The Devesa

The Devesa forms part of the Albufera Nature Reserve. It is the best conserved area of the dune system that made up the spit or sand bar which formed a barrier in the old Gulf of Valencia that created the Albufera lagoon. The Albufera, which was previously salt water and was used to provide salt for the city of Valencia, has been a freshwater lagoon since the 17th century.

Although it is not large (10km long by 1km wide) a range of climate and edaphic factors combine in this area to support a diversity of flora, fauna and landscapes that give it an important, and internationally recognized, environmental value. (More than 400 different plant species have been identified in the Devesa).

There are 5 different environments:

- Beach
- The seaward dune system
- Dune slacks (depressions between dunes)
- The inland dune system
- The banks of the Albufera

From the 13th century to the end of the 19th century, when they became the property of the State, the Devesa and the Albufera belonged to the Crown, and their use was restricted. Since 1927, both areas have belonged to Valencia City Council. In 1965, at the height of the Spanish tourist boom, a process of urban development began which seriously altered the ecosystems; the coastal dune system was almost completely destroyed to make way for the construction of a sea promenade, roads, car park, and housing (only the *Muntanyar de La Rambla* and the *Muntanyar de El Pujol* areas survived). The dune slacks (or depressions between dunes) known as *mallades* were filled in with sand and repopulated with eucalyptus, and the inland dune system was broken up by the construction of roads, car parks, tower blocks and other infrastructure.

It is important to emphasise that the degree of damage caused by this urban development was different in the north and south sections of the Devesa. The north of the Devesa (which extends to the *Gola de El Pujol* – the Pujol irrigation canal) was destroyed; infrastructure and housing was built. In the south (from the *Gola de El Pujol* to the *Gola del Perellonet* – the Perrellonet irrigation canal) was also destroyed and infrastructure was built but no housing. Currently, the southern part is better conserved and enjoys a greater degree of protection.

The process of urban development almost destroyed the Devesa as a natural space, but at the end of the 1970s the process of development was stopped and in 1980 the Valencia City Council created the Devesa-Albufera Technical Office which was responsible for the management, conservation and recovery of the space.

From that moment a series of measures were initiated that aimed at the conservation of the least affected areas and the acceleration of the natural regeneration of the most affected areas.

Marsh Samphire

Cornflower (*Centaurea sensibi*)

Albufera

Wood

Dune slack

"...Let no person, whatever his condition or law, dare to hunt rabbits, hares, wild boar, mountain goats, francolins, partridges... in the Devesa, the Albufera, its islands and the borders of this area"

1761, Reign of Carlos II

Fore dune

Shrub group adapted to the sea wind

View of the spit (south Devesa)

Rock rose (*Cistus salvifolius*)

The beach

A "ball" of posidonia remains formed by the action of the sea

Seashell (*Rubicardium* sp.)

Red seaweed

Seashell (*Ditamys* sp.)

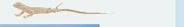
Mediterranean crab (*Macropipus depurator*)

Cat shark egg case

This is a system made up of 3 sub-units that are closely interrelated, the submerged zone, the foreshore and the backshore. The submerged zone is the area with the greatest biodiversity; the posidonia meadows, nowadays very reduced, which provide a habitat for algae, molluscs and fishes, are of especial importance.

The foreshore, which is bathed by seawater, has no vegetation, and the backshore is dry and characterized by plants that are adapted to saline conditions. Both environments contain a wide range of invertebrate fauna, which feeds on the detritus provided by the sea.

Oviparous sharks lay eggs and leave hatching to destiny. The eggs have a thick rubbery case or shell. In general the eggs are laid in pairs. The embryos are nourished by the egg yolk.



Dune in the process of formation

Dune with marram grass (*Ammophyla arenaria*)

Earwig (*Labidura riparia*)

Seaward dune system

Sea holly (*Eryngium maritimum*)

Sand stock (*Malcolmia littorea*)

Cottonweed (*Otanthus maritimus*)

Sand Viper's Gloss (*Echium sabulicola*)

Dung beetle (*Scarabaeus semipunctatus*)

This system is formed by the dunes that are closest to the beach. Here the wind forms little depressions known as abrasion hollows.

The harsh environmental conditions that characterize this ecosystem (strong sunlight, the constant sea wind, and the mobility of the sand) make it necessary for the plants and animals of this habitat to adopt special strategies in order to survive. Plants have flexible or horizontal stems (stolons) so as not to be broken by the wind, extensive roots to anchor them in the sand, leaves that are small or covered in little hairs to avoid dehydration, or fleshy leaves that can store water.

Many of the animals that live in this habitat have biological rhythms involving twilight or nocturnal activity to avoid the high daytime sand temperatures. They remain buried during the day like the dung beetle, or attached to the leaves of plants, such as some snails, and in the evening they come out or climb down to feed. Some other animals such as the red-tailed spiny-footed lizard, have developed special structures on their feet in order to walk and run better over the sand without sinking into it.

Dune slacks

Dune slack in autumn

Common Snipe (*Gallinago gallinago*)

Ruddy Darter Dragonfly (*Sympetrum sanguineum*)

Water beetle (*Dytiscus* sp.)

Iberian green frog (*Rana perezzi*)

Between the seaward and the inland dune systems, there are a series of interdunar depressions, or dune slacks, that are known locally as *mallades*. These have impermeable soil which means that pools form in rainy periods. When the water evaporates as the temperature rises, salt incrustations form on the surface. In this ecosystem the vegetation grows in concentric circles depending on the degree of salinity: in the central area where the salinity is very high, there is no vegetation, around this zone the salt marsh vegetation grows, principally marsh samphire, and in the outer area where the salinity is lowest there are rushes and grasses.

Among the invertebrates, the most abundant are, together with small crustaceans and snails, insects that spend all or part of their life cycle in the pools of water (water beetles, dragonflies, water bugs…). Among the vertebrates the Iberian green frog and the water snake are the most common. This area is frequented by meadow birds with long beaks that allow them to feed in flooded areas. Some of them are very well camouflaged, and they are sometimes practically invisible, as is the case of the common snipe.

Inland dune system

Open vegetation area

Dense vegetation made up of lianas and creepers

Heather (*Erica multiflora*)

Myrtle (*Myrtus communis*)

Epiphytic lichen on the branch of a shrub

These are the oldest dunes which have much denser plant cover. In the closest area to the seaward dune system which is still affected by the sea wind, is the *jaguarzal*, open scrubland characterized by the presence of the black rock rose, with many sandy open spaces. In the more inland sections where the sea has a lesser influence, is the Mediterranean coastal *maquia* scrubland which is characterized by the great density, diversity and extension of the plant cover. There are various different plant strata in this ecosystems: moss (mosses and lichens), herbaceous, shrub, creepers and in the majority of cases trees, above all the Aleppo pine (*Pinus halepensis*).

This environment is preferred by the majority of the predators to rest during the day. The common or small spotted genet, the fox and the long-eared owl wait for twilight hidden in the dense vegetation, before going out to look for prey.

The common genet is an agile nocturnal hunter that spends the day hidden in the most impenetrable areas of the Devesa. It feeds mainly on small mammals such as the field mouse, although it does not disdain other prey such as insects, amphibians, reptiles, birds and snails.

Aleppo pine cone (*Pinus halepensis*)

Sardinian Warbler (*Sylvia melanocephala*)

Salt cedar (*Tamarix* sp.)

The banks of The Albufera

The sandy loam soil, in contact with the water, supports hydrophilous vegetation (reeds and cane) that is known locally as *carrizal*.

This ecosystem is the habitat for a rich and varied fauna. Of special importance are the migratory birds that use it for both food and shelter. These birds include the reed warbler, the streaked fantail warbler, and the bearded tit, which use the fine reed stems to weave their nests. Other frequent visitors are the little grebe and the great crested grebe, which build floating nests that are hidden among the vegetation by the banks, the mallard duck and several species of egret, such as the little bittern, the martinet and the purple heron. There are also many small mammals such as the greater white-toothed shrew, the white-toothed pygmy shrew, the brown rat and the southern water vole.

The feathers of an adult flamingo range from pink to luminous red, due to the pigments that the small invertebrates they eat contain.

A flamingo that eats well and healthily is luminous pink or red.

Saltmarsh mallow (*Kosteletzkya pentacarpos*)

Martinet (*Nycticorax nycticorax*)

Grey heron (*Ardea cinerea*)

Red-crested duck (*Netta rufina*)

Little Egret (*Egretta garzetta*)

Great cormorant (*Phalacrocorax carbo*)

Pink flamingo (*Phoenicopterus ruber*)

The Devesa: actions

Since the decision was taken, almost 30 years ago, to recover the landscape and natural value of the Devesa, numerous actions have been carried out with this end in view.

One of the first measures adopted was the creation of a nursery of autoctonous plants to recover and repopulate the degraded areas. Simultaneously the space was reorganized and the most intensive recreational uses were concentrated in the most damaged areas, while recreational use was limited, and access restricted, in the better preserved areas which were of greater natural value (La Creu, Muntanyar de la Rambla, Muntanyar de El Pujol, Reserva de La Punta and the whole south sector of the Devesa).

Furthermore there have been numerous interventions aimed at the recovery of the different environments affected by the process of urban development:

- In the seaward dune system area roads, car parks and unused infrastructure have been eliminated along with the whole of the old promenade. The fore dunes of the Devesa have been completely reconstructed and the transitional dune system, just behind them, has been completely recovered in the south sector. (LIFE-Enebro Project).
- At the same time, the dune slacks have been recovered by returning the sand to its original location; the seaward dune system.
- Furthermore, many of the roads and car parks and infrastructure that had been constructed in the inland dune system have been reduced or eliminated, thus achieving little by little the integration of the recovered areas with the rest of the environment.

All the actions are always accompanied by extensive information campaigns, together with a range of educational and cultural, with the aim of promoting the natural value of the area, and achieving the respect and the collaboration of the public.

Walkway over the Llarga dune slack

Dunes reconstructed for repopulation

Elimination of old infrastructures

Area recovered the regeneration process

Regulations:

- Drive carefully
- Restricted access for motor vehicles
- Respect the dunes: they are fragile
- Do not leave the marked paths
- Do not pick flowers and plants
- Please do not make noise
- Use the waste bins, do not litter
- Do not light fires
- Camping is not permitted outside official campsites
- Dogs should be kept on leads in the Devesa
- Pets are not permitted on the beach
- Horse riding is prohibited in the Devesa
- Do not cycle outside paving roads

Marked itineraries:

- Beach leisure itinerary
- El Saler history itinerary (S)
- Landscape itinerary
- The five senses itinerary
- El Pujol irrigation canal history itinerary (G)
- Botanical itinerary

Download itineraries at www.valencia.es

Information:

Albufera Service 96 161 03 47
El Saler Forestry Protection Centre 96 183 00 12
www.valencia.es
odevesa@valencia.es

Important phone numbers:

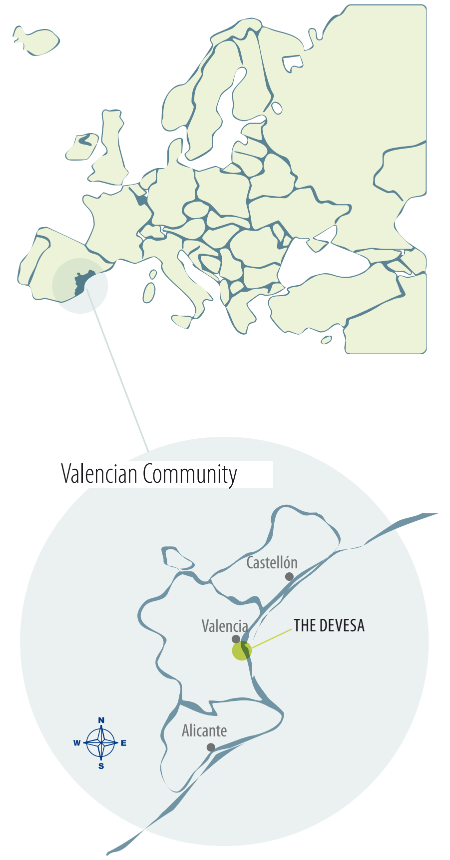
Fire and emergency 112

SERVICIO DEVESA-ALBUFERA

AJUNTAMENT DE VALENCIA

BECSA

design: Collage-es.es



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Información itinerarios: **www.valencia.es**
Municipal websites
Environment and Health
Devesa-Albufera

OLD FIRE BREAKS

1. Devesa Road
2. El Saler Road
3. Rambla Road
4. Calle Road
5. Pujol Vell Road
6. Garrofera Road

- Cycle path
- Barrier (restricted access)
- Beach and dunes
- Dune slack
- Population centre
- Racó de l'Olla Information and Guidance Centre
- Beauty spot
- Car park
- Petrol station
- Sports facilities
- Campsite
- Municipal nursery
- Jetty
- Fire service
- Bus stop
- Source of drinking water
- Picnic area
- Hotel
- Parador (state-run hotel)
- Golf course
- Casal de Esplai (Youth centre)
- Forestry Protection Centre
- Restaurant
- First aid post
- Showers
- Sun umbrella and deck chair rental

The Devesa
Albufera Nature Reserve