermen, tourism operators, shore front businesses, shore front owners, local authorities, politicians, water users (SUP, kayak, diving, snorkeling), and scientific, research, and university communities.

5 CRAF will create and carry out a series of activities to advance these plans, by itself or in partnership with other stakeholders, including cycles of conferences, occasional encounters and popular activities (e.g., sports competitions calling attention to the need for ocean stewardship), and presentations and publicity of existing and new related activities. Stewardship of a Posidonia field, care and enlargement. Partnerships with local, national and pan-European institutions. Participation in related congresses, discussions and other fora to divulge and deepen the understanding of seagrass's effects on the environment and on economic activities. Collecting existing information and knowledge and systematizing it. Divulging and popularizing the benefits. Analyzing associated costs and potential sources of funds.

6 Practical centerpiece of the educational and research activity will be an anchored bio-platform for practical and scientific research to monitor progress and protection of the plants, to study the positive effects on marine life and to monitor fish, molusk, and plant growth. It will also serve as a base for educational activities, including guided snorkeling tours, educational labs for children, and experiments on better practices, and provide support in other project activities such as education on the marine-coastal ecosystem and the importance of the seagrass in it.

7. In the medium term, CRAF will have planted 500 m2 of Posidonia Oceanica in the Golfo Degli Angeli, aka Golfo di Cagliari, one of which used to be the most prolific areas for Posidonia. This will effectively eliminate roughly 1000 kg of carbon per year from the atmosphere between carbon fixation and sequestration.* As if this were not enough, it would also provide an ideal environment for the gulf’s myriad aquatic species to reproduce. To top it off, seagrass beds would play an enhanced job as a shield against beach/coast erosion: they trap sediment and stabilize the seabed and thus prevent coastal erosion. As grasslands trap sediment, the bottom becomes shallower and waves break farther from the coast, resulting in less coastal

erosion during storm surges. The loss of a single linear meter of meadow can lead to the disappearance of several meters of the beach it faces, due to erosion. In their reproduction cycle, seagrass create olive-shaped small balls highly efficient at trapping micro-plastics, thus eliminating a widespread poison to fish and seafood. Finally, seagrass also slows the movement of ocean currents between the seabed and its leaf tips. Some recent studies have indicated that wave heights were 10–20% lower in algae-dense seagrass beds than in a bare seabed. Sardinia's coast has greatly suffered erosion of its beautiful beaches over the past 20 years, terrible news not only from an environmental point of view but also for the island's tourist sector.