

# Benissa

Ecological path for the coast



# Walking along the coastline



The coastline of Benissa has numerous coves and steep rock faces of great beauty and ecological value. For this reason, the Department of Environment of Benissa's City Council and the Directorate General for Coasts have invested on the creation of coastal ecological routes in order to project and keep the cliffs, recovering autochthonous ecosystems.

Nowadays, there are 3 environmental routes on Benissa's coast. Those routes have been designed in order to enjoy nature respecting, at the same time protected communities and endemic plants. Route Cala Bassetes – Sea Workshop, route Sea Workshop – Cala Pinets and route Cala Llobella – Advocat, equipped at its end with a Bio – healthy park.



The low-difficulty routes, little less than 2,5 kilometres long, are equipped with easy access stairs. The walk takes approximately 1 hour and a half each one, since along the route some informative boards help us to read the coastline landscape.

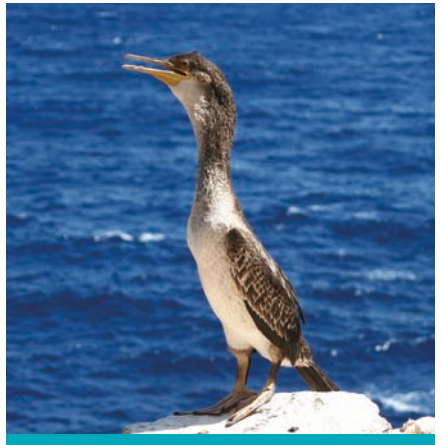
## The cliff as an ecosystem



The plants we find along the route are adapted to the Mediterranean climate. They have ribbon-shaped and small leaves that are hard or covered by filaments in order to lose as little water as possible by transpiration. We can observe this phenomenon in the **Albaida** and the **marine Bufalaga**. Some plants, such as the **Mediterranean saltbus**, "sweat" small salt crystals through their leaves.

In such communities we find important plants, some of them protected, like **Mediterranean thyme** and the **Cat's Head rockrose**, endemic of the **Western Mediterranean**. It is an endangered species worldwide and it is **protected** by the **Habitats Directive (92/43/CEE)**. In Benissa we find these plants in two **micro-reserves (Cala Basetes and Cala Fustera)**, guaranteeing their protection and monitoring.

Small earthly birds, mammals, reptiles, insects, etc., find protection and food in the vegetation. A lot of birds make their nests in the steep rock faces, and others flock to the rocks at its base to feed on small invertebrates. **Seagulls** are the most common birds in the coast's steep rock faces.



## The wind and swell action



The coastline of Benissa is formed by high, stony and abrupt coasts (steep rock faces) between small beaches. The continuous impact of the **waves excavates** the base of the **steep rock faces**, and fragments from the top become unstable and fall, accumulating at the base.

The **sand** of the beach comes from the deposits flowed out by **rivers and ravines**, and by the **sediments** dragged by the water currents or swell. We can observe the action of the wind when it hits the rocks, producing holes and shaping the landscape.



## Diving in the coast

The **rocks** accumulated in the base of the steep rock faces are suitable for **sheltering** numerous species, that are capable of surviving the continuous swell, splashes and desiccation. This is the reason why we find sharp, pointed, concave and jelly shapes and animals such as limpets, sea snails and algae.

On the **soft substrates** we may find species with **flat or worm-like shapes** (soles), that **bury themselves** to avoid dehydration (clams) or to **go unnoticed**. Others have **filtering tufts** (anemonae) or **arms** to move (octopuses).



## Posidonia oceanica



The dark spots that can be observed in the sea are the prairies of *Posidonia oceanica*, that is, a genus of marine plant, exclusive to the Mediterranean Sea. The prairies provide an ideal shelter where numerous species reproduce, feed and find protection and are protected by the Directive on the Conservation of Natural Habitats (92/43/EEC). Rests of *P. oceanica* in the shore denotes the good quality of the water near the coast.



## "Green" areas



In addition, in Benissa you will find numerous "green" areas , on the coast and countryside, where you can enjoy the landscape and nature, as well as observation points, picnic and rest areas, bio - healthy parks, games, etc.

Of these sites include San Jaume, Fanadix, Calcides, Altamira, Magraner y Racó de Galleno.



# Benissa

## Ecological path for the coast

### INTERPRETIVE PANELS LLOBELLA - ADVOCAT

#### STOPPING PLACE 1. CALA LLOBELLA

This is Benissa's less-known and most natural cove. Its crystal-clear waters are an indicator of its environmental quality and it is frequented by people who enjoy spaces which have not been transformed by human action.

#### STOPPING PLACE 2. COASTAL PINEWOODS

Benissa's coastal pinewoods, adapted to live in low-humidity and high sun radiation conditions, allows for the existence of several kinds of animals as a shelter for biodiversity.

#### STOPPING PLACE 3. UNDERWATER ROUTES

The Benissa coastline has 6 underwater routes. There are 30 minute-long routes with a maximum average depth of 5.5 metres. Look at the rocky and sandy bottoms and *Posidonia oceanica* prairies and enjoy the marine biodiversity they host.

#### STOPPING PLACE 4. PASEO ECOLÓGICO ADVOCAT

By observation-points and a signed path, this itinerary allows us to enjoy, without risks, beautiful cliffs and awesome transparent rocky seabeds. At the very end of the trail you will find a rest area with exercise equipment, call bio-healthy park.

#### STOPPING PLACE 5. THE CLIFF

Typical Western Mediterranean protected species can be found growing on the Benissa's cliffs, for example Cat's head rockrose and Mediterranean thyme. There are 2 flora micro reserves in Benissa, which guarantee the protection and tracking of those species.

#### STOPPING PLACE 6. BIOINDICADORES

Some species are used as environmental health indicators of ecosystems. These are very sensitive to changes at the ecosystems conditions. Some examples are corals, *Posidonia oceanica*, lichens, bees, ants, dragonflies, frogs, etc.

### INTERPRETIVE PANELS AULA DEL MAR-PINETES

#### STOPPING PLACE 1. DISCOVER YOUR ENVIRONMENT

The Sea Workshop is a tourist information office, museum and environmental education centre. It is the departure point of the coastline itineraries.

#### STOPPING PLACE 2. THE COASTLINE OF BENISSA

Some birds flock to the base of the steep rock faces to feed on small invertebrates, such as the whimbrel.

#### STOPPING PLACE 3. ETHNOLOGY

All the members of the families go to "jump in the water" to Benissa coves and beaches in the early days of August, during the *Marà*.

#### STOPPING PLACE 4. THE QUEEN OF OUR SEABED

The *Posidonia oceanica* is not an alga, but a marine plant with flowers, fruits, leaves, seeds, radices and stems. The prairies of *P. oceanica* from Benissa are in good conditions, and thence we have to protect them.

#### STOPPING PLACE 5. COASTAL GEOMORPHOLOGY

In Cala Fustera the strata are curved making a zigzag drawing like a snake. It is a succession of concave and convex folds, produced millions of years ago.

#### STOPPING PLACE 6. THE CLIFF AS AN ECOSYSTEM

From here we can observe flying over the sea looking for fish to feed on or on the base of the steep rock faces 3 gull species, the Yellow-legged gull, the Audouin's gull and the Black-headed gull.

#### STOPPING PLACE 7. STONY SEABEDS

If you look carefully you may find crabs, sea snails, seaside stars, sea urchins, fishes, etc., in the always immersed area.

#### STOPPING PLACE 8. COASTAL DYNAMIC

In Cala Pinets the waves and the currents deposit rests of algae, shells and *P. oceanica*. They protect the beach from the swell erosion.



- Route Cala Llobella - Advocat
- Route Sea Workshop - Cala Pinets
- Route Cala Bassetes - Sea Workshop
- - - - - Access path to "Green" area

Authors of the photographs:  
V. Pina, R. Martos, J. Benito, D. Bañuls, J. X. Soler,  
Ayuntamiento de Benissa, R. Beresaluze

### INTERPRETIVE PANELS PASEO BASSETES

**STOPPING PLACE 1. THE KING OF OUR COASTLINE**  
The Cat's head rockrose is covered by white hair, which helps maintain moisture and reflect sunlight, looks like a cat's head, hence its scientific name, *Helianthemum caput-felis*.

**STOPPING PLACE 2. BENISSA AND ITS SURROUNDINGS**  
Between Cala Fustera and Cala Bassetes, we find the remains of an old quarry of eolianite, cemented sand or *pedra tosca*. Several buildings were constructed with the rocks extracted from the coastal quarry of Benissa in the 16th century.

**STOPPING PLACE 3. COASTAL METEORISATION AND FORMATION OF CALA BASSETES**  
Even though coastal rocks seem deserted at first glance, many organisms use the moisture in the cracks to survive.

**STOPPING PLACE 4. ADAPTATIONS TO SURVIVE**  
The pine tree present small flowers with no petals and not especially attractive, since pollination is carried out by the wind, while the thyme present colourful flowers with petals, to attract pollinating insects.

**STOPPING PLACE 5. PROTECTED AREAS NEAR BENISSA**  
Sierra de Bernia is protected as a Special Protection Area and Site of Community Importance since 2001, for hosting different birds of prey such as peregrine falcons or golden eagles.

**STOPPING PLACE 6. THE MEDITERRANEAN SEA**  
The Noble pen shell is the largest Mediterranean bivalve mollusc and it is also one of the most endangered species of our sea, also protected by the Habitat Directive.

**STOPPING PLACE 7. LES BASSETES ENVIRONMENTAL ROUTE**  
At the time of designing the route, some sections of the old trail have been kept, relocating specimens of Cat's head rockrose and Thyme and keeping some along the path protecting them with cork oaks for visitors to participate in their conservation.

# Participate in the conservation of the route

The coastline of Benissa have steep rock faces of great beauty and ecological value, so during your visit try not forget...

- Please, use authorised roads and foodpaths for protect plants and animals.
- Do not disturb neither harm animals and plants.
- Do not pull up plants or flowers, you may take as many pictures as you like.
- Our rubbish pollute. Please use the nearest containers.
- Domestic animals must be held. Please do not forget to collect your dog's excrements.
- Respect private property.

*The best way to preserve a natural place is to walk without trace.*

For further information, doubts or suggestions please visit our website:  
[www.benissasostenible.es](http://www.benissasostenible.es)

**Edition:**

Excmo. Ayuntamiento de Benissa.  
Concejalía de Medio Ambiente.

**Coordination:**

Tramedes Ecogestión, S.L.

**Design:**

Estudio de diseño Carácter Comunicación.

