NATURE'S SHIELD :
A LANDSCAPE APPROACH TO CLIMATE CHANGE ADAPTATION AND TOURISM ENHANCEMENT IN PORT DE LA SELVA

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I would like to express my special gratitude to my thesis advisor for their valuable guidance and direction, as well as to my family, my husband, friends, and colleagues for their unwavering support and constant motivation throughout the completion of this work.

ABSTRACT

This study presents an overview of the challenges facing the village of Port de la Selva and proposes a landscape project to address these challenges.

It describes the picturesque setting of the village, its natural and cultural values, as well as the fragilities and pressures it faces. It details the objectives and strategies of the proposed project, which include flood management, promenade redevelopment, and biodiversity enhancement. It highlights specific elements such as creating a wetland, planting flood-resistant vegetation, expanding the forested area, and connecting habitats.
The project
also emphasizes the need for improvements to the existing promenade, addressing problems such as lack of shaded areas and excessive parking.

Overall, the project presents a comprehensive approach to improving the resilience, sustainability and overall quality of life in the village.

RESUMEN

Este estudio presenta una visión general de los retos a los que se enfrenta el pueblo de Port de la Selva y propone un proyecto paisajístico para abordarlos.

Describe el pintoresco entorno del pueblo, sus valores naturales y culturales, así como las fragilidades y presiones a las que se enfrenta. Detalla los objetivos y estrategias del proyecto propuesto, que incluyen la gestión de inundaciones, la remodelación del paseo marítimo y la mejora de la biodiversidad. Destaca elementos específicos como la creación de un humedal, la plantación de vegetación resistente a las inundaciones, la ampliación de la zona boscosa y la conexión de hábitats.

El proyecto también hace hincapié en la necesidad de mejorar el paseo marítimo existente, abordando problemas como la falta de zonas de sombra y el exceso de aparcamientos.

En conjunto, el proyecto presenta un enfoque integral para mejorar la capacidad de recuperación, la sostenibilidad y la calidad de vida general del pueblo.

Memo

Port de la Selva is a picturesque village located on the Costa Brava, renowned for its stunning scenery, which attracts an increasing number of tourists each year. However, the village is facing increasing challenges from climate change. Recurrent floods, rising sea levels, and wildfires threaten its natural beauty and the well-being of residents. To address these issues, a comprehensive project has been developed. It aims to mitigate climate change impacts through measures like wetland creation, flood-resistant vegetation, and a new seafront walk. This project seeks to protect the village's environment, enhance the tourist experience, and promote a sustainable future for Port de la Selva.

Situation and context

The study area is located in Port de la Selva. It is a coastal village located in the province of Girona, Catalonia, Spain. Situated on the northeastern coast of the Iberian Peninsula, it is part of the Costa Brava region. The village is nestled between the Mediterranean Sea and the Cap de Creus Natural Park, which contributes to its picturesque setting.

Throughout its history, Port de la Selva has undergone major economic transformations. Initially, Port de la selva setteled as a humble fishing village. It's economy relied predominantly on fishing as a way of life and sustenance for its residents.

In the mid-19th century, the emphasis shifted to the oil and wine trade, which grew in importance until plagues hit the crops, leading to a decline in these activities.

However, a turning point came in the 1920s, when tourism became an important factor in Port de la Selva. Visitors were drawn to the village's picturesque coastal landscapes and tranquil atmosphere, triggering a tourist boom in the 1950s. To cope with the influx of visitors, over 500 houses were built.

Today, tourism has become Port de la Selva's main economic activity. The town has adapted to meet the growing number of tourists by offering different types of accommodation. Despite these changes, Port de la Selva has managed to retain its enchanting essence as a small fishing village.

It is important to note that Port de la Selva's population can fluctuate seasonally due to the influx of tourists during the summer months. While the number of residents increases significantly during this period, the population returns to a smaller, more permanent number outside the peak tourist season.

Analysis and diagnosis

Values

Port de la Selva offers a range of importante natural and cultural values.

Its diverse landscape features rocky cliffs along the coastline, providing panoramic views of the Mediterranean Sea, while the sandy beaches offer peaceful spots for sunbathing and relaxation. The coastline is dotted with small coves and hidden bays.

Port de la Selva is located in close proximity to the Cap de Creus Natural Park, which greatly influences its landscape. The park is a protected area known for its unique rock formations, rugged hills, and diverse vegetation.
The diverse landscape of Port de la Selva supports a rich variety of flora and fauna. It is home to numerous plant species adapted to the rugged terrain, including Mediterranean shrubs, aromatic herbs, and wildflowers. The coastal waters are inhabited by marine life, and the park provides a habitat for several bird species.

Cultural heritage is reflected in the presence of several historic buildings, including the Sant Pere de Rodes Monastery, an architectural masterpiece reflecting the region's historical significance.
It is crucial to promote sustainable practices and conservation efforts to protect and safeguard these valuable assets for future generations.

Fragilities

Port de la Selva faces several fragilities and challenges. One major concern is its environmental vulnerability due to its coastal location. Rising sea levels, coastal erosion, and extreme weather events caused by climate change threaten the stability and beauty of the coastline. The village is at risk of experiencing return period floods, which can lead to significant damage. Furthermore, the gradual sea level rise could result in the loss of some beaches over time. Ongoing efforts are needed to protect and adapt to these changes.

Another challenge for Port de la Selva is the influx of visitors, which puts pressure on the natural resources of the village. Sustainable practices are necessary to manage tourism impacts on the ecosystem. Preserving the ecological balance of the village requires proactive approaches and sustainable management practices.

The village's small size presents infrastructure and service challenges. Meeting the demands of a growing tourism industry while preserving the village's character and resources requires a delicate balance. It is important to ensure that the infrastructure and services cater to the needs of both visitors and residents.

By addressing these fragilities and challenges, Port de la Selva can work towards preserving its natural beauty, promoting responsible tourism, and improving the well-being of its community and environment.

Project objectives and strategies

After conducting a comprehensive study and analysis of the Port de la Selva area, a landscape project will be presented with the aim of addressing several key objectives. This project encompasses three main goals, each focusing on distinct aspects of the area's development and preservation:

1. Flood Management and Mitigation:
One of the primary objectives of the project is to propose effective solutions for managing and mitigating floods, thereby reducing their impact on the urban zone. This involve the creation of a new wetland.

2. Seafront Redevelopment:
Another key objective of the project is to propose a redesign of the seafront area, aiming to create a more

appealing and comfortable. This involve enhancing the existing infrastructure, such as walkways, promenades, and recreational areas. The goal is to create an attractive and vibrant coastal environment that supports the local economy and improves the overall quality of life for inhabitants and visitors alike.

3. Biodiversity Enhancement:
At the heart of the project planning is a strong emphasis on enhancing biodiversity. This objective entails connecting existing habitats and creating new ones to promote ecological balance and support a thriving ecosystem. The project involve the restoration and preservation of natural habitats, as well as the introduction of native plant species and the establishment of wildlife corridors. By prioritizing biodiversity, the project seeks to foster a sustainable and resilient environment that benefits both the local ecology and the community.

Overall, this landscape project for Port de la Selva encompasses flood management, seafront redevelopment, and biodiversity enhancement, all aimed at improving the resilience, attractiveness, and ecological integrity of the area. By addressing these objectives in a holistic manner, the project aims to create a sustainable and thriving environment that caters to the needs of residents, tourists, and the natural ecosystem.

Natural area

Create a Wetland
The primary objective of the project is to mitigate the adverse effects of climate change by implementing natural flood management strategies. One of the proposed solutions is **the creation of a wetland**. By modifying the topography of the targeted area and introducing appropriate vegetation, we aim to create a natural sponge that can absorb excess water during heavy rainfall. Wetlands act as valuable buffers, reducing the risk of flooding by storing water. Moreover, wetlands offer additional benefits such as improving water quality, providing habitats for diverse plant and animal species, and supporting overall biodiversity. By carefully considering the geographical characteristics and hydrological patterns of the area, the project aims to minimize the risk and damage caused by floods.

Plant Flood Vegetation
To enhance water infiltration and further mitigate the impact of floods, a specific area has been designated for the planting of flood-resistant vegetation. This vegetation plays a crucial role in absorbing excess water, allowing it to permeate into the ground and replenish aquifers. By facilitating water absorption and reducing surface runoff, flood-resistant vegetation helps regulate water levels during heavy rainfall events.

Connect Habitats
In addition to flood mitigation, the project proposes planting native trees to create habitat connectivity and expand forested areas, establishing wildlife corridors for animal movement and promoting biodiversity. Successful implementation requires effective forest management practices, including careful attention to wildfire management. Techniques such as «clareo» (thinning) involve selective removal of trees and vegetation to reduce density, promoting healthier growth and minimizing the risk of rapid wildfire spread. «Quema prescrita» (prescribed burning) refers to controlled fires set under specific conditions to clear accumulated vegetation, stimulate new growth, and reduce flammable materials. These measures ensure sustainable forest development while mitigating wildfire risks.

Costal area

The centerpiece of the project is the development of a new seafront walk that aims to improve the overall experience for both tourists and locals. This expansion involves removing parking spaces from the beachfront and transforming the area into an extended promenade.

New SeaFront Walk
The new seafront walk will provide shaded areas and enhanced thermal comfort to combat the high temperatures experienced during the summer months. Additionally, the inclusion of a bike lane encourages sustainable transportation options, reducing reliance on cars and lowering greenhouse gas emissions.
An outdoor gym will also be installed to promote physical activity among visitors and residents.

To facilitate water management, a swale will be installed along the entire length of the seafront walk. This swale will help manage water runoff and drainage effectively. Additionally, specific dune vegetation will be planted in the upper part of the beach. This vegetation will serve two purposes: reducing coastal erosion and allowing for sediment retention, which helps maintain the beach's natural balance.
To promote sustainable practices and improve water infiltration, permeable paving will be used throughout the seafront walk.

Relocated Hybrid Park'ing
The design of the new seafront walk necessitated the relocation of a highly utilized parking area from the seafront to the opposite side of the road. This parking area has been envisioned as a hybrid space that serves as a car park during the peak tourist season and transforms into a weekly market for the local community during the rest of the year. Additionally, the relocated parking area will provide various green spaces, including picnic zones, children's playgrounds, and sports areas.

Extension of Cami de la Ronda
By connecting the new seafront walk with the existing Cami de la Ronda, we create a continuous and safe walking path that offers panoramic views and serves different areas of the village. Furthermore, extending the Cami de la Ronda to the other side of the village not only provides a secure pedestrian route but also connects the seaport with the beautiful Cala Tamariua. This extension promotes sustainable transportation options and encourages people to reduce their reliance on cars, thus contributing to the reduction of greenhouse gas emissions and fostering a greener environment.

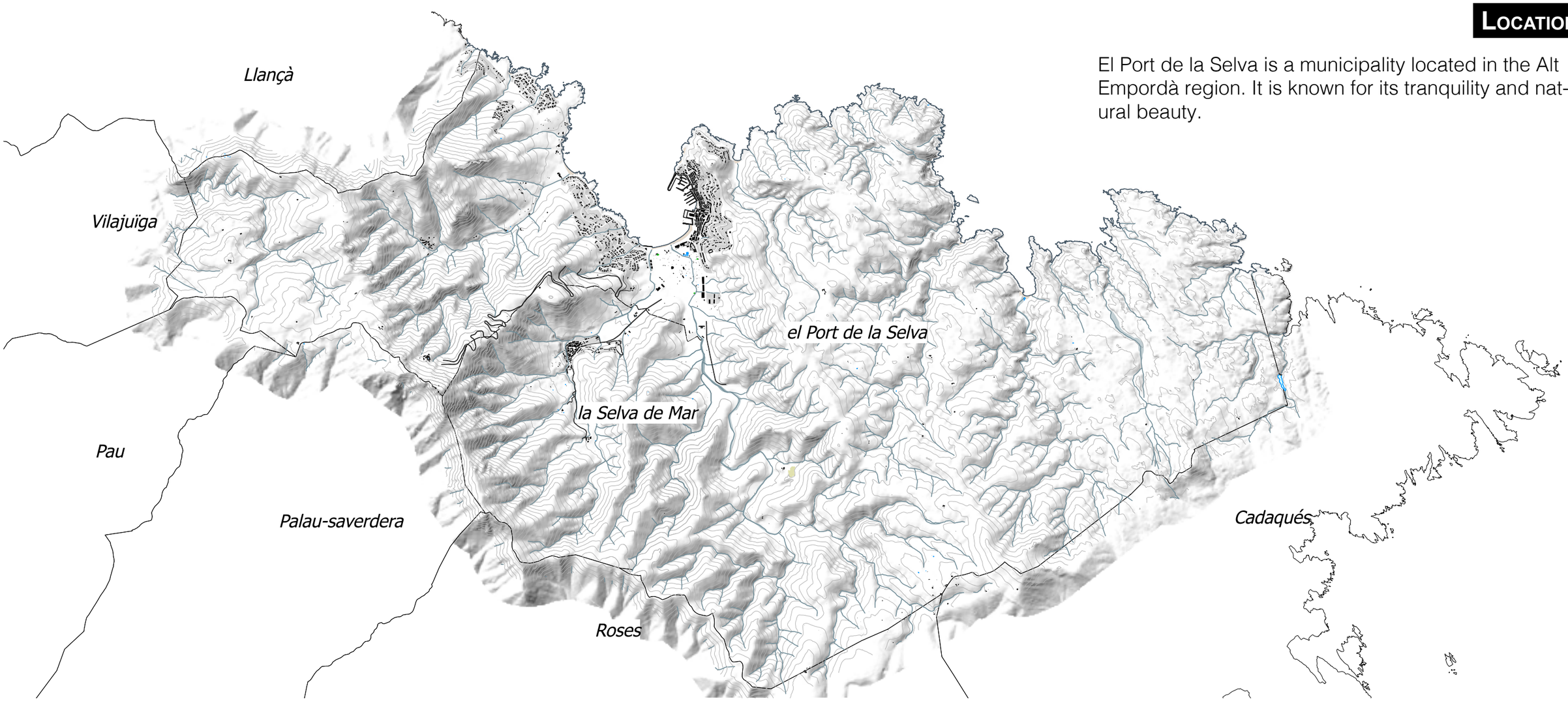
Conclusions

In conclusion, the proposed landscape project for Port de la Selva offers a holistic approach to address the challenges posed by climate change and tourism. By implementing flood management strategies, enhancing the seafront area, and promoting biodiversity, the project aims to protect the village's environment, improve the well-being of its community, and create a sustainable future for Port de la Selva. Through these efforts, the project strives to preserve the village's natural beauty, promote responsible tourism, and ensure a thriving and resilient environment for generations to come.

I. Analysis

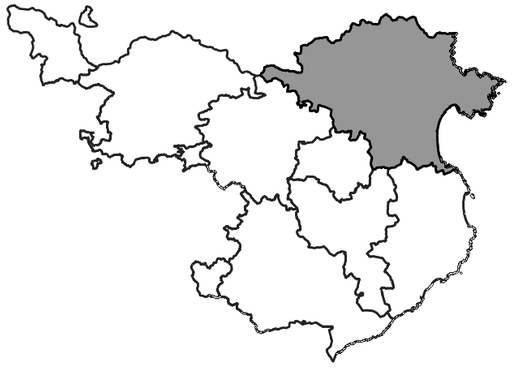
Location

El Port de la Selva is a municipality located in the Alt Empordà region. It is known for its tranquility and natural beauty.



Catalonia

Province of Girona

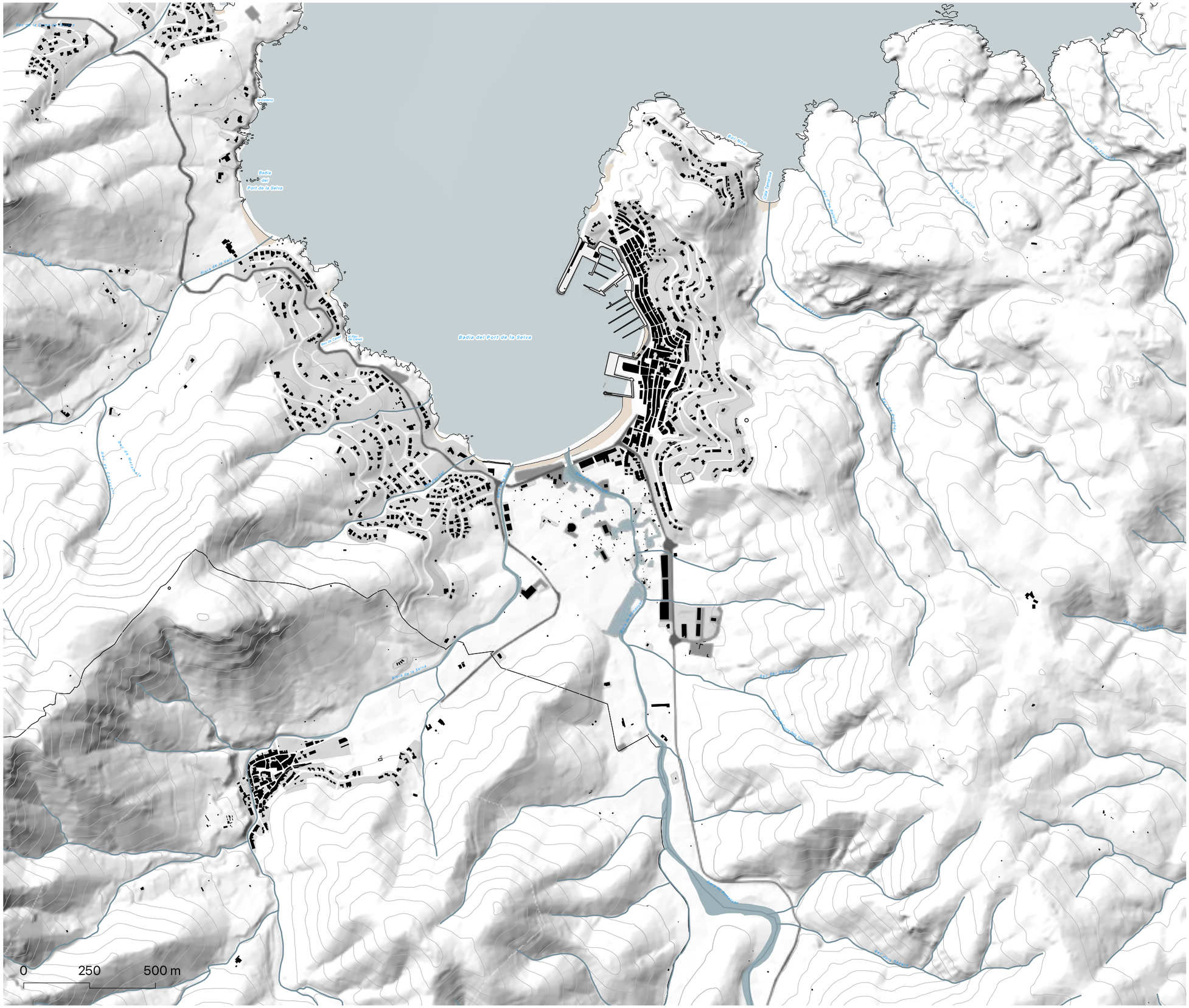


Region of Alt Emporda

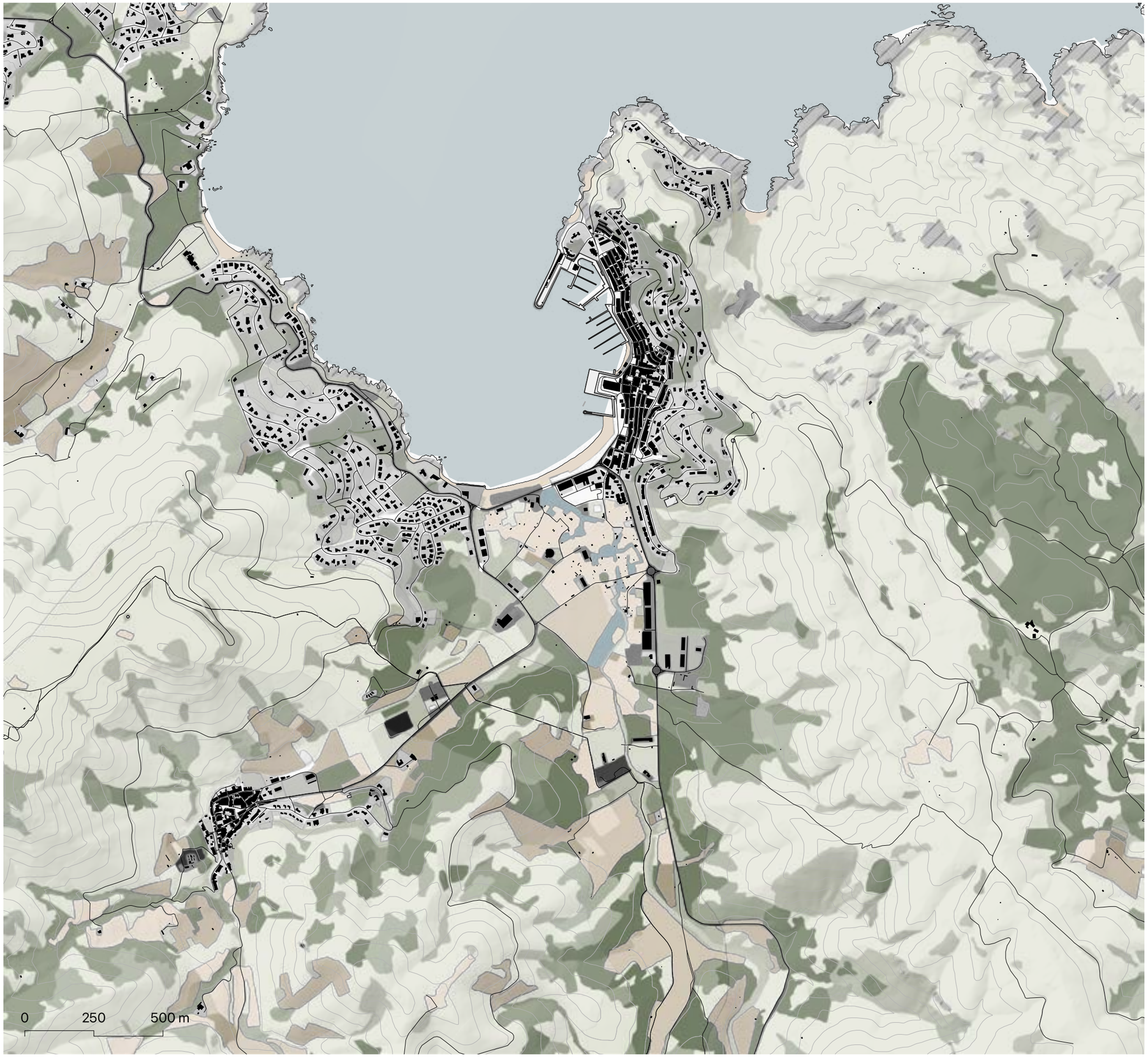
Municipality of El Port de La Selva

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

HYDROLOGY



Source : Own elaboration based on ICGC, Hipermapa, CNIG.



Urban System

- Buildings
- Urban area

Agricultural System

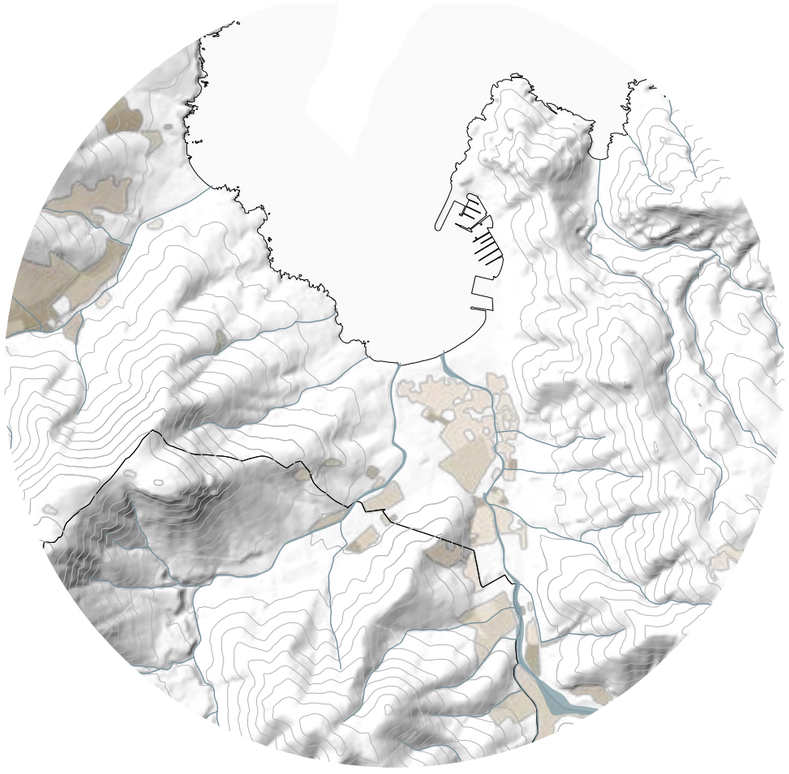
- Herbaceous crops
- Vineyards
- Olive groves
- Other woody crops
- Crops in transformation

Forest System

- Dense conifer forests
- Dense forests of deciduous and planifolia
- 223.Boscos densos d'esclerofil·les i laurifolis
- Matollar
- Conifer forests
- Sclerophyllous and laurifolia forests
- Meadows and grasslands
- Bare forest soil
- 232.Roquissars i congestes
- Beaches
- Wet areas

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

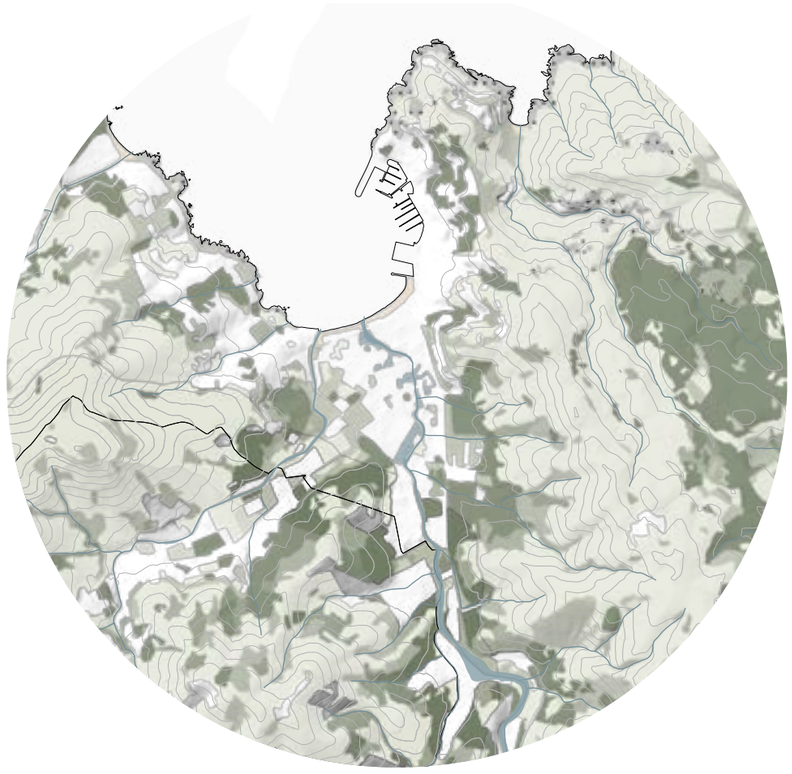


Agricultural System

In 2020, in Port de la Selva, a total of 703 hectares of agricultural land were used. Out of this area, 353 hectares were cultivated lands and 350 hectares were permanent pastures.

Regarding the cultivated lands, 221 hectares were dedicated to grain cereals, 6 hectares to green crops, 84 hectares to other herbaceous crops, and 5 hectares to fallow lands. The olive groves covered 12 hectares of cultivated lands, while vineyards accounted for 25 hectares.

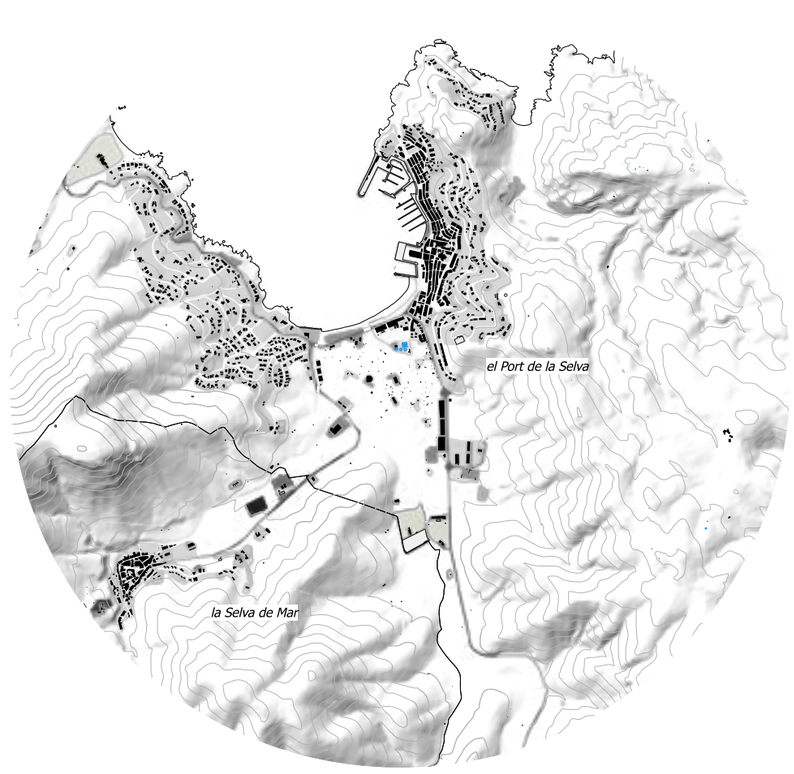
In terms of livestock, there were 1,425 head of cattle in 2020 in Port de la Selva.



Forest System

The forest system in Port de la Selva is characterized by dense conifer forests, deciduous and planifolia forests, sclerophyllous and laurifolia forests, as well as meadows and grasslands.

These forests support a rich biodiversity and provide habitat for various species. The presence of different types of forests adds to the visual appeal and ecological importance of the area.



Urban System

According to data from 2022, Port de la Selva's population reaches 1,015 residents with a balanced gender ratio.

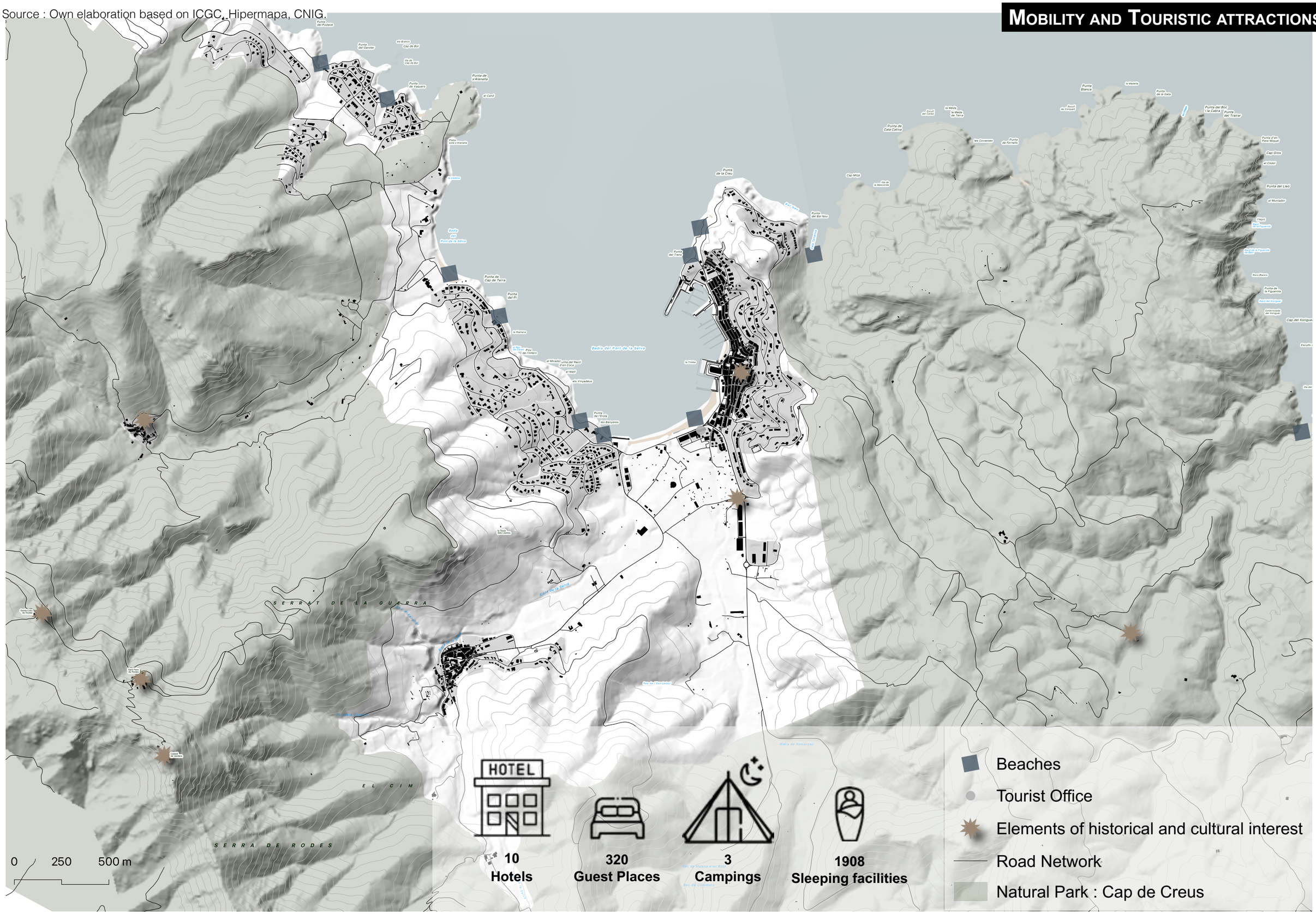
With a land area of 41.62 km^2, El Port de la Selva is surrounded by stunning landscapes, from mountains to the Mediterranean coast. Its population density is 24.4 inhabitants per square kilometer.

The municipality has experienced a slight population growth mainly due to internal migration within Catalonia.

The data is sourced from Idescat, by Instituto de Estadística de Cataluña

Mobility and Touristic attractions

Source : Own elaboration based on ICGC, Hipermapa, CNIG.



II. Climate change challenges

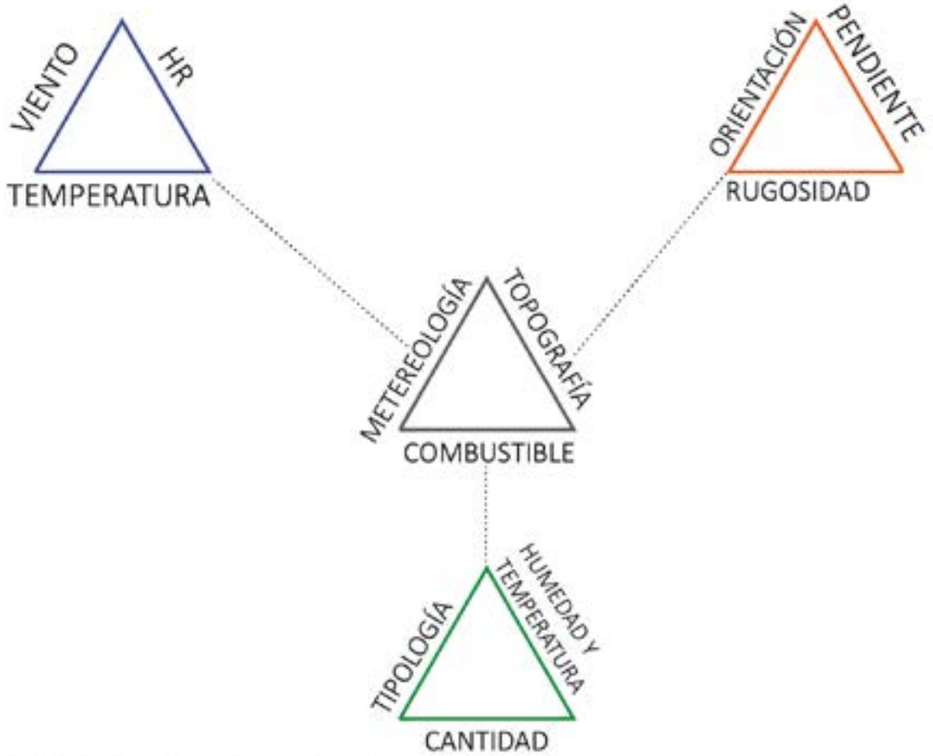
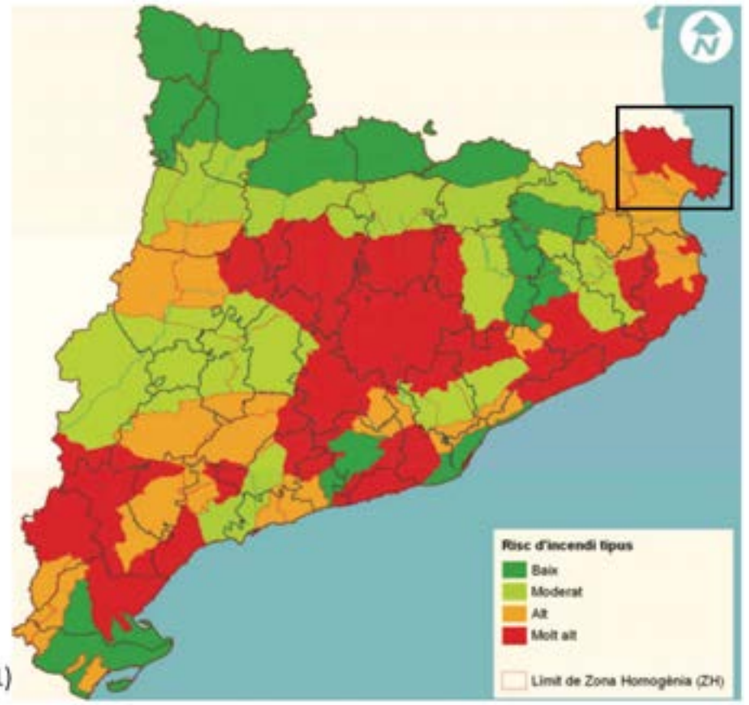


Fig. 1_1. *Wildfire behaviour triangle*. Agee, 1996



Mapa de riesgo de incendios tipos de Cataluña. (Orgest, 2011)

The factors that most influence the spread of a forest fire are **the state and type of vegetation**, **the topography** of the terrain and climatic factors: **wind, humidity and temperature.**

Influence of vegetation

The spread of a forest fire depends on the moisture content of the vegetation fuel and its structure. Therefore, as plant fuels behave differently in the face of fire, the vegetation composition and structure of a forest will positively or negatively influence the spread of a fire.

Influence of topography

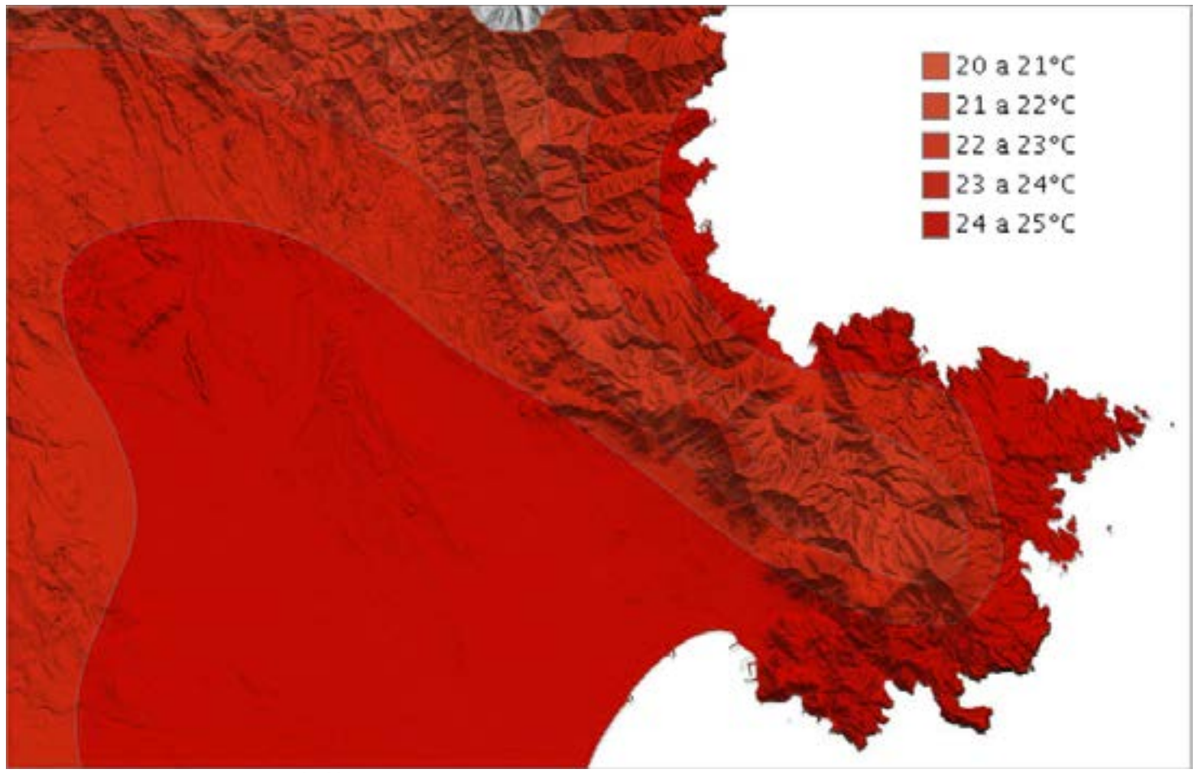
When a fire moves uphill, the upward slope promotes fire advance by increasing the speed of fire spread. If, on the contrary, the fire moves downhill, the downward slope reduces its speed.

Influence of weather

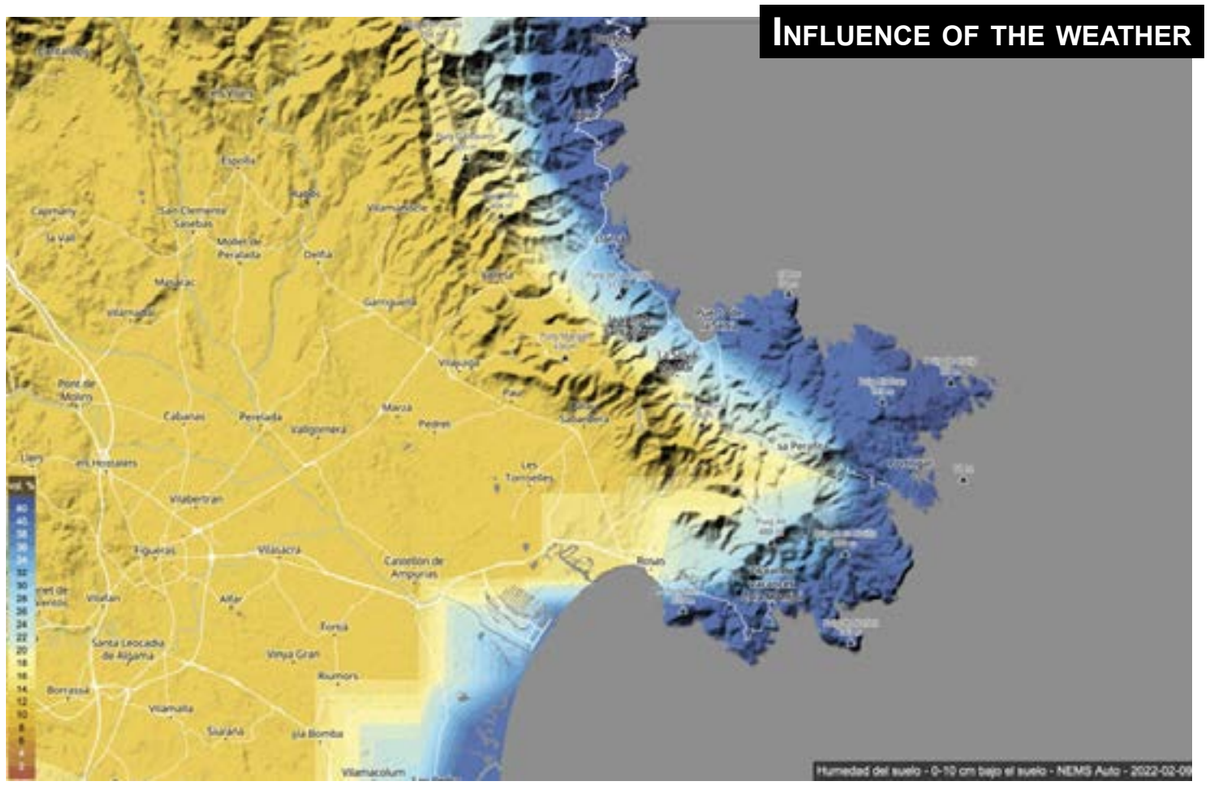
Wind direction and speed influence the spread of fire by speeding it up if the wind is downwind or slowing it down if the wind is blowing against the direction of fire spread.
The probability of a fire spreading increases if the temperature is high. For this reason, summer is the most dangerous season and when most fires occur.

Fires in Cap de Creus

Cap de Creus is a natural park that has often been suffering from fires. From a landscape point of view, it would be interresting to manage and control those frequent fires allowing flaura and flora to thrive. The last fire happened in 2021 and has burned 500 hectares.

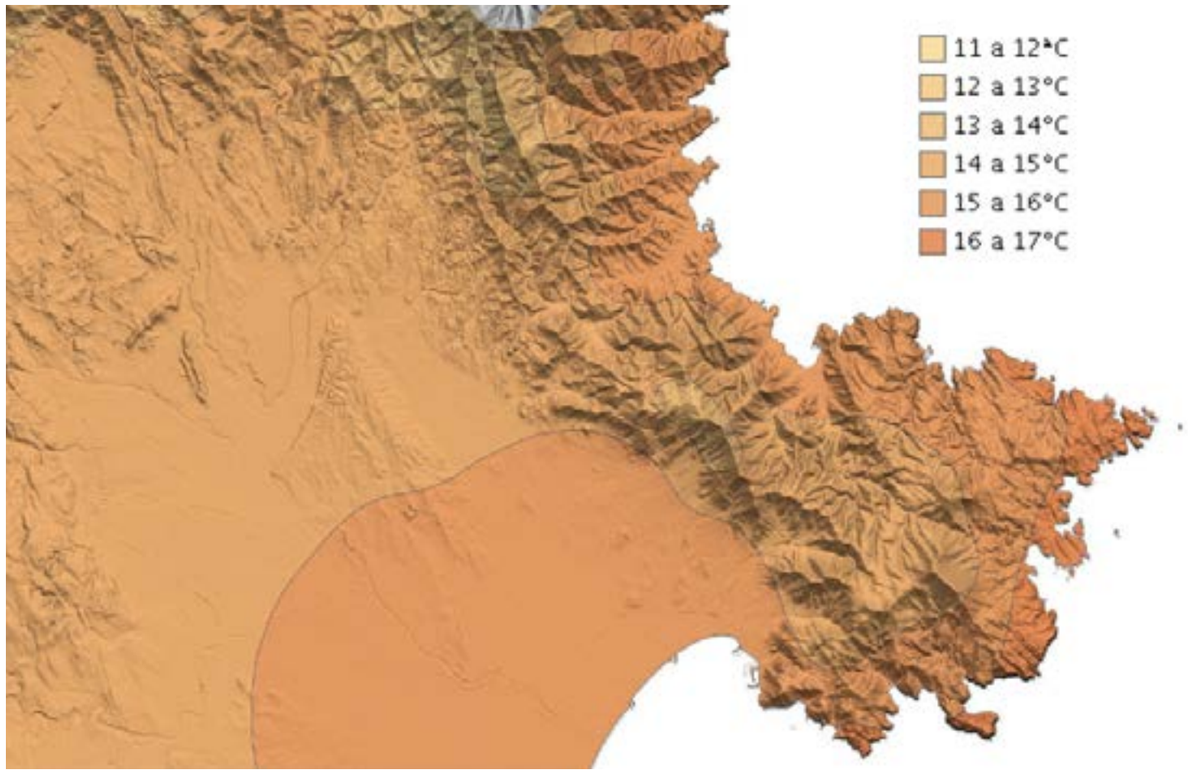


AVERAGE JULY TEMPERATURE (oC)

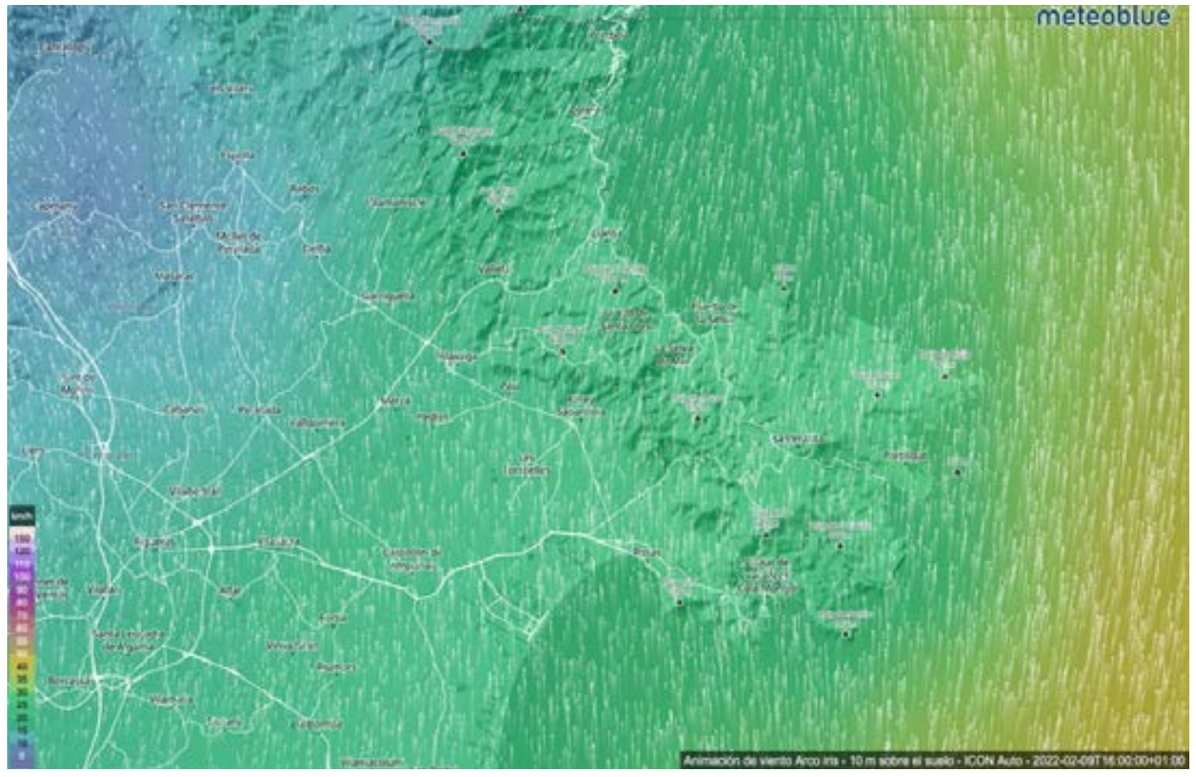


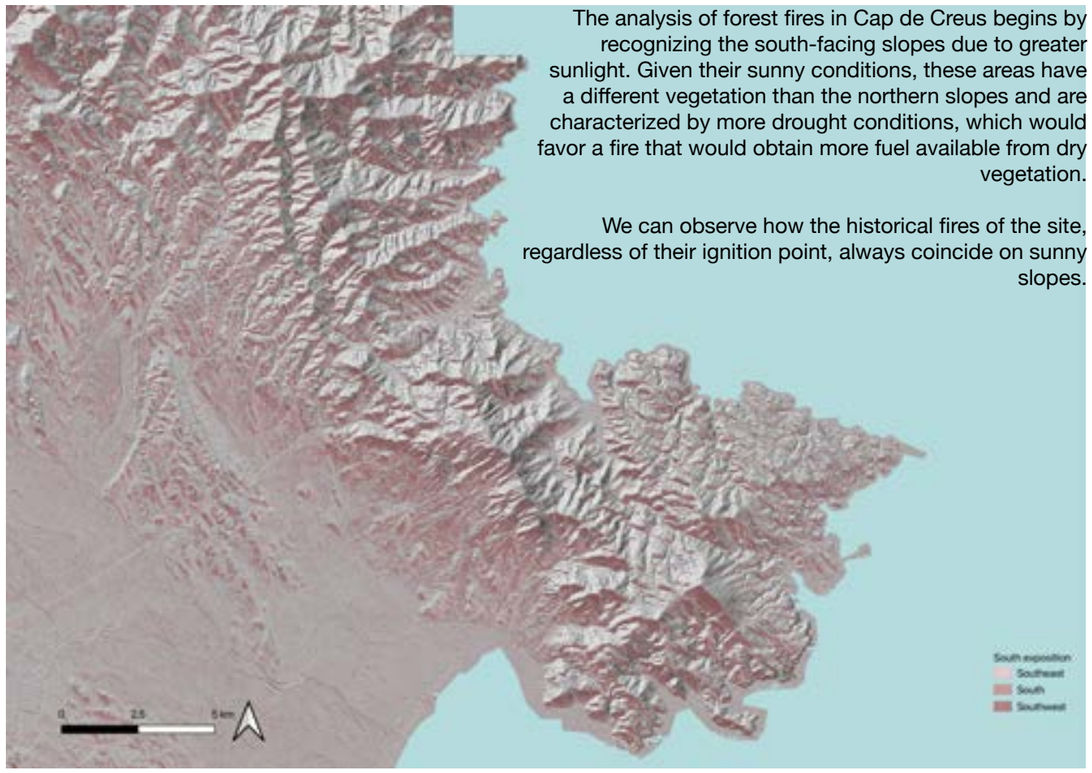
HUMIDITY PERCENTAGE

ANNUAL AVERAGE TEMPERATURE (oC)



WIND SPEED AND DIRECTION





The analysis of forest fires in Cap de Creus begins by recognizing the south-facing slopes due to greater sunlight. Given their sunny conditions, these areas have a different vegetation than the northern slopes and are characterized by more drought conditions, which would favor a fire that would obtain more fuel available from dry vegetation.

We can observe how the historical fires of the site, regardless of their ignition point, always coincide on sunny slopes.

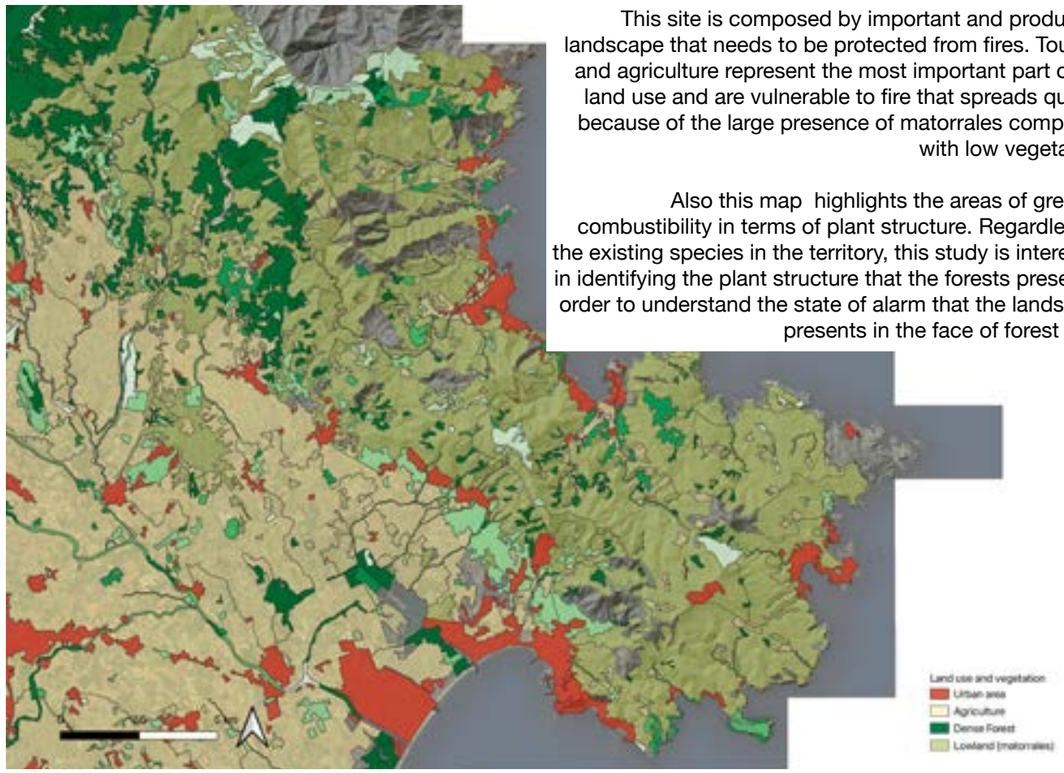
Sunny slopes

Infrared 2020

Other Influences

The infrared map shows the presence of vegetation and therefore the presence of combustible. The red parts of the map are the places where important vegetation is located.

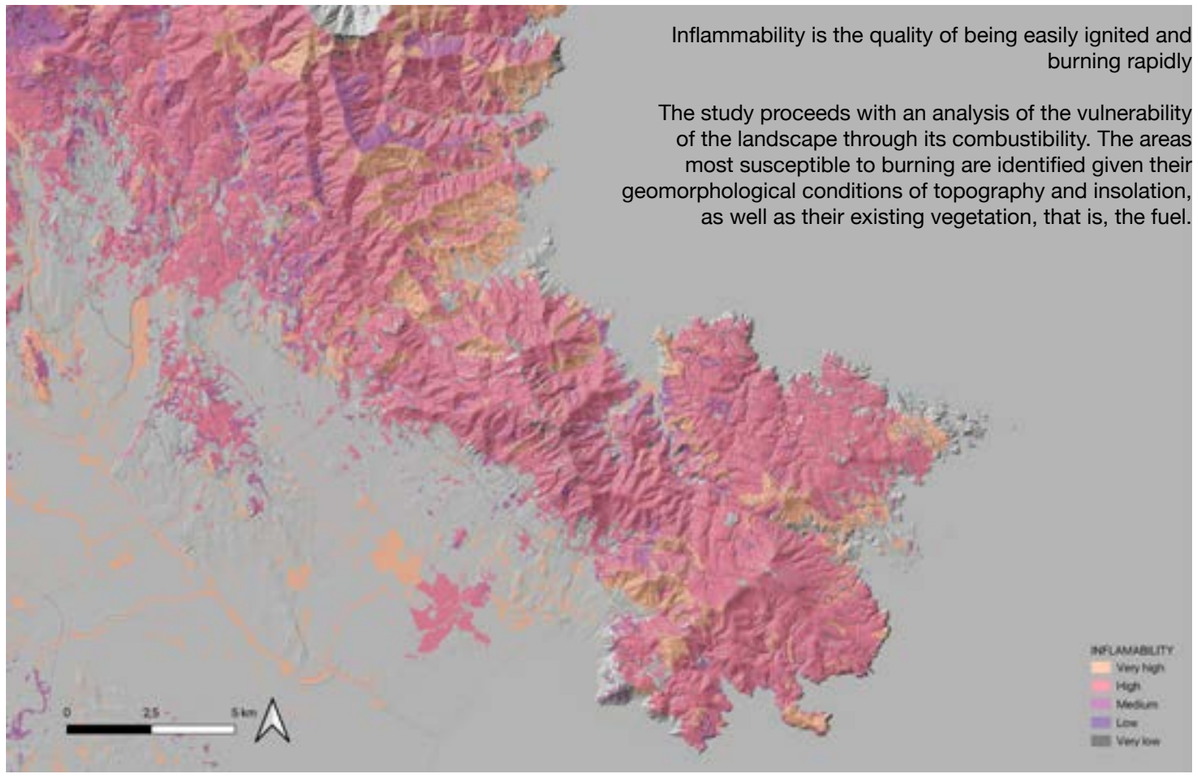
Land use and vegetationn structure



This site is composed by important and productive landscape that needs to be protected from fires. Tourism and agriculture represent the most important part of the land use and are vulnerable to fire that spreads quickly because of the large presence of matorrales composed with low vegetation.

Also this map highlights the areas of greatest combustibility in terms of plant structure. Regardless of the existing species in the territory, this study is interested in identifying the plant structure that the forests present in order to understand the state of alarm that the landscape presents in the face of forest fires.

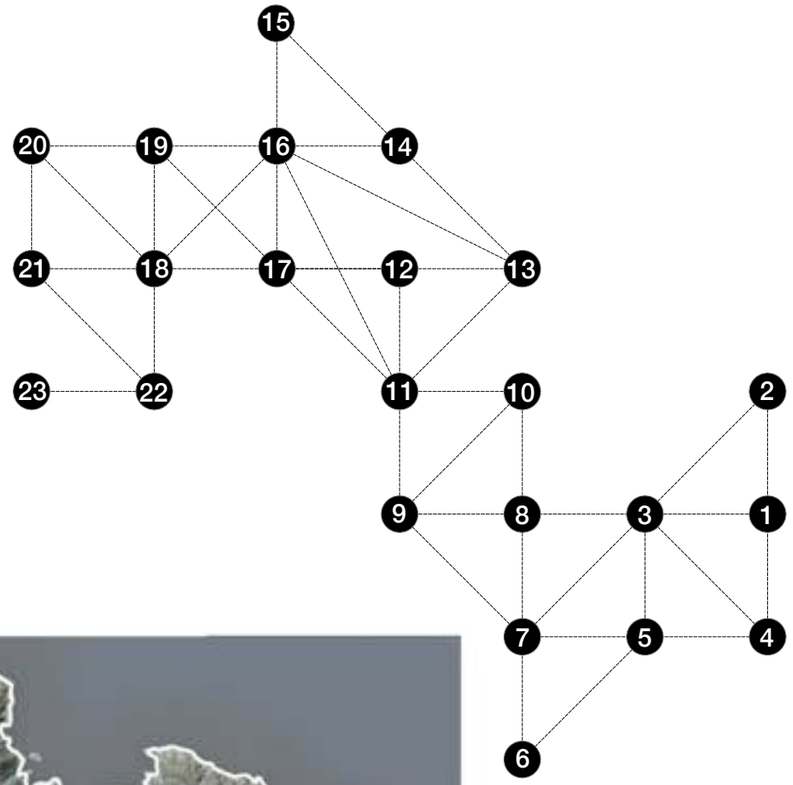
Inflammability



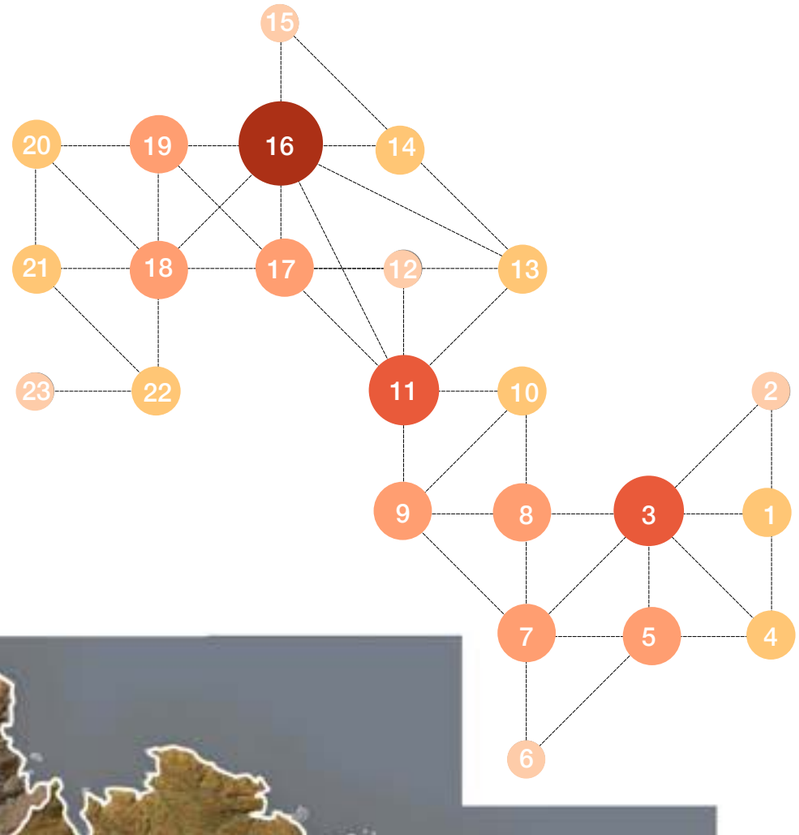
Inflammability is the quality of being easily ignited and burning rapidly

The study proceeds with an analysis of the vulnerability of the landscape through its combustibility. The areas most susceptible to burning are identified given their geomorphological conditions of topography and insolation, as well as their existing vegetation, that is, the fuel.

Propagation polygons



Relationship and alignemennt



Return Period

10 years

100 years

500 years

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

AREAS AFFECTED BY FLOODS

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

FLOODS
- Potential flood zones (Geomorphological)
- T10 years return period
- T100 years return period
- T500 years return period

0 250 500 m

NATURAL AREAS THREATENED BY FLOODS

Floodable Rivers
- Riera de la selva
- Riera de Romanyac

FLOODS
- Potential flood zones (Geomorphological) limite
- T500 years return period limite

Forest and natural areas
- Dense conifer forests
- Dense forests of deciduous and planifolia
- Matollar
- Clear conifer forests
- Clear sclerophyllous and laurifolia forests
- Meadows and grasslands
- Riverside forest
- Bare forest soil

Wet areas
- Wet areas

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

URBANIZED AREAS THREATENED BY FLOODS

Floodable Rivers
- Riera de la Selva
- Riera de Romanyac

FLOODS
- Potential flood zones (Geomorphological) limite
- T500 years return period limite

URBANIZED AREAS
- Beaches
- Area with urban buildings
- Isolated buildings in rural areas
- Isolated residential areas
- Green areas
- Industrial,commercial and/or service areas
- Sports and leisure areas
- Areas in transformation
- Road network
- Bare urban soil

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

AGRICULTURAL AREAS THREATENED BY FLOODS

Floodable Rivers
- Riera de la selva
- Riera de Romanyac

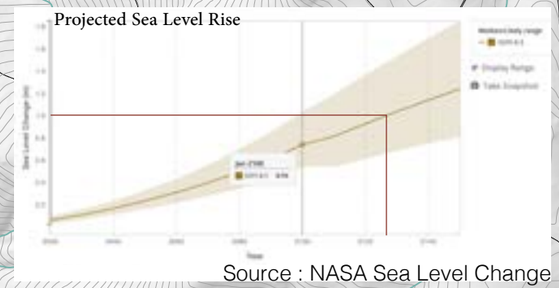
FLOODS
- Potential flood zones (Geomorphological) limite
- T500 years return period limite

Agricultural areas
- Herbaceous crops
- Vineyards
- Olive groves
- Other woody crops
- Crops in transformation

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

Area affected by Sea Level Rise

Source : Own elaboration based on ICGC, Hipermapa, CNIG.



Source : NASA Sea Level Change

Affected zone by sea level rise 1M

0 250 500 m

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

VULNERABILITIES

Affected zone by sea level rise 1M

Floods

Potential flood zones (Geomorphological)

T10 years return period

T100 years return period

T500 years return period

Wildfires

2021

2000

1994

1991

1986

0 250 500 m

III. The Project

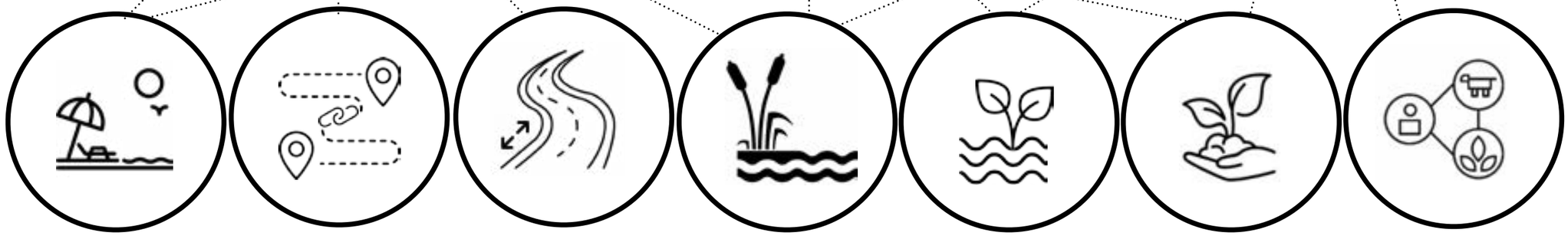
OBJECTIVES

IMPROVE TOURISM

LOWER THE IMPACT OF FLOODS

ENHANCE BIODIVERSITY

STRATEGIES



- Redesign seafront walk
- Connect with Cami de la Ronda
- Extend cami de Ronda
- Create a wetland
- Plant vegetation tolerant to flood
- Create habitats
- Connect habitats

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

MASTER PLAN

NEW SEAFRONT WALK

CREATE WETLAND

CONNECT HABITATS

Flood Mitigation

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

WETLAND

CREATE WETLAND

EXISTING WET AREA

NEW HUMID HABITAT

Current situation

Proposition

WETLAND

The wetland is an important component of the proposed landscape project in Port de la Selva. It is designed to mitigate the adverse effects of climate change, particularly floods.

The wetland will be created by modifying the topography of the targeted area and introducing appropriate vegetation. This natural sponge-like ecosystem will have the capacity to absorb excess water during heavy rainfall, reducing the risk of flooding in the urban zone.

In addition to flood mitigation, wetlands offer various benefits such as improving water quality, providing habitats for diverse plant and animal species, and supporting overall biodiversity.

Information on plant species : Flora and fauna of the PNAE

FLOOD VEGETATION

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

PLANT VEGETATION FOR FLOOD CONTROL

Flood Vegetation

Planting flood-resistant vegetation is a crucial measure in the landscape project for Port de la Selva to enhance water infiltration and mitigate the impact of floods.
A specific area has been designated for this purpose.
Flood-resistant vegetation plays a vital role in absorbing excess water, allowing it to permeate into the ground.
By facilitating water absorption and reducing surface runoff, this vegetation helps regulate water levels during heavy rainfall events, thereby reducing the risk of flooding.

Current situation

Proposition

Source: Own elaboration based on images taken from GoogleEarth

Information on plant species : Flora and fauna of the PNAE

Forest management

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

Connecting habitats

New Forest connecting habitats

Boscos

Dense conifer forests (pine)

Conifer forests

Dense forests of deciduous trees(hêtres,châtaigniers,chênes)

Dense forests of sclerophyllous and laurel-leaved trees (Oak, Laurier)

Forests of sclerophyllous and laurel-leaved trees

Riparian forest

CONNECT HABITATS

CONNECT HABITATS

Connecting Habitats

The landscape project in Port de la Selva includes expanding the forest area and connecting habitats to promote biodiversity and ecological balance.
Native trees are planted to create habitat connectivity and provide shelter and food for wildlife.

By expanding the forest and connecting habitats, the project aims to create a resilient and sustainable ecosystem that supports wildlife conservation and enhances the natural environment of Port de la Selva.

Current situation

Proposition

Source: Own elaboration based on images taken from GoogleEarth

Pinus halepensis

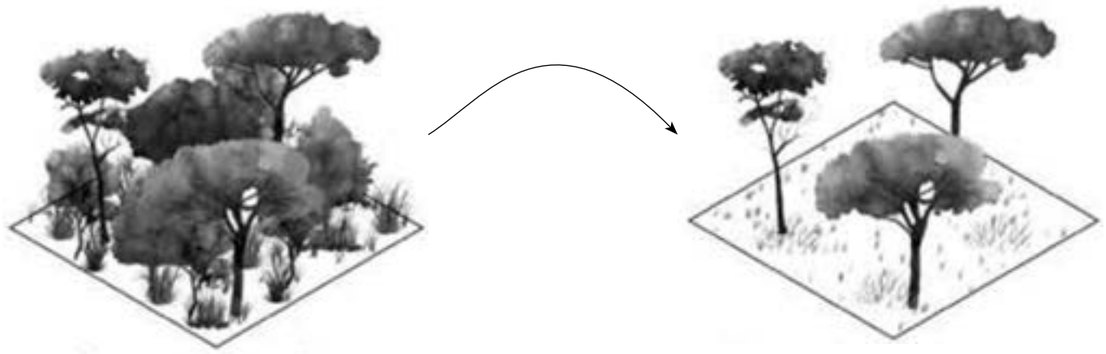
Pinus pinea

Quercus suber

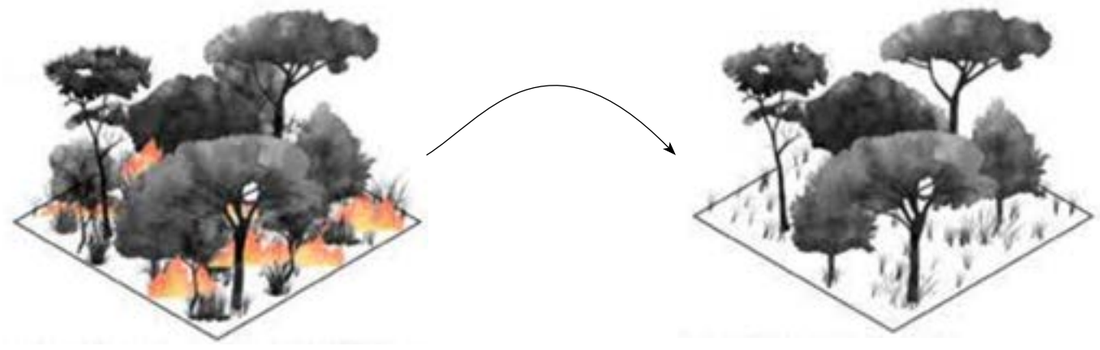
Quercus ilex

Pistacia lentiscus

A careful attention is given to wildfire management by implementing techniques aimed at reducing the risk of rapid wildfire spread.
These techniques include practices like **thinning**, which involves selectively removing trees and vegetation to reduce density, and **prescribed burning**, which utilizes controlled fires to clear vegetation and reduce flammable materials.
By implementing these measures, the project aims to enhance fire safety and protect the natural environment from the impacts of wildfires.



Tree thinning (Clareo) **Reduced risk of fire**



Controlled burning (Quema prescrita) **Reduced risk of fire**

Forest and wildfire management

New SeaFront Walk

Source : Own elaboration based on ICGC, Hipermapa, CNIG.

New Seafront Walk

EXTEND CAMI DE LA RONDA

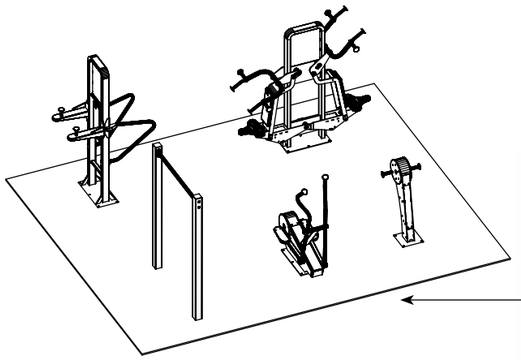
NEW SEAFRONT WALK

RELOCATE PARKING

DIAGRAM

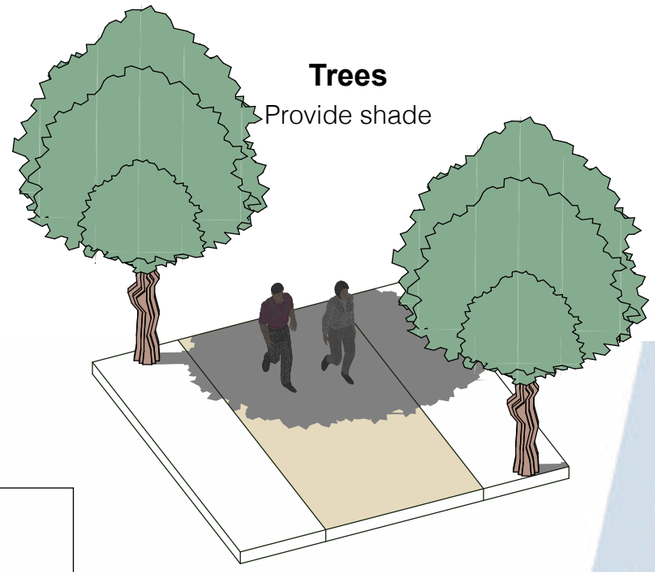
Outdoor Gym

Decrease coastal erosion
Allow sediment retention



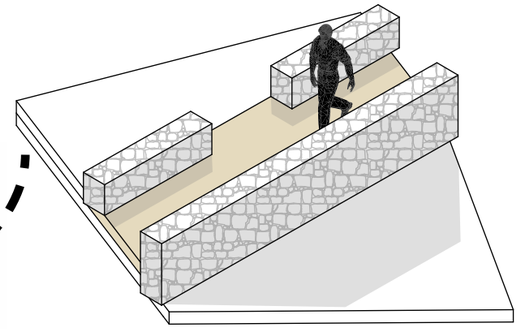
Trees

Provide shade



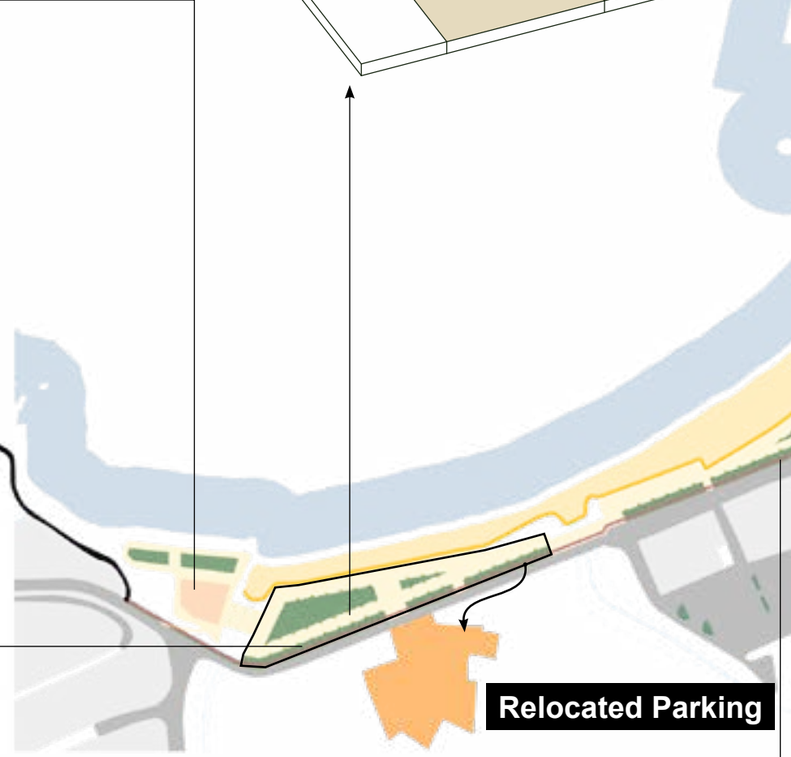
Pedestrian Path

A safer, healthier, and more comfortable pedestrian connection between Port de la Selva and Cala Tamariua



Extention

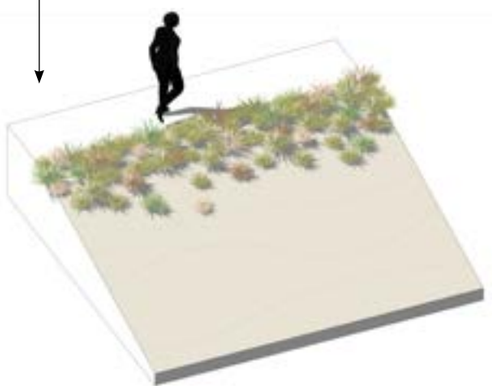
Connexion
With Cami de la Ronda

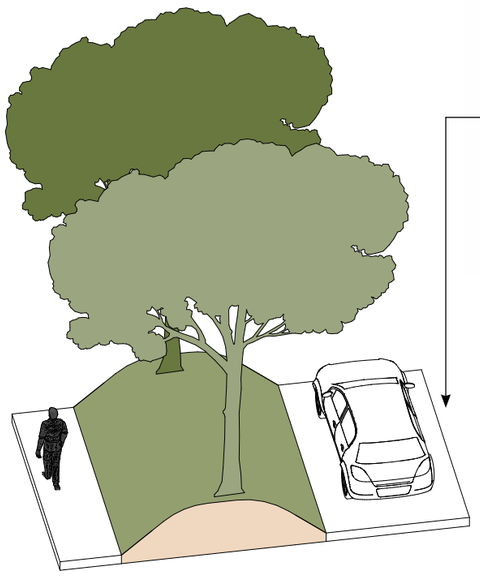


Relocated Parking

Dune vegetation

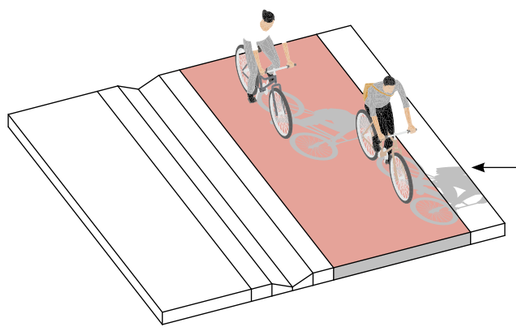
Decrease coastal erosion
Allow sediment retention





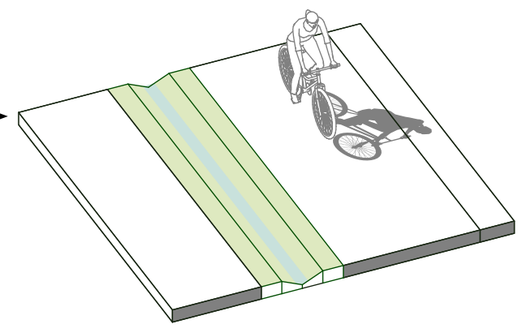
Topographic elevation

Work as a protective measure
Hide view on cars



Bike Lane

Promote soft mobility



Swale

Facilitates water management

Current SeaFront Walk

The current seafront in Port de la Selva is an area that requires redevelopment and improvement.

Currently, the seafront lacks shaded areas and thermal comfort during the summer months when temperatures rise.

Additionally, the presence of parking spaces along the beachfront diminish the overall aesthetic appeal of the seafront and limit the space available for recreational activities.

Finally, there is a lack of amenities and features that enhance the overall experience of the coastal area.

The proposed landscape project aims to transform the seafront into a more appealing and comfortable space for both residents and visitors.

Source: Own elaboration based on images taken from GoogleEarth

New SeaFront Walk

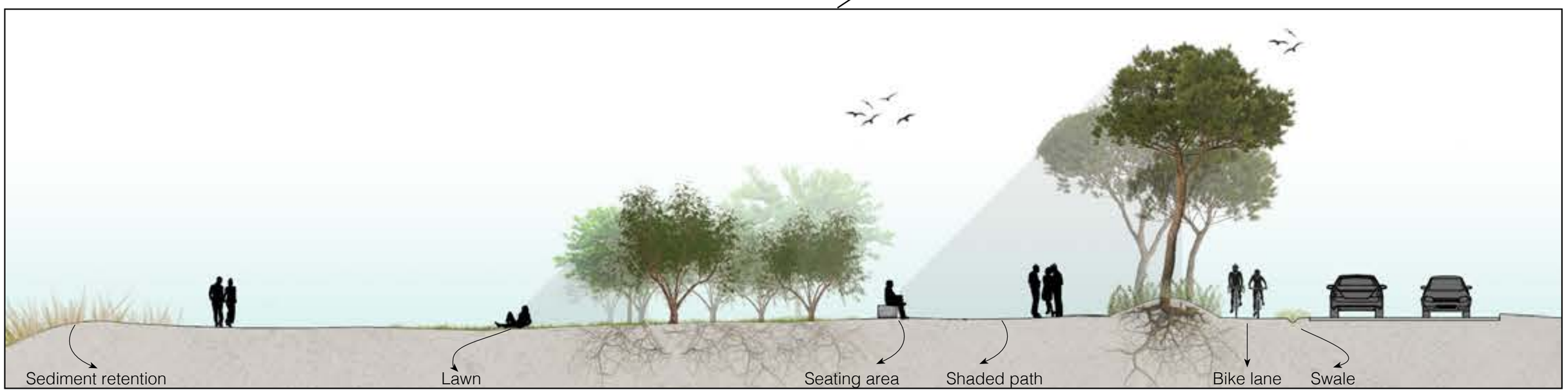
The new seafront walk in Port de la Selva is a key feature of the project, designed to enhance the coastal experience for residents and tourists. It includes shaded areas, a bike lane, and an outdoor gym, promoting comfort, sustainable transportation, and physical activity. Effective water management through a swale and the planting of dune vegetation address drainage and erosion concerns. Overall, the new seafront walk provides an attractive and enjoyable space for people to relax, exercise, and appreciate the natural beauty of the coastline.

Source: Own elaboration based on images taken from GoogleEarth

SECTION 1

Current situation

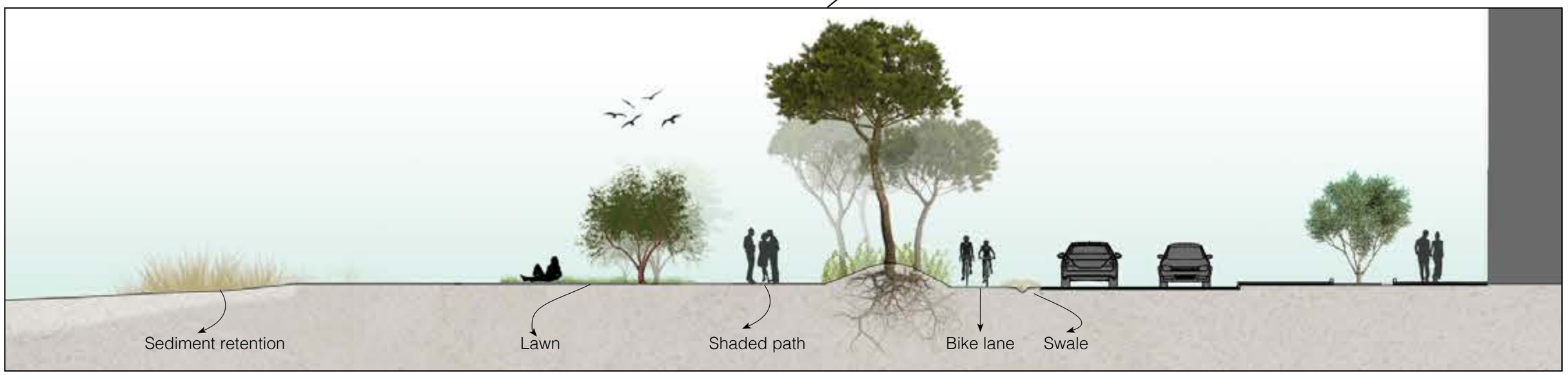
Proposition



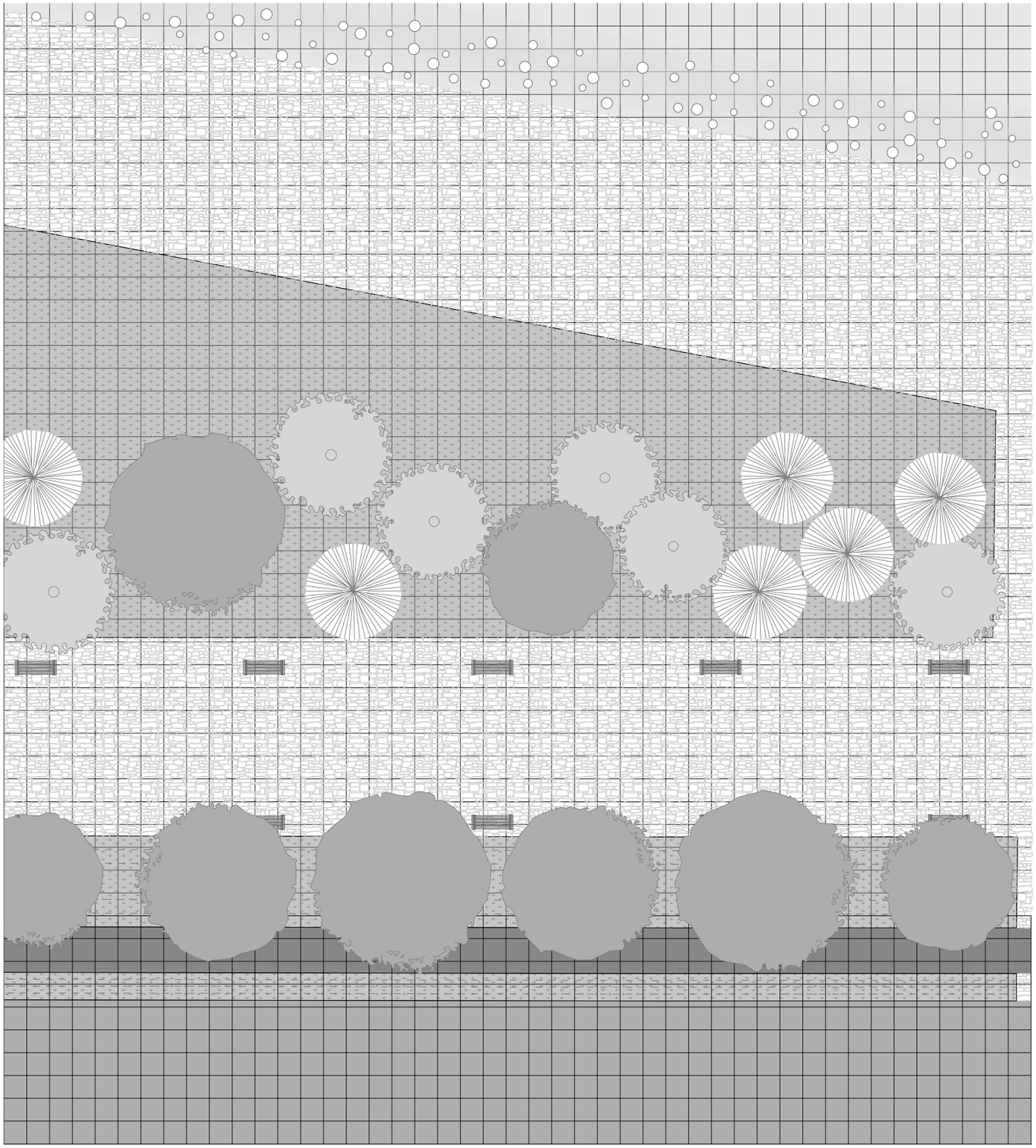
SECTION 2

Current situation

Proposition



PLANTING DETAILS



Morus Alba

Tamarix Gallica

Pinus Pinea

Cynodon dactylon
(lawn)

Ammophiletum arundinaceae
(dune vegetation)

Relocated Park’ing

Plan of the relocated Park’ing

The project includes the relocation of the parking area from the seafront to the opposite side of the road in Port de la Selva.

This relocation aims to enhance the visual appeal of the coastal area by removing parked cars from the beach-front.

The new parking area serves as a hybrid space, functioning as a car park during the tourist season and transforming into a weekly market for the local community throughout the rest of the year. It incorporates green spaces, such as picnic zones, play-grounds, and sports areas, to improve the quality of life for residents and visitors.

Overall, the relocation of the parking area contributes to a more visually appealing environment, efficient traffic management, and the creation of a dynamic community space in Port de la Selva.

Hybbrid Park'ing

The parking area has been envisioned as a hybrid space that serves as a car park during the peak tourist season and transforms into a weekly market for the local community during the rest of the year.

Parking during Summer

Weekly Market

Source: Own elaboration

Permeable grass car park paving

Source: https://abg-geosynthetics.com/

Extension of Cami de la Ronda

Situation and intentions

This phase of the project focuses on extending Cami de la Ronda to the opposite side of the port, with a specific objective of connecting the seaport to the stunning Cala Tamariua.

One of the primary aims of the extension is to establish a secure and designated pedestrian route, prioritizing the safety of walkers and hikers as they traverse along the coastline.

Moreover, the extension project seeks to promote sustainable transportation practices by encouraging people to reduce their reliance on cars and walk through the coastline surrounded by natural landscapes.

Cala Tamariua

Source: Own elaboration based on images taken from GoogleEarth

Current state of Cami de la Ronda

Inspirig elements to project in the extention zone

Current state of the extention zone

Inaccessible and insecure pedestrian connection

Inject the inspiring elements in the projected extention zone in order to offer a safer and confortable pedestrian connection

Images taken from Google Street View

Section 1

Current situation

In the first section, the proposed pedestrian path cleverly utilizes the existing stone bollard as a demarcation between the path and the road.

It recommends incorporating the same element on the opposite side of the path to form a stone fence providing safety and enhancing aesthetics.

This design was inspired by a section of the existing Cami de la Ronda.

Proposition

Source: Own elaboration based on images taken from Google Street View

Section 2

In the second section, the proposed pedestrian path introduces a lighter intervention that harmoniously blends into the landscape.

The idea involves implementing a wooded bollard as a demarcation between the path and the road, accompanied by a wooden fence to ensure safety.

This design takes inspiration from another segment of the existing Cami de la Ronda.

Current situation

Proposition

Source: Own elaboration based on images taken from Google Street View

Section 3

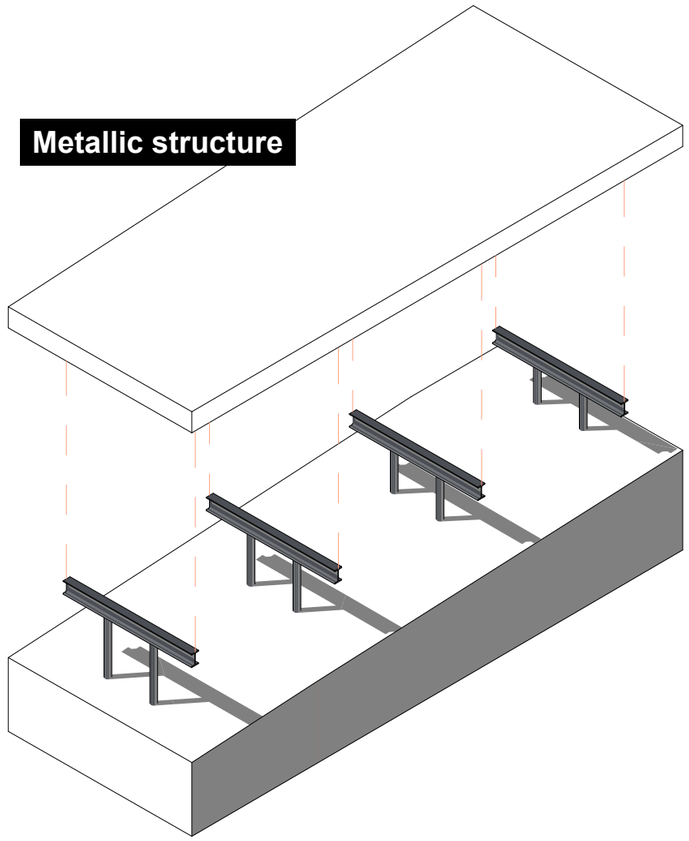
In this last section, the road width is narrow, and the slope is steep.

To accommodate the construction of a footpath in this area, it is essential to implement a sturdy metal structure capable of supporting the slab.

Additionally, the installation of a metal guardrail is crucial to ensure optimal pedestrian safety.

Current situation

Proposition



Source: Own elaboration based on images taken from Google Street View

Pedestrian connection between Barcelona and Montcada

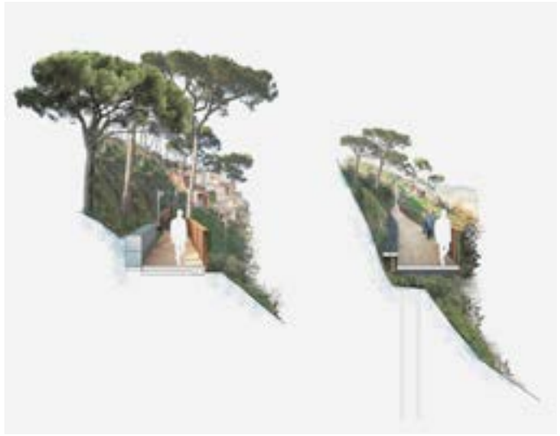
Source : https://www.batlleiroig.com/en/projectes/conexio-peatonal-entre-barcelona-i-montcada-i-reixac/ **REFERENCE**

AUTHORS :
Batlleiroig Arquitectura.
Enric Batlle Durany, Joan Roig i Duran, Iván Sánchez Fabra – Architect

LOCATION :
Montcada i Reixac, Barcelona

FINISH DATE :
2020

AWARDS :
XV Bienal Española de Arquitectura y Urbanismo – Montcada



The trace and slope of the existing path are regularized to solve the lack of connection between nearby neighborhoods Committing boldly for soft mobility and a new Biophilic city; healthy, cleaner, and accessible for people. The new 175-meter long passage has gentle slopes for pedestrians in a renaturalized environment acting as a vantage point over Besós. The path links the pedestrian urban network with the metropolitan free–space system through one of the shortest connections between Barcelona and Montcada.

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