

MAES Urban Ecosystems Pilot - Oeiras Case study

TITLE Oeiras Green and blue Infrastructure – the basis of the urban system health

1. POLICY CONTEXT, OBJECTIVES OR GOALS

Oeiras is one of the 18 municipalities of the Metropolitan Area of Lisboa – Portugal capital city -, with an area of 45,9 Km² and 172.120 inhabitants.

From an early agricultural human settlement to the effect of suburbanization until the second half of the 20th century, its main physical and environmental assets are the proximity to Tejo estuary and to Lisboa, good regional accessibility and positive landscape values.

With the first generation of land use planning, this territory evolved to be a predominantly urban area, attracting large national and international service companies, providing good quality residential areas, no illegal settlements, social housing, social equipments and services allowing poverty and inclusion indicators to be more favorable than in neighbor cities.

Oeiras pursues [Local Agenda 21 sustainability objectives](#) since 2001, having developed a revised sustainable development strategic plan in 2008 – [Oeiras 21+](#) -, where green infrastructure is the first of the 10 “driver-projects”, followed by the river valleys and coast line protection and fruition – this gives an idea of the importance of green infrastructure from the point of view of public participation in the definition of these priorities for the sustainable development of Oeiras.

Oeiras Land Use Master Plan

The recent approval of the [revised land use master plan](#) (Plano Diretor Municipal) focuses the municipal development strategy in 4 strategic vectors:

- a) Concentration e multi-centered urban development;
- b) Mobility;
- c) Public space qualification;
- d) Improvement of the efficiency of the urban services network;
- e) Governance efficiency.

The land use model considers the green infrastructure, defined according to national legislation - Estrutura Ecológica Municipal -, as the frame of urban areas.

The municipal ecological infrastructure is built with the areas, values and fundamental natural systems that together and by reason of its biophysical or cultural characteristics, have as main function to contribute to the ecological balance and for the protection, conservation and environmental enrichment of Oeiras territory.

Green Spaces Sectorial policy

The green infrastructure set in the master plan is managed according to long term sectorial strategic planning instruments focusing:

- Green corridors establishment (Plano dos Corredores Verdes);
- Sustainable water use (Plano da Água);
- Afforestation (Plano de Arborização);
- Local biodiversity (Plano da Vegetação).

The municipality enforces these plans within the competences for urban development approval, green parks and gardens and vegetable-garden project and building, tree planting, urban river management, green area irrigation systems, etc.

The population and local actors have been actively involved in the implementation of these plans, either in the framework of a 21 year-long Environmental Education Plan as also in the Social Responsibility and volunteering local programmes, under slogans like “One citizen, one tree in 2017”.

Historical gardens and farms are of particular concern, as they are part of the historical and cultural heritage of Oeiras.

More recently, a Strategic Plan for River Restoration and Requalification was developed, and is waiting for analysis and decision by the Town Council.

2. MAPPING URBAN ECOSYSTEMS

The ecological network (En) is a relevant planning feature grounded in national law and should be defined in planning practice either in regional or local level. Local administration should define municipal ecological network (MEN) in their land use master plan (PDM) integrating regional and national environmental policies in articulation with other sectorial policies (housing, transportation, agricultural policies, etc.).

Oeiras has defined MEN in strict articulation with regional plan strategies regarding those sectorial policies, but also trying to frame the ecological perspective as an added value for landscape development goals. The MEN is implemented in two different levels: Fundamental Ecological Network (FEN) and Complementary Ecological Network (CEN).

The aim of FEN is to protect the ecological values defined at national and regional scale which in turn are responsible for the main landscape and ecosystem functions, and integrate them into local spatial planning policies and practice. FEN deals not only with ecological and biodiversity resources (e.g. soil, biomass, water, etc.), but also with risk (e.g. flood, soil erosion, tsunami, noise, etc.). Other values with local relevance for landscape and ecosystem functions and services (e.g. cultural landscape features, local green corridors, public green spaces within the city, etc.) are framed in CEN.

For the past two decades, other sectorial strategies for ecological and biodiversity improvement have been defined in Oeiras, and most of these strategies were then transformed in several local Plans, which in turns were used in MEN (Figure 1 and Table 1).

Some examples are the local plan for green corridors, local plan for afforestation, local plan for water management regarding hydrological resources, and recently a Plan for river restoration and rehabilitation.

Fundamental Ecological Network	
Áreas integradas na Reserva Ecológica Nacional;	National Ecological Reserve;
Áreas integradas na Reserva Agrícola Nacional;	National Agricultural Reserve;
Áreas do domínio público hídrico;	Public Hidrological Areas
Áreas integradas no regime florestal;	Areas under public forestry regime
Áreas de povoamento de sobreiros e azinheiras;	Protected areas of cork and holm oaks
Áreas vitais da Rede Ecológica Metropolitana;	Metropolitan Ecological Network (vital areas)
Áreas afetas a habitats de interesse comunitário	Classified Habitats of european interest
Complementary Ecological Network	
Áreas de salvaguarda do sistema hidrogeológico;	Protected areas of hydrogeological system;
Áreas de produção de biomassa;	Biomass production areas;
Áreas verdes urbanas;	Green urban areas;
Áreas de conectividade e sistema de vistas.	Connectivity areas and system of views

Table 1 - typologies of MEN in Oeiras.

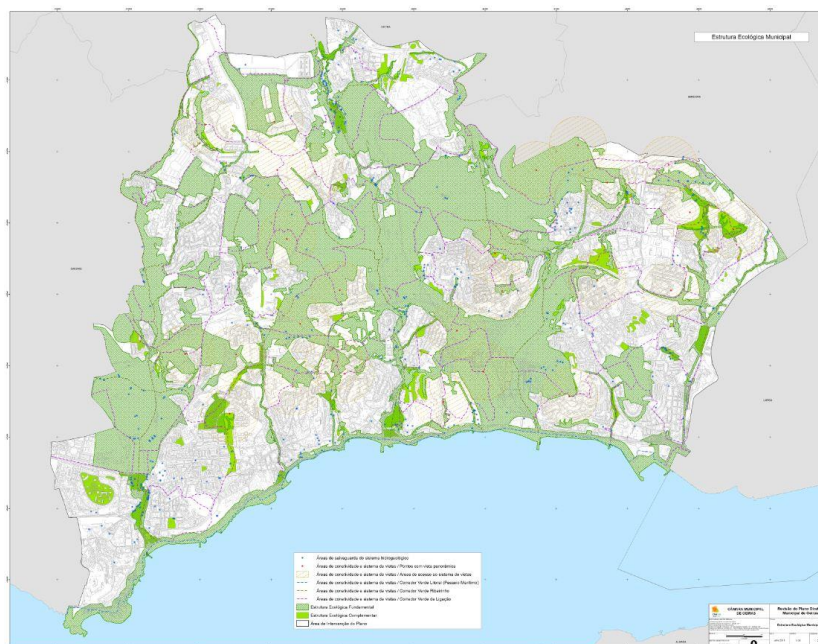


Figure 1 - Municipal Ecological Network in Oeiras

3. MAPPING ECOSYSTEM CONDITION

Oeiras has developed a Sustainable Development Indicators System – [SIDSO – Sistema de Indicadores do Desenvolvimento Sustentável de Oeiras](#) -, which to some extent displays the condition of ecosystems, for example in terms of water management and water quality, river

ecosystem conditions, air pollution, local cultural assets, human health and outdoor physical activity, environmental awareness, soft mobility, urbanization rates, soil sealing, etc.

The above mentioned Plan for River Restoration and Rehabilitation, also defined indicators for monitoring the objectives that were set. Those indicators were articulated with SIDSO and others with more detail information regarding blue infrastructure.

4. MAPPING ECOSYSTEM SERVICES

We believe that Oeiras have a set of basic information which is necessary to map ecosystem services, but we have not map it yet. We hope MAES project will help us with this information.

5. CONCLUSIONS

The territorial, cultural and touristic promotion of Oeiras builds upon several landscape and environmental values, somewhat defined and protected in the land use planning and management mechanisms and in several sectorial strategic plans that give orientation to municipal services actions.

Nevertheless, these assets – which in practical and scientific terms are nothing more than ecosystem services – lack an objective, quantitative and science-supported assessment, which in turn could give support and longer term vision to municipal plans and policies.

Oeiras envisages the development of a urban ecosystem MAES pilot project as the first step to a better ecological management of its territory.

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