



Environment, Green Structure, Climate and Energy

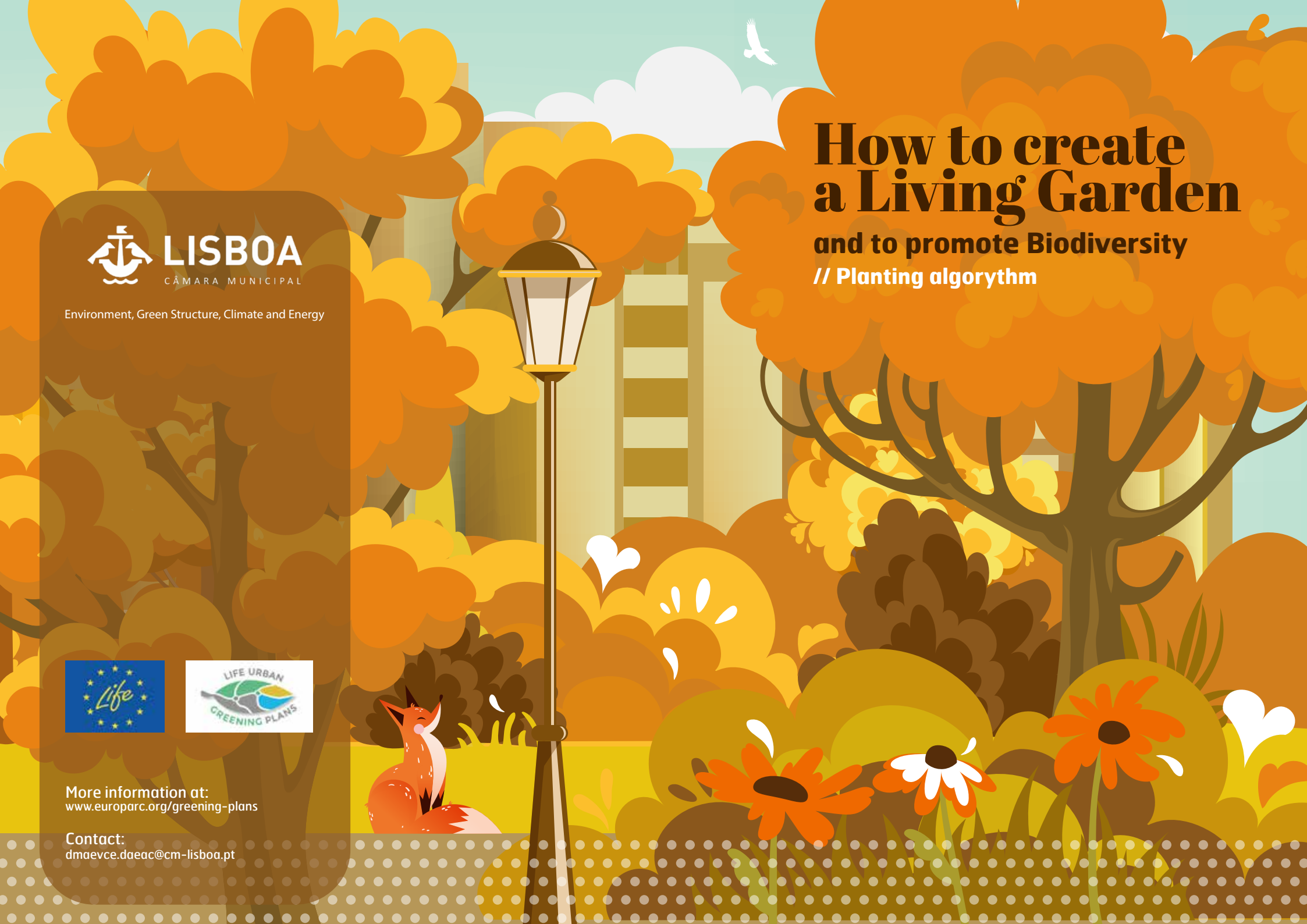


More information at:
www.europarc.org/greening-plans

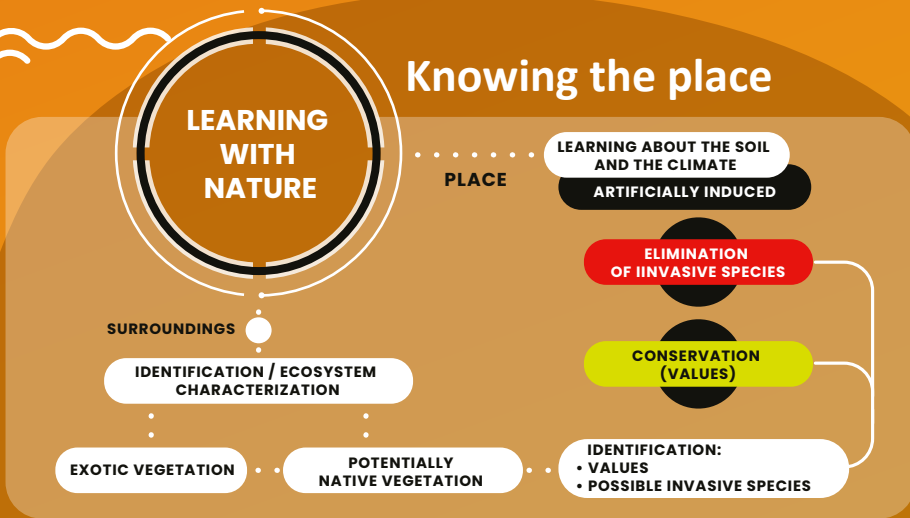
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How to create a Living Garden

and to promote Biodiversity
// Planting algorithm



Knowing the place



Portugal Western Coast, 2021.
Understanding the soil and climate is a result of collecting data, talking to the inhabitants, observing the soil and studying the native plants in place.



Sometimes, we can choose the place where we want to build our garden, but the opposite can also happen: we have only a certain space available. Therefore, we must start by learning about the place, its soil (whether we can enrich it or not), its climate, the plants that exist there, not only on the site, but also in the ecosystem around it. We can identify plants we don't know using, for example, the Google Lens application.

Learning about the place

The place does not have always what Nature would show if there had been no human intervention. Sometimes we can use other species that, although they are not representative of the specific location, at least they are sufficiently well adapted to thrive there. They allow the enlargement of the food spectrum for fauna. There are plants that exist almost everywhere (ubiquitous) and that do not carry the risk of becoming weeds.



What are the common plants in this particular ecosystem ?

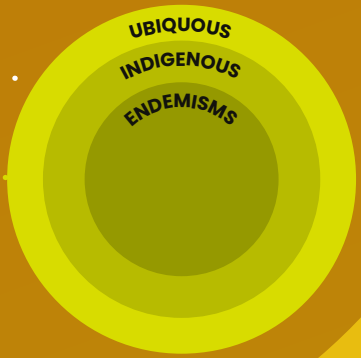
Potential floristic list of native plants

What are the common animals in this particular ecosystem ?

Potential faunistic list of native animals

Identification of the potential plants that can be planted in this particular ecosystem

List of the potential plants that should be planted in our Living Garden



For example, wild orchids are native plants very well adapted to the place, so their presence gives us information about the characteristics of the soil and climate of the places where they appear. (West Region, Portugal, 2021).



The floristic composition of a garden can use native plants and exotic plants as long as they don't risk to become invasive.... (Shinjuku Gyo-en – Tokyo, Japan. www.crewcut.co.nz/articles/garden-tips/beautiful-gardens-in-the-world)



Pampas grass (*Cortaderia selloana*) is one of the most common invasive exotic plants, widely spread in private gardens. The total lack of knowledge about the difficulties in eliminating it leads to its damaging dissemination (photo taken from a sales catalogue)



Designing our Living Garden

A garden is a mirror of the wild Nature inside the city. But gardens are often built on the premise of functionality (use) or within a three-dimensional aesthetics scope... (what our eyes see). But the landscape has more dimensions: it smells, it sounds (acoustic landscape), it has movement and above all it has life !

We tend to plan, design and build our gardens without realizing that we may be making inappropriate, limiting or even harmful choices for local biodiversity. It is these limitations that we want to eliminate here. To be able to hear birdsongs, observe bats, ladybugs or fireflies, it is not enough to plant trees.

When we create a list of plants and animals that could potentially occur in our garden, we should ask ourselves: if they should exist there, why don't they?

There are environmental factors that limit their existence or proliferation. These factors may concern physiological needs (water, food, ...) or, ethological (behavioural) needs (shelter, tranquility, territory,...).

When building a garden, our intervention will counteract the lack of territory with permeable soil. By importing more fertile living soil, we are also improving fertility and enriching soil fauna, but...

Example of a fruiting food calendar in an ecosystem in the Lisbon region

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
Roses (<i>Rosa spp</i>)												
Common hawthorn (<i>Crataegus spp</i>)												
Glossy privet (<i>Ligustrum spp</i>)												
Blackthorns, Cherries, etc... (<i>Prunus spp</i>)												
European pears (<i>Pyrus spp</i>)												
Carob Trees (<i>Ceratonia spp</i>)												
Oaks (<i>Quercus spp</i>)												
Olive Trees (<i>Olea spp</i>)												
Strawberry trees (<i>Arbutus spp</i>)												

We must also consider that as vegetation is established, new niches are generated and as such the ecosystem will evolve throughout ecological succession into an increasingly complex, dynamic, stable, sustainable, resistant and BIODIVERSE system.

We then reach the monitoring and management phase of the ecosystem conservation. We can enjoy our garden to its fullest.



What can we do to promote Biodiversity?
The answer is to eliminate its limiting factors one by one.

