S.E.POS.S.O.
life project

LIFE SEPOSSO

Supporting **E**nvironmental governance
for the **POS**idonia oceanica
Sustainable transplanting **O**perations

SUPPORTING **E**NVIRONMENTAL GOVERNANCE FOR THE **POS**IDONIA OCEANICA **S**UNSTAINABLE TRANSPLANTING **O**PERATIONS

The project Life SEPOSSO, Supporting Environmental governance for the *Posidonia oceanica* Sustainable transplanting Operations, realized with the contribution of the European Commission, has the objective of improving the Italian governance for *Posidonia oceanica* transplants, priority marine habitat 1120* *sensu* Habitat Directive (1992/43/EEC) which are carried out to compensate the damage caused by coastal works and infrastructures.

The project relies on the collaboration with numerous stakeholders to design and apply best practice and innovative software tools, which will increase the efficiency of planning and controlling the transplant activities.

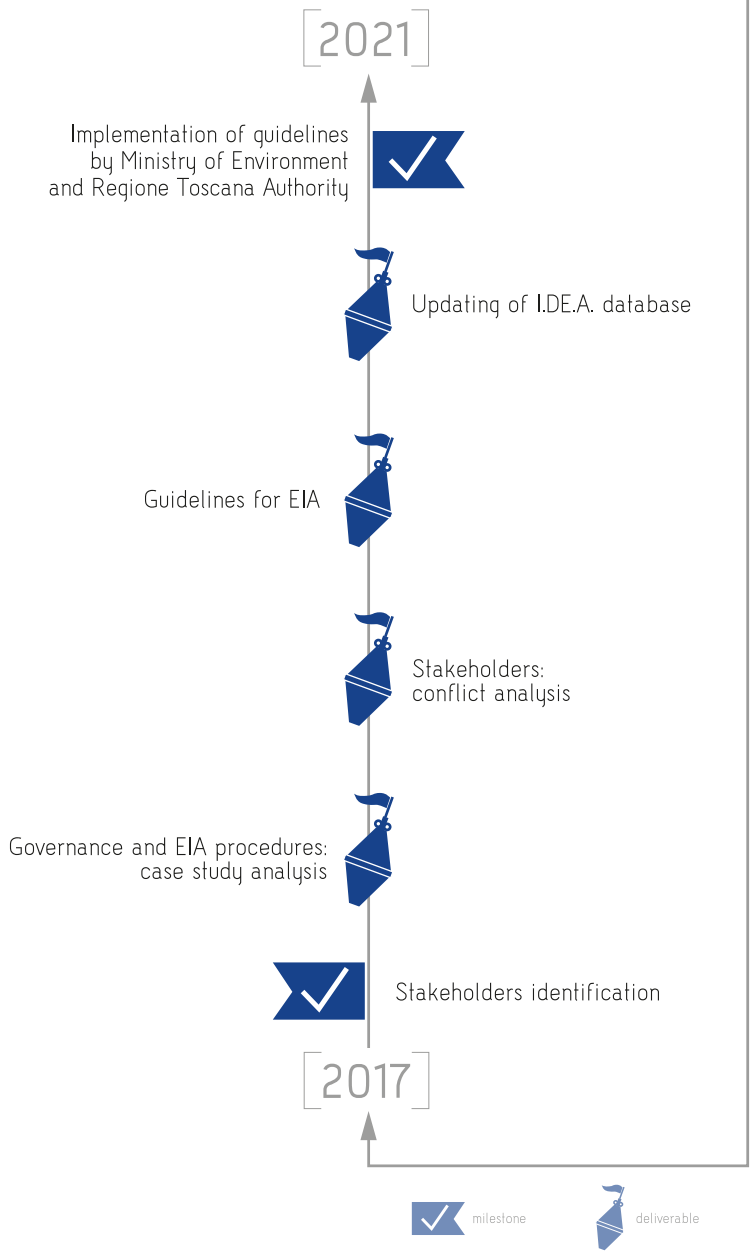
This will contribute to the application of the European environmental legislation (EIA-2014/52/EU)and MSP- 2014/89/EU) and to raise public awareness about the importance of respecting the *P. oceanica* meadows and the marine sites of Natura 2000 Network.

Four cases of *P. oceanica* transplants, which have been realized in Tuscany, Lazio, Campania and Sicily will be analyzed within the project.

OBJECTIVE 1

Supporting the implementation of European Environmental Directives

OBJECTIVE 1



ACTION B1

The governance process of *Posidonia oceanica* transplants in Italy

The governance of managing and recovering damaged *Posidonia oceanica* meadows involves principles, regulations and procedures which apply to the management of meadows and transplants of Posidonia and reflect the different roles and interests of the stakeholders.

The transplant is often requested as a compensatory measure for the damage which *Posidonia* meadows endure due to coastal works and infrastructures, which are subject to an Environmental Impact Assessment (EIA) and an Appropriate Assessment (Art.6 Habitat Directive).

However, since such procedures follow regional and national regulations, involve a large number of stakeholders and take into consideration complex environmental factors, there is the risk that the compensation of such damage could be managed with profoundly different approaches depending on the regional or national context.

Within the project an analysis of the present transplant governance in Italy will be carried out, using the results obtained by interviewing the different stakeholders and the population. This will help understand the degree of knowledge of the *Posidonia* habitat and the degree of awareness regarding the transplant operations realized in four sites in Tuscany, Lazio, Campania and Sicily.

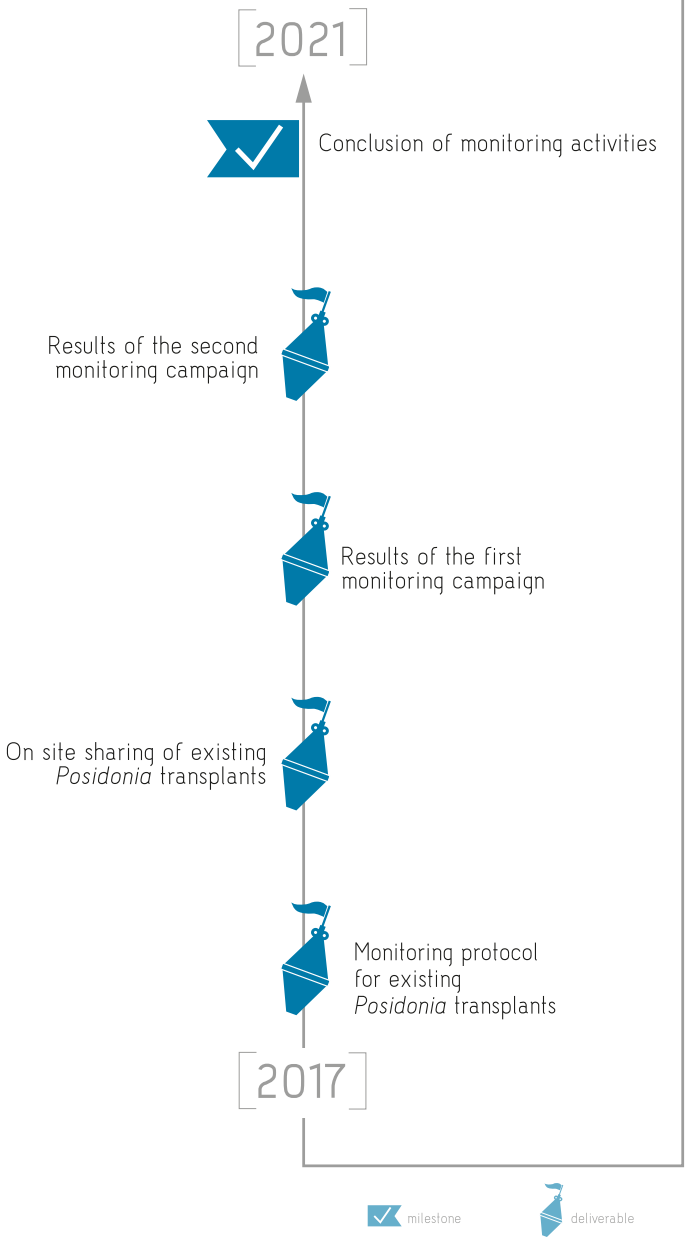
In addition, an analysis of the EIA procedures which have requested the transplant as a compensatory measure for damage caused by coastal works and infrastructures (source ISPRA DEcreti Ambientali-I.DE.A. database) will help highlight any possible critical issues in the different steps of the EIA process and the possible conflicts among the different stakeholders involved.

These results will make it possible to propose new tools and more efficient and effective procedures to achieve an optimal governance in support of the European Union Directives: Habitat Directive (1992/43/CEE), Environmental Impact Assessment (2014/52/EU, Maritime Spatial Plan (2014/89/EU), Aarhus Convention (25 June 1998) which regulates the participation of the public in environmental decision-making.

OBJECTIVE [2]

Changing the governance approach to future researches

OBJECTIVE 2



ACTION B2

Performance monitoring of existing *Posidonia oceanica* transplants.

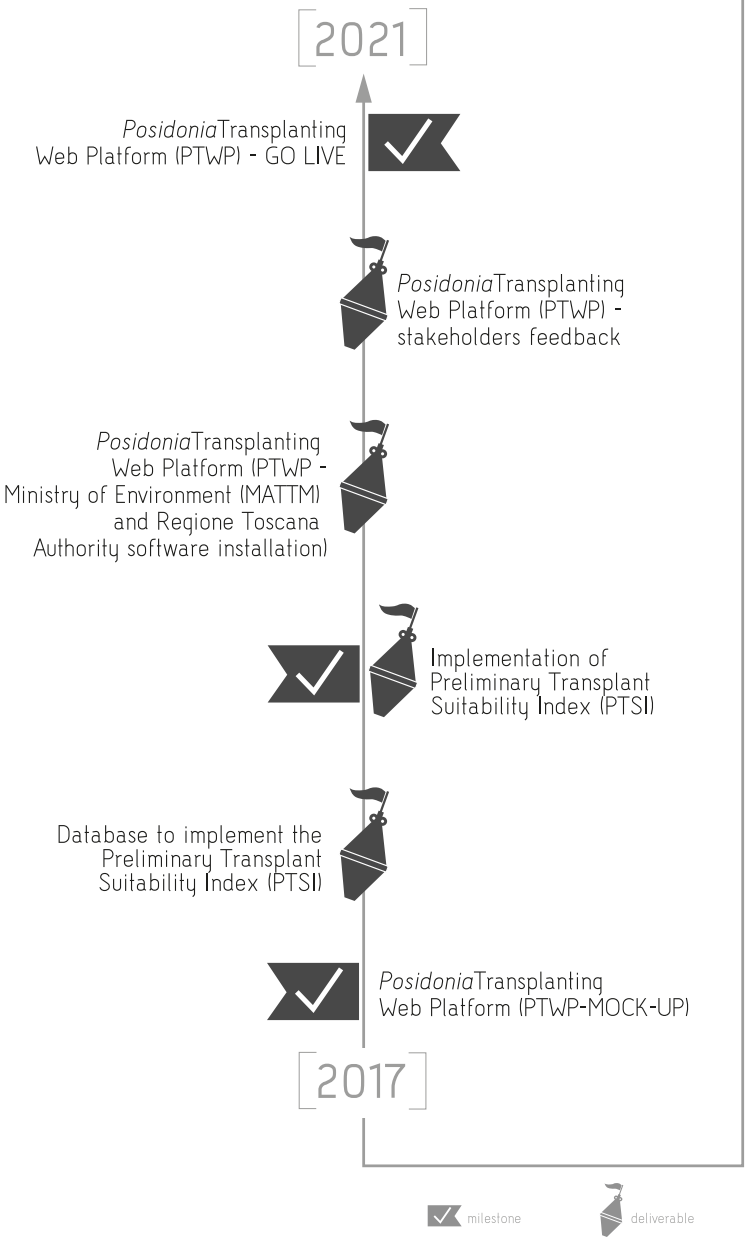
Monitoring *Posidonia oceanica* transplants is essential to verify their efficiency over time. However, the environment impact study (SIA) and/or the EIA requirements, do not always include the correct length of monitoring time necessary to assess the successful outcome of the transplant, which is influenced by the naturally slow growth of this plant.
Four sites will be monitored for the project. In three of them *Posidonia* transplants have been carried out as a compensatory measure following different anthropogenic impacts. These sites are Piombino (Tuscany), Ischia (Campania) and Civitavecchia (Lazio). In the fourth site, in Augusta (Sicily), the transplant has been carried out with the aim of restoring a pre - existing *Posidonia* meadow.

The sites differ for transplant techniques, extension of transplanted area (between 1000sqm and 10.000sqm), the year of transplant and the adopted monitoring plan.
The monitoring will take place during two diving campaigns (spring-summer 2018 and 2019) and it will collect useful data to assess both the survival of the transplanted shoots and the over whole performance of the transplants. These results will make it possible to define specific monitoring protocols to better assess the effectiveness of the transplants and will help improve the governance process of managing and recovering damaged *Posidonia* meadows sensu Habitat Directive 92/43/CEE e Directive EIA 2014/52/EU).
Furthermore, they will represent an important step in the future research on transplants and on the growth dynamics of the transplanted *Posidonia* shoots.

OBJECTIVE [3]

Increasing the efficiency of planning and control

OBJECTIVE 3



ACTION B3

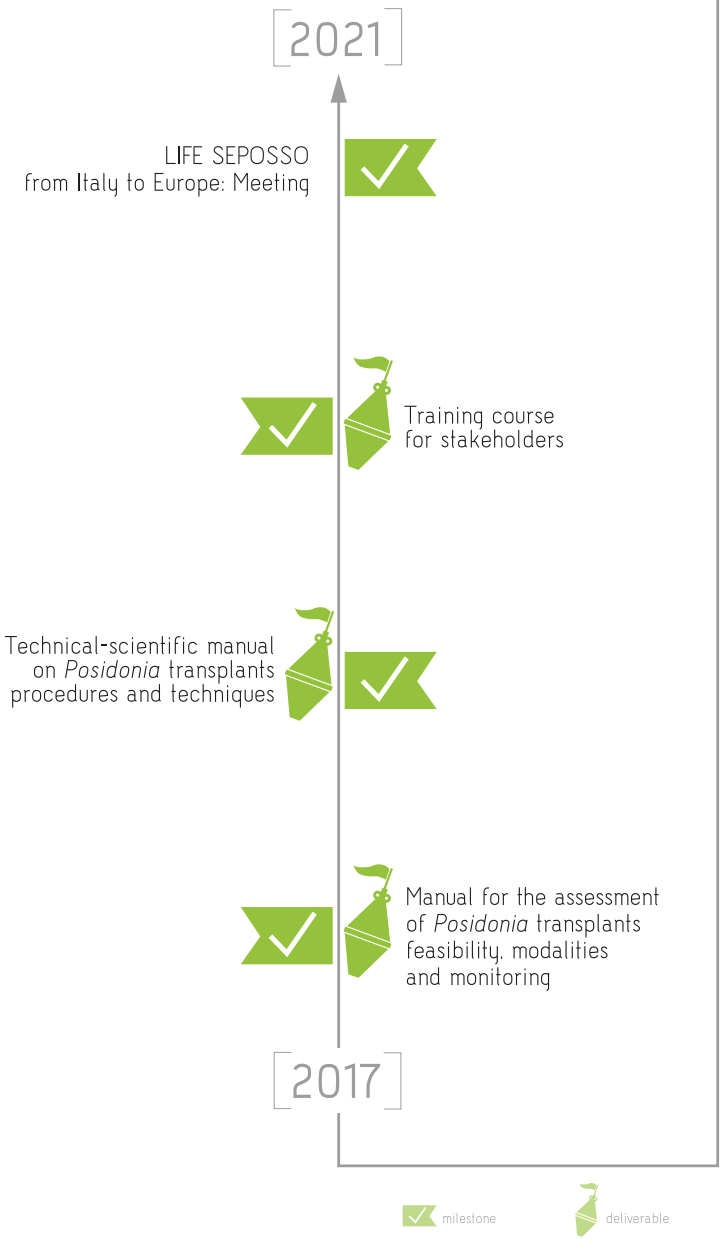
Development of electronic systems to support transplant governance

The positive outcome of a *Posidonia oceanica* transplant involves several factors including a proper planning activity, the choice of the suitable site, the methods of transplant and of monitoring.
However, the outcome of a transplant risks being compromised by the lack of univocal tools available to the different stakeholders involved in the governance process.
Within this action electronic user-friendly systems will be developed and implemented to support the governance of *Posidonia oceanica*'s transplant, stimulating the data and information flow among the various stakeholders who take part in the process.
The establishment of a mobile-web platform, *Posidonia* Transplanting Web Platform (PTWP) and the implementation of Preliminary Transplant Suitability Index (PTSI), will make it possible to analyze, integrate and share the information related to the transplant activities on a national scale.
This tool will be available to all the stakeholders, public, private, political, and technical and it will support the setting up process of EIA authorization procedures, the EIA compliance with provisions verification and the compensatory activity monitoring, such as transplant.
At the same time, the easy accessibility for the public to data and information through these user-friendly systems will be a useful tool to promote knowledge and awareness on this topic and generate support both from those involved and from the public, in compliance with the European Union directives Habitat Directive (1992/43/CEE), Environmental Impact Assessment (EIA 2014/52/EU), Maritime Spatial Plan (MSP 2014/89/EU), Aarhus Convention (25 June 1998).

OBJECTIVE [4]

Developing replicable best practice in the Mediterranean basin

OBJECTIVE 4



ACTION B4

Transferability and replicability of SEPOSSO project results and solutions

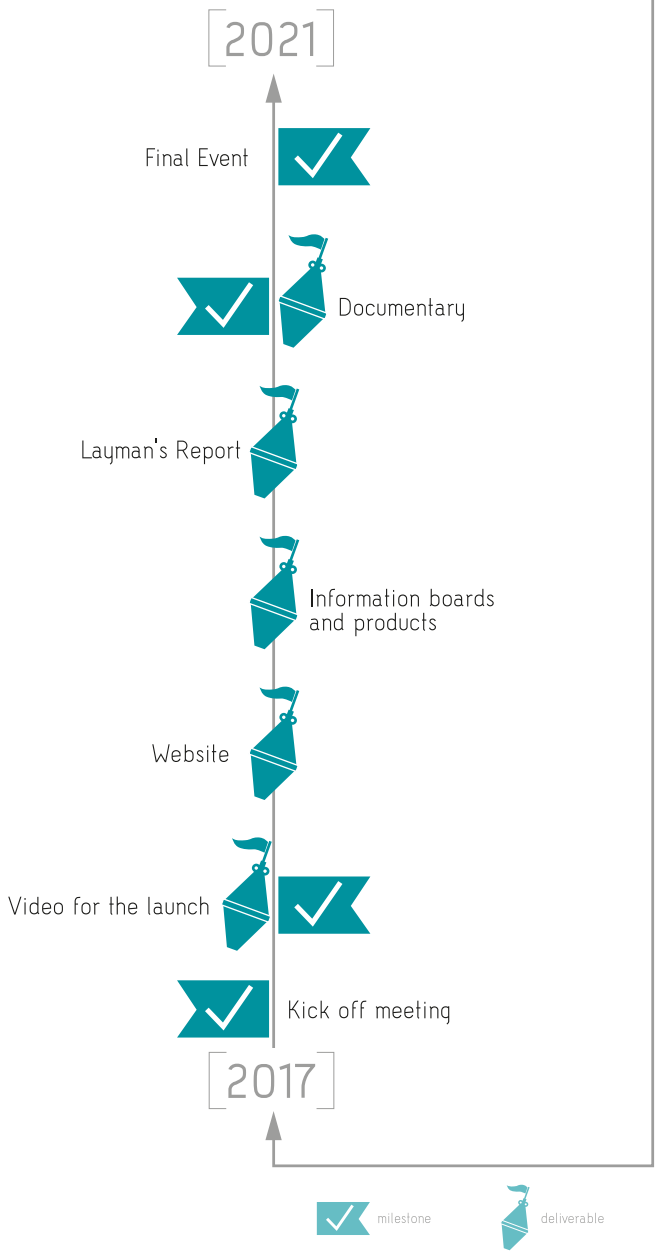
Posidonia oceanica meadows are, to date, in strong regression in the entire Mediterranean basin. Different examples of replanting *Posidonia*, as a compensatory measure or as a recovery of deteriorated meadows, have been carried out without taking into consideration that such operations should not only consider local environmental conditions but also be included in greater integrated managing projects of the coastal zone, even on a basin-scale.

Within this action specific activities aimed at transferring and replicating the project results and solutions in the entire Mediterranean area will be organized. Technical manuals will be realized, synthetizing the information regarding the *Posidonia oceanica* transplant feasibility, modality and monitoring assessment process.
Training courses will be organized to guarantee the transferability and replicability of the project and its products on a national scale. Therefore, the possibilities of success of its continuation in the coming years will increase.
Furthermore, the debate and the information flow with other European projects regarding *Posidonia* will make it possible to better manage the protection and recovery of the meadows in the Mediterranean basin. Such strategy will make the proposed tools and solutions univocal so that it will be possible to face the *Posidonia* transplant governance in a more efficient and effective way in accordance with the European environmental policy.

OBJECTIVE [5]

Disseminating awareness and knowledge of priority habitats and Natura 2000 marine sites

OBJECTIVE 5



ACTION D1

Public awareness and dissemination of results

The presence of *Posidonia oceanica* meadows (priority habitat *sensu* Habitat Directive 1992/43/CEE) requires the establishment of Sites of Community Importance (SCI) which are then designed as Special Areas of Conservation (SACs) and constitute a part of Natura 2000 Network. Although they are protected areas and their ecological and economic importance is internationally recognized, the *Posidonia oceanica* meadows are currently in strong regression in all the countries of the Mediterranean, especially in the proximity of large urban, industrial and harbor areas.

There is a high risk that the transplant, currently used as a compensatory measure, could be presented, also to public opinion, as solution for the damage caused to a meadow. It is therefore essential to highlight that the transplant needs to be considered as an extreme procedure for the recovery of a degraded ecosystem and that the destruction of a *Posidonia oceanica* meadow is always an irreversible damage.

It is therefore particularly important to promote and raise the awareness of the different stakeholders and of the public on such a delicate matter.

Informative materials will be produced and distributed. Events involving local communities and schools will be organized and representatives of the scientific community, of public institutions, of environmental associations and members of the civil society will be invited to participate.

This action will make it possible to increase the awareness of all users of the sea about the importance of *P. oceanica* habitat and Natura 2000 sites, promoting sustainable and responsible behavior and increasing the knowledge about the transplants in Italy and their management .

All this will contribute to improving the governance process because there is the need for great and active support from the public and the involved stakeholders, to guarantee a general, positive change of attitude.

CONTACT:

lifeseposso@isprambiente.it

SCIENTIFIC COORDINATORS:

Tiziano Bacci (ISPRA) - tiziano.bacci@isprambiente.it
Tel. +39 06 50074783

Barbara La Porta (ISPRA) - barbara.laporta@isprambiente.it
Tel. +39 06 50073298

COMUNICATION ACTIVITIES:

Claudia Delfini (ISPRA) - claudia.delfini@isprambiente.it

Translation:
Silvia Devoti

Graphic design
Sonia Poponessi (ISPRA) - Comunication Area
Photo: Agostino Tomasello, Franco Iozzoli

S.E.POS.S.O.
Life project

WWW.LIFESEPOSSO.EU

Funded by the EU LIFE Programme project LIFE16 GIT/IT/000761