

Competition for Coasts

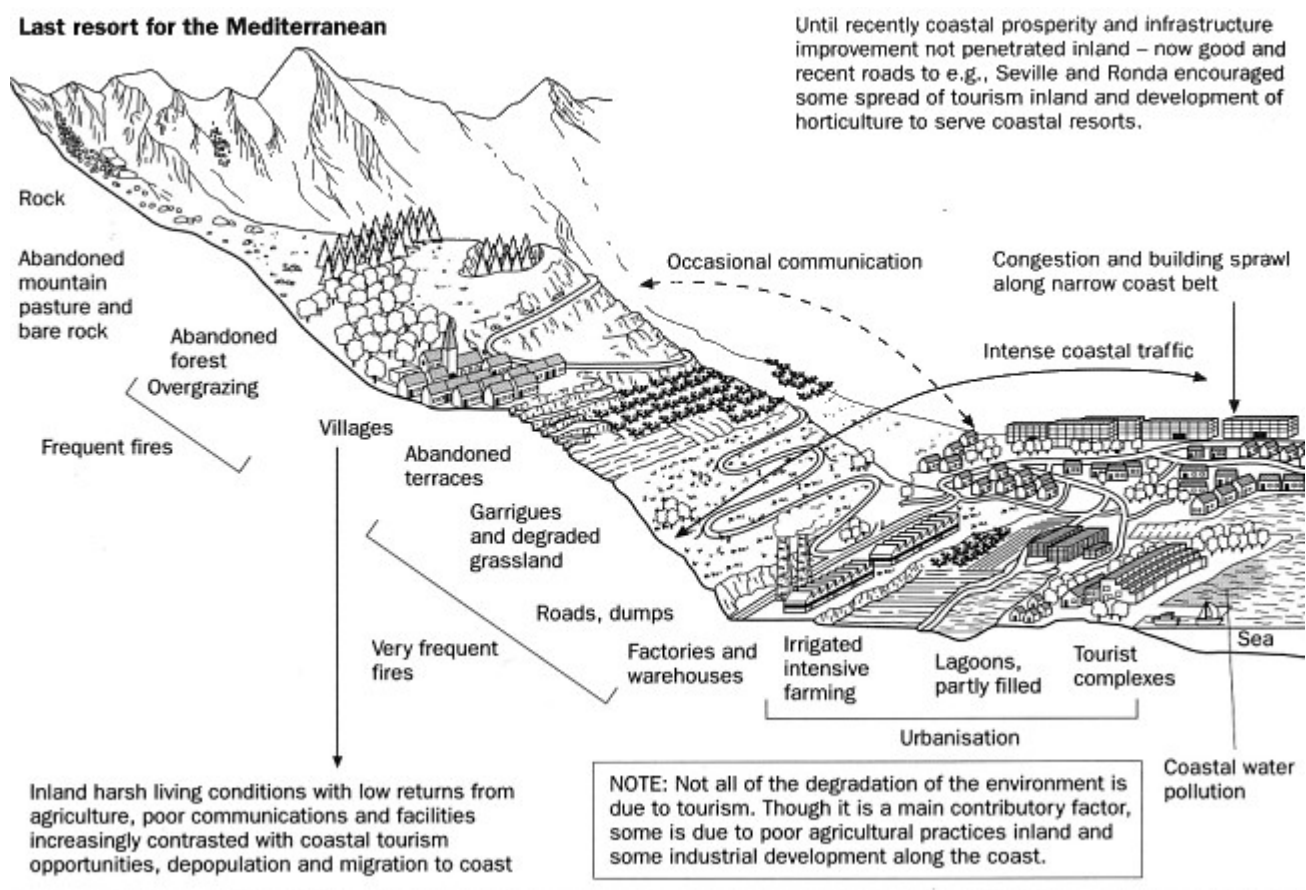
The coastal zone in Spain is a battle-ground, not just between the land and the sea, but between competing land uses. This competition is creating development pressures that threaten the coast's natural environments.

Before the arrival of mass tourism in the 1960s, the coastal zone was used for fishing, with fishermen's homes lining the beach in many places. Behind the homes were vineyards, which were cleared for the construction of a coastal rail line between Barcelona and Tarragona in 1865.



Fishermen's homes in Calafell

At Muntanyans, a naturally high water table led to the development of extensive zones of wetland behind the coastal dunes.



When coastal development and conservation collide

Planning permission has been given for the construction of 550 homes, parks and facilities covering 173,900 m² on the edge of coastal marshland and dunes at Els Muntanyans in Torredembarra.

The development, a second phase of construction at the site, designated Els Muntanyans II, is located at the mouth of the Gibert torrent and covers the biological corridor that connects the adjacent beach and Protected Natural Area of Interest (**PEIN**), with the protected rural interior. The Government Directorate General of Coasts recognised the importance of the biological corridor in a 2001 report, which recommended the purchase of the land together with the adjacent Muntanyans I site, and its incorporation into the **PEIN Plan**. However, the Torredembarra Town Council through Pla Partial Platja de Torredembarra 4b Muntanyans II, has promoted housing development in the area.

The housing at Els Muntanyans I is advertised as a good location for a second home: 'Una segunda residencia diseñada con el confort de su primera residencia' (a second home designed to be as comfortable as your main residence). The development is now nearly completed and construction of Els Muntanyans II has started (February 2008).

Promoter Els Muntanyans I: Grupo Plaza 14 and Torredembarra Town Council

Promoter Els Muntanyans II: Vegas Guadaira S.L. and Torredembarra Town Council



Els Muntanyans I - Nova Torredembarra - the first construction phase.
Currently near completion (February 2008).



Els Muntanyans I - Nova Torredembarra Promoter's Model

The Els Muntanyans development has been opposed on environmental and social grounds, and its impact includes a number of external costs borne by society as a whole. The environmental and social costs can be summarised as follows:

Environmental Costs.

- Elimination of the only remaining biological connector on the coast of northern Tarragona linking the rural interior and coastline.
- Loss of an area with high ecological value as representing the continuity of natural space included in the Protection of Spaces of Natural Interest (PEIN). The **PEIN Plan** (1992) established new Natural Parks and selected a number of other natural areas that link the Parks together to form a Green Ring around Barcelona. The Plan protects biological corridors connecting the twelve most important natural areas thus contributing to the preservation of wildlife diversity.
- Possible alteration of the water dynamics in the protected zone, caused by runoff from the urbanisation. The increase in freshwater input to the system can unbalance soil salinity with subsequent modification of existing vegetation.
- The canalisation of the Gibert torrent may alter the supply of fresh water to the coastal wetlands, resulting in a water deficit in some areas, and a surplus in others. As the soakaway becomes blocked by sediment, a new lake may form at the mouth of the canalised channel.
- In the past, flood water from the Gibert torrent was able to spread slowly across the Muntanyans II site and gradually infiltrate the soil. The drainage channel was ill-defined, but canalisation now concentrates and speeds the flow, directing it towards the main coastal rail link which lies a short distance between the soakaway and the sea. In a worst-case flood event, this rail link may be cut.
- Increased population pressures will lead to erosion and loss of biodiversity. The development lies just 50 metres from the protected zone and an estimated 1,500 people a day will cross the area to access the beach during the holiday season

High Flood Risk

A study carried out by **Risknat**, of the University of Barcelona, concluded that the El Muntanyans II is in a high risk flood zone. Canalisation of the Torrent Gibert will not stop the flood risk since the direction of the waters of Torrent Gibert "are uncontrollable and the nature of the terrain directs them towards the planned housing development".

The action group **Salvem Els Muntanyans** (Save Els Muntanyans) and Greenpeace arranged a news conference in September 2005 to present a video report showing Els Muntanyans II completely flooded during storms that struck the Catalan coast earlier that month.

Soakaways

Soakaways are a simple way of dispersing surface and storm water.

The two determining factors for soakaway success are the size of the area (or volume of water) to be drained and the percolation rate of the soil/sub-soil or, in some sites, the depth to the water table.

The water table is defined as the upper level of the groundwater that is naturally held within the soil, sub-soil or bedrock. It is not uncommon for the water table to rise during the wet months of winter and to fall during the drier summer. In coastal sites and those in or adjacent to wetlands such as Els Muntanyans, the water table is near the surface. In such cases, a soakaway may not work and a lake may form after heavy rain.

The Gibert torrent soakaway at Els Muntanyans is formed of large angular stone blocks, designed to slow water flow and encourage infiltration. Over time, however, the soakaway will be filled with the deposition of fine sediment, the surface will become vegetated and percolation rates will be greatly reduced.

Social Costs

The Gibert torrent is categorised by the Catalan Government Water Agency as of high flood risk, with significant damage likely to housing and infrastructure during storm events.

An increased numbers of visitors to the El Muntanyans site will reduce its recreational and leisure value as an oasis of wilderness on a very crowded coast.

The Actors

Groups For

Company Vegas Guadaira S.L.
Torredembarra Town Council

Groups Against

Ecologists of Catalonia

Greenpeace

Risknat (Natural Hazards Research group, University of Barcelona)

Salvem Els Muntanyans (Save Els Muntanyans)

Muntanyans II Current Status

At the end of January 2008, the Catalan Parliament approved increasing the area protected under the PEIN plan at the Muntanyans II site in Torredembarra. The Torredembarra Town Council has asked the promoter of Muntanyans II to halt the works for three months.

A criminal complaint was lodged by a member of **Salvem Els Muntanyans** against the mayor of Torredembarra, and his predecessor in the post. Both mayors were accused of having allowed an urban project that could destroy a wetland zone. The mayor of Torredembarra announced that he would abstain in any future vote referring to Muntanyans II. In June 2008 a judge dismissed the complaint on grounds of lack of evidence.

A complaint has now been lodged with the European Commission and has been broadened to take account of the lack of required administrative procedure in the canalisation of the Gibert torrent. The European Commission plans to make a decision within a year. In the meantime, the construction of roads, street lighting and the laying of electricity lines to building plots has been completed.

Background to conflicts along the Catalan coastline

Urbanisation is almost continuous along the entire 672 kilometres of Catalan coastline. Between 1981 and 2001, the construction of houses along the coast grew at double the rate of population. The population increased by 36%, whereas the number of houses increased by 60.5%. Half of the houses are second homes, with the highest percentages in the Costa Dorada (71.3%), and the Costa Brava (64.6%).

Saturation point has evidently been reached: there are now 75 coastal municipalities where practically 100% of the land is urbanised. In a further 30, the figure is 75%. Catalonia has one yachting marina for every 10 kilometres of coastline - which rises to one every 5 kilometres in the Costa Dorada

The Spanish Government is finally fighting back against the coastal concrete and its 'Strategy for Coastal Sustainability' (2007) aims to buy up unoccupied coastal land, recategorise as protected areas land already approved for construction, and demolish buildings and recreational ports that occupy public beaches. The plan also demands the enforcement of an existing law that requires the first 100 metres of shore be kept free of all construction. All in all, the proposal is expected to cost €5 billion and to affect more than 400 miles of coastline. New legislation in Catalonia has established a system of protection for non-urbanised land located within 500 metres of the sea in 50 coastal zones. This affects 23,500 hectares of coastline.

Muntanyans – why is it valued?

It forms a rare oasis of tranquillity on one of the most crowded coasts in the world, sustaining dunes and marshes that the rest of the beaches of Catalonia have lost.

Mediterranean wetlands form the most productive ecosystems on our planet. The wetlands and dune system of Muntanyans has more than twelve species of rare dune vegetation, more than 225 species of birds, a community of unique orchids, and habitats for the rare piloters beetles, lilies of sea.

Muntanyans lies on the main migratory route of birds, and acts as a resting and feeding ground for a number of rare species, including the Kentish Plover.

The dunes form the only Mediterranean preserve of the cuaroja lizard. The most important ecosystems are the 5 metre high dunes, the brackish and intermittent marshes, and underwater prairies of posidònia sea grass. The dune vegetation attains widths of more than 60 metres and the marshes cover almost of 100 metres at their widest point (the Pool, in Creixell). Among the most spectacular flora are the lily of sea (*Pancratium maritimum*) and the orchids (*Ophris scolopax* and *Ophris fusca*). Among the most spectacular fauna are the larvae of the lion ant (*Myrmeleon formicarius*) and the caterpillars of the British *crinii* ssp butterfly. Recently found are the fartet fish (*Lebias Iberian*), of a different genetic variety to that found elsewhere. It is one of the most threatened species in Europe and is listed as in severe danger of extinction. The cuaroja lizard (*Acanthodactylus erythrurus*) found in the dunes on this beach has disappeared in France, Girona and Barcelona, and Muntanyans is its last known sanctuary in Catalonia.

The Muntanyans beach is shared by Roda de Berà, Creixell and Torredembarra, is 7 kilometres of length, full of nearby camping and construction sites and crossed by the Barcelona-Tarragona rail line. The proliferation of ports and of other structures along the coast and the regulation of the rivers has altered the natural dynamics of the coast and created problems of stability. This has caused the erosion of the beaches.

Muntanyans of Torredembarra are one of the last samples of a typical natural landscape of the Catalan coast and, it is for this reason, they have been included in the Plan of Natural Interest Spaces (PEIN). This provides protection from development pressures. The beach is a rare remaining sample of the natural Catalan coast that existed until about 50 years ago. Therefore, it constitutes an exceptional part of our natural heritage with its conservation contributing to the preservation of the biological diversity of the country. The railway at Muntanyans has acted as a double-edged sword - preventing expansion on the seaward side, but preventing the recovery of the ecosystems landwards. Excessive urban pressures have led to severe expansion on the landward side.

TASK 1: Complete the Criteria Table to identify high value areas in Muntanyans

Criteria to Identify High-Value areas	
Criteria	Score (0 = no value, 5 = great value)
Presence of endemic species (plants and animals that are only found in this area)	
Biodiversity	
Aesthetic value (scenic beauty)	
Vulnerability to human impact	

TASK 2: Label the different land use zones on the contour map and google image below. Include Muntanyans I and II developments, dunes, wetland, railway line, and pools. Identify evidence of environmental damage and management strategies.

TASK 3: Plot and label the new channelised course of the Gibert torrent on the contour map.

TASK 4: Investigate and plot the former (natural course) of the Gibert torrent on the contour map.



Muntanyans Contour Map



Muntanyans cross-section



Muntanyans Google Earth

TASK 5: Complete an Environmental Impact Assessment for an area under development:

ENVIRONMENTAL IMPACT ASSESSMENT

MUNTANYANS (UNDER DEVELOPMENT)

Study the view in front of you carefully. Read each of these statements and decide if you think that they apply to the view.

LOCATION 1		SCORE 1-5	
Natural features	A	There are several different landforms (e.g. hills, cliffs, dunes, etc.) which give an interesting view.	
	B	The view has some pleasant wooded country.	
	C	The view has some pleasant open country.	
	D	There are unique or highly unusual features in the landscape.	
	E	The landscape has considerable ecological value (e.g. vegetation or animal life).	
Artificial features	F	The style and materials of the buildings adds interest to the view.	
	G	The buildings fit well into the landscape.	
	H	There are no artificial features (e.g. rubbish dumps, pylons, quarries, industrial buildings etc. which spoil the view).	
	I	There are artificial features (e.g. reservoirs, castles, historical monuments etc.) which add interest to the view.	
	J	The land use is not damaging the environment, directly or indirectly.	
Uses of the land	K	The use of the land adds interest to the view.	
	L	The landscape would provide interest and enjoyment for many people.	
	M	The landscape has been affected by people, but in an interesting way.	
	N	The land use is not damaging the environment, directly or indirectly.	
Personal feelings	O	The view has interesting or pleasant features in the foreground.	
	P	The view has interesting or pleasant features in the background.	
	Q	The different colours in the view blend well together.	
Overall impression	R	The view is beautiful.	
	S	This landscape needs to be specially conserved because it has such an interesting variety of features.	
TOTAL VIEWSCORE			
Can you identify any specific threats to this environment? Should the environment be conserved?			
Can you identify ways in which this environment is being managed?			

TASK 6: Complete an Environmental Impact Assessment for an area NOT under development:**ENVIRONMENTAL IMPACT ASSESSMENT****MUNTANYANS (NOT UNDER DEVELOPMENT)**

Study the view in front of you carefully. Read each of these statements and decide if you think that they apply to the view.

LOCATION 1		SCORE 1-5	
Natural features	A	There are several different landforms (e.g. hills, cliffs, dunes, etc.) which give an interesting view.	
	B	The view has some pleasant wooded country.	
	C	The view has some pleasant open country.	
	D	There are unique or highly unusual features in the landscape.	
	E	The landscape has considerable ecological value (e.g. vegetation or animal life).	
Artificial features	F	The style and materials of the buildings adds interest to the view.	
	G	The buildings fit well into the landscape.	
	H	There are no artificial features (e.g. rubbish dumps, pylons, quarries, industrial buildings etc. which spoil the view).	
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Personal feelings	O	The view has interesting or pleasant features in the foreground.	
	P	The view has interesting or pleasant features in the background.	
	Q	The different colours in the view blend well together.	
Overall impression	R	The view is beautiful.	
	S	This landscape needs to be specially conserved because it has such an interesting variety of features.	
TOTAL VIEWSCORE			
Can you identify any specific threats to this environment? Should the environment be conserved?			
Can you identify ways in which this environment is being managed?			

TASK 7: Complete the Stakeholders tick list

Stakeholders	
Economic	Tick if relevant
Tourist industry	
Fishing industry	
Farmers	
Transport providers	
Developers	
Local businesses	
Local Council	
Landowners	
Political	
National and local government	
EU	
Department of the Environment	
Water authority	
Landowners	
Social	
Residents	
Visitors	
Special interest groups	
Health and safety	
Museums	
Educationalists	
Environmental	
Greenpeace	
Ecologists of Catalunya	
GEPEC (Catalan Ecosystems Study Group)	
ALVENT (Co-ordination for the defence of the Catalan natural and cultural heritage)	