

## Call for LIFE REDUNE Replication and Transfer Visit

LIFE REDUNE - *Restoration of dune habitats in Natura 2000 sites of the Veneto coast* is a project dedicated to restoring and maintaining the ecological integrity of dune species and habitats in four Natura 2000 sites of the Northern Adriatic coast.

In the frame of its Replication and Transfer activities, **LIFE REDUNE is launching the present call, in order to select two Projects, working on coastal dune preservation and willing to replicate LIFE REDUNE methods and results in their Italian project sites.**

LIFE REDUNE Replication and Transfer visit will occur between June and September 2021.

The visit is planned in presence at the project working sites. However, due to current COVID-related travel limitations, if the in-person visit could not be done, this will be substituted with a virtual workshop. Moreover, because of the international travelling limitations, only projects acting in the Italian territory are eligible for this call.

As LIFE REDUNE is co-financed by the European Community LIFE Programme, priority for the visit will be given to Life projects.

The costs incurred by the LIFE REDUNE team for the visit will be entirely financed by LIFE REDUNE. The receiving team is expected to collaborate with LIFE REDUNE team for the local arrangements for the visit and inform LIFE REDUNE after the visit about the replicated activities implementation.

**To apply, please follow the guidelines below described.**

Questions can be directed to [info@liferedune.it](mailto:info@liferedune.it)

Applicants will be notified of the Replication visit award decisions by April 21<sup>st</sup>, 2021.

### About LIFE REDUNE

LIFE REDUNE- *Restoration of dune habitats in Natura 2000 sites of the Veneto coast* (LIFE16 NAT/IT/000589) is a 4-year project launched in September 2017, which aims to restore the integrity and ecological function of dune systems in 4 Natura 2000 sites on the Veneto coast.

Coastal ecosystems are very fragile and are among the most threatened in the world. Urbanisation, tourism, unsustainable beach management, pollution, abandoned waste, climate change, sea level rise, invasive alien species and poor awareness of the value of coastal habitats endanger dune systems, their biodiversity and function.

Specifically, LIFE REDUNE does:

- Restore damaged dunes (Habitats 2110/2120; 2130\*, 2250\*, and 2270\*).
- Produce plant species for rebuilding the habitats of the entire dune system.
- Transplant plant species typical of dune habitats.
- Strengthen *Stipa veneta*\* populations.
- Remove invasive alien species such as *Oenothera stuebelii* and *Rosa rugosa*.
- Reduce the impact of recreational activities by creating access routes.
- Environmental education and local stakeholder involvement to raise awareness of the importance of habitat conservation.
- Develop guidelines for the long-term management of beaches.
- Sign a memorandum of understanding with public administrations, tourist service providers and environmental associations to ensure the long-lasting sustainable management of beaches.

### LIFE REDUNE outputs available for replication

#### 1. Morphological remodeling and reconstitution of foredune habitats

The restoration of foredunes (Habitats 2110/2120) is being achieved using naturalistic engineering techniques. Taking advantage of a long experience in dune restoration, the partner in charge of this action can provide technical insights. Technical insights include sediment collection and selection, methods to shape the dune profile, techniques of native species plantation with indications of spatial patterns, density and composition so as to mirror natural processes and add to the aesthetic appearance of the dunes and the general landscape quality. Moreover, treasuring the experience of a previous LIFE project (LIFE VIMINE), LIFE REDUNE is also testing the use of bundles fixed in the ground to protect the seaward side of dune sectors. Using a sort of a circular economy process, bundles are assembled with the scraps (such as branches and poles) issued from the selective thinning planned in the neighboring forest areas.

#### 2. Seed collection and nursery cultivation of the dune species

This LIFE REDUNE action primarily includes seed collection from wild populations and nursery production of seedlings and seeds to ensure autochthonous certified germplasm, in accordance with the general objectives of biodiversity conservation.

The methods for the collection of the propagation material are those recommended by the British MSB (Millennium Seed Bank), in the Italian version (ENSCONET, 2009), with particular regards to the preservation of the intraspecific genetic variability of wild populations.

The partner in charge of this action has a long experience in the reproduction of native plant species, both herbaceous and woody, and can provide tips on methods for collection of the propagation material (e.g., phenological phases), seeds pre-treatments (e.g., vernalization, scarification), sowing methods and period, suitable substrates, monitoring of the cultivation parameters, methods to limit potential predators such as fungi, moulds, insects.

#### 3. Use of drones for dune monitoring

LIFE REDUNE uses a remotely controlled aircraft as a tool for the monitoring of the dune habitat spatial attributes. With this technology it is possible to obtain high resolution aerial images (1 pixel = 5 cm) and the processing of digital ortho-photo-planes, digital terrain models and specific vector representations of the dune ecosystems. Drone images combined with field survey represents an effective aid in landscape integrity evaluation (e.g., effects of human disturbance, coastal zonation), spatial planning (e.g., beach accesses) and the monitoring of spatial attributes of habitats and landscape.

#### 4. Containment of the invasive alien species *Oenothera stucchii*

*Oenothera stucchii* Soldano is an herbaceous neophyte invasive species belonging to the sect. *Oenothera* subsect. *Oenothera*, and shares biological and ecological traits with several phylogenetically related species of the same section. LIFE REDUNE is testing a double approach for the containment of the species: a manual eradication with the minimal removal of sediment thus avoiding to bringing new seeds to the surface and the use of the trimmer, leaving the cut plant material on the ground, thus creating shadowed areas on the sand which should inhibit new seeds germination. The approach can be replicated to other herbaceous alien species with similar biological and ecological characteristics. Thanks to the preliminary extensive study of *O. stucchii* populations, LIFE REDUNE can provide tips on population dynamics, and the influence of human disturbance (in the form of trampling), environmental factors, and biotic resistance of native communities in determining the presence and abundance of *Oenothera stucchii*.

### Application Guidelines and deadline

1. Complete and sign the *LIFE REDUNE Replication and Transfer Visit Application Form*, following the template and specific page limits.
2. Send the *LIFE REDUNE Replication and Transfer Visit Application Form* in pdf format to [info@liferedune.it](mailto:info@liferedune.it) no later than March 31<sup>st</sup> 2021, 5pm (CET).

### Selection Criteria

Projects without sites in Italy are not eligible.

Preference will be given to applications which demonstrate a readiness to replicate the lesson(s) learned from LIFE REDUNE.

The evaluation will be done based upon the following criteria:

CRITERIA	SCORE
Project financed by the Life Programme	3
Level of stakeholder involvement in the project	1-3
Restoration of one or more among habitats 2110/2120, 2130*, 2250*, 2270*	1-3
Total surface of the dune area that will be addressed by the replication actions	1-3
Availability of machinery and trained personnel (ex. for monitoring by drone, excavators for dune reconstruction, etc.)	1-3
Availability of infrastructures and specialized personnel (ex. for nursery activity)	1-3
Density of <i>Oenothera stucchii</i> or of other alien species with similar biological and ecological characteristics	1-3
Follow up activities of the replication and transfer visit	1-3
Expected impact of the visit	1-3

### Selection Procedure

The selection and ranking will be done by LIFE REDUNE evaluation team, composed by the LIFE REDUNE Scientific Coordinator, Project Assistant and Project Manager. The ranking is unappealable.

***The two highest ranking projects will be selected.***