



Data of the environment in Catalonia

2004



Government of Catalonia
Department of Economy
and Finances
**Institute of Statistics
of Catalonia**



Government of Catalonia
**Department of the Environment
and Housing**

Territorial distribution of population

Group of municipalities according to intervals of population⁽¹⁾

Intervals (inhabitants)	Municipalities		Population	
	Partial	Accumulated %	Partial	Accumulated %
0 - 1,000	510	53.9	200,162	3.0
1,001 - 5,000	256	81.0	583,509	11.7
5,001 - 10,000	78	89.2	538,280	19.7
10,001 - 20,000	49	94.4	692,566	30.0
20,001 - 50,000	30	97.6	874,712	43.1
50,001 - 100,000	14	99.0	928,436	56.9
more than 100,000	9	100.0	2,886,481	100.0
Total	946		6,704,146	

⁽¹⁾ Official figures of population resulting from the census revision referred to the 1st. of January 2003.

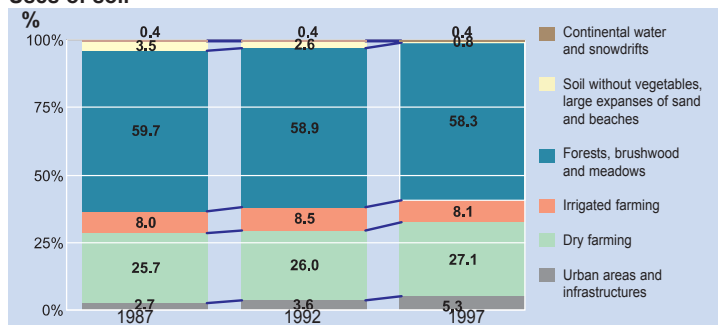
Geographical distribution of population

Municipalities	Municipalities	Population (inh.)	Area (km ²)	Density (inh./km ²)
Mountain ⁽¹⁾	294	298,825	14,650.04	20
Coast	70	2,973,948	2,112.23	1,408
Rest of municipalities	582	3,431,373	15,133.03	227
Total	946	6,704,146	31,895.30	210

⁽¹⁾ Tossa de Mar is not included as it is considered a coastal municipality.

Environmental data

Uses of soil



Structure of economic activity 2002

Activity sectors	VAB pm ⁽¹⁾	% of the total	% variation ⁽²⁾	Employed (thousands)	% of the total	% variation
Agriculture	1,975	1.7	8.4	70.1	2.5	-2.1
Industry	32,954	28.1	0.8	789.5	28.5	-1.6
Construction	9,675	8.2	4.0	277.6	10.0	-1.6
Services	72,877	62.0	2.6	1,632.7	58.9	1.5
Total	117,481	100.0	2.2	2,769.9	100.0	0.2

⁽¹⁾ Millions of current euros. ⁽²⁾ Referring to the former year, at constant prices.

Evolution of the number of vehicles on the road

(in thousands of vehicles)

Vehicle	1999	2000	2001	2002	2003 ⁽²⁾
Motorbikes	398	408	418	425	420
Cars	2,785	2,852	2,931	2,999	2,985
Buses, lorries and other	712	740	769	796	815
Total	3,895	4,000	4,118	4,220	4,220
Vehicles/1.000 inh.⁽¹⁾	627	639	647	649	629

⁽¹⁾ Official figures of population in each period.

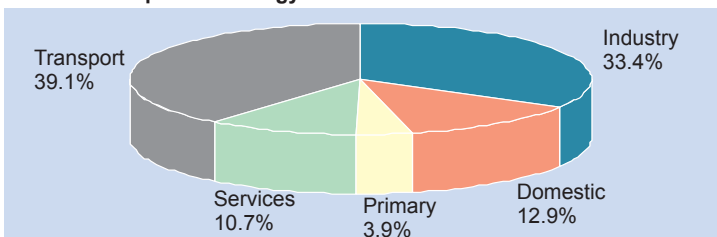
⁽²⁾ Since 2003 the temporarily out of service vehicles are not included.

Primary energy consumption 2002

Energy	Producció		Consum	
	ktoe	%	ktoe	%
Oil	308.6	4.6	12,424.5	51.8
Nuclear	5,649.2	84.2	5,649.2	23.6
Natural gas	1.9	0.0	4,878.5	20.3
Coal	86.7	1.3	254.5	1.1
Balance of electric exchanges	0.0	0.0	115.7	0.5
Not renewable industrial waste	66.3	1.0	66.3	0.3
Renewable energy	595.9	8.9	595.9	2.5
Hidraulic power	355.7	5.3	355.7	1.5
Urban solid waste power	110.6	1.6	110.6	0.5
Forest and farming biomass power	103.0	1.5	103.0	0.4
Wind power	14.8	0.2	14.8	0.1
Biogas power	8.4	0.1	8.4	0.0
Biological power	1.7	0.0	1.7	0.0
Solar power	1.7	0.0	1.7	0.0
Total	6,708.6	100.0	23,984.6	100.0

Note: 2002 was a year with a low hydraulicity. This fact influences notably on the percentage of renewable energy over the total primary energy consumption.

Final consumption of energy in 2002



Water

Urban public plants for waste water treatment⁽¹⁾ 2003

Plant	Number of plants	Treatment capacity		total capacity in-e inh. ⁽²⁾	
		(m ³ /dia)	%	(h.-e)	%
Biological	254	2,084,613	74.6	12,461,661	79.3
Physicochemical	1	670,000	24.0	3,000,000	19.1
Lagooning	42	38,967	1.4	254,007	1.6
Total	297	2,793,580	100.0	15,715,668	100.0

⁽¹⁾ The data on -e inhabitant and treatment capacity are the ones of design. ⁽²⁾ -e inh: equivalent inhabitants.

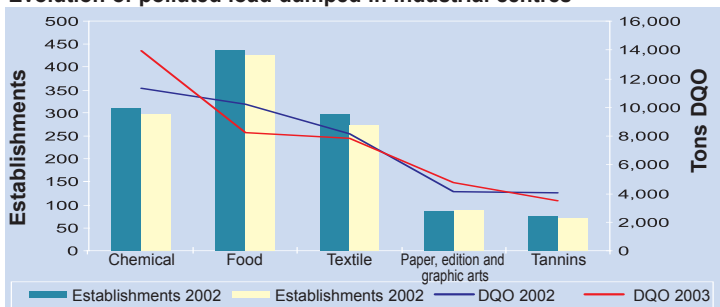
Global output of plants in service

	1998	1999	2000	2001	2002	2003
Number of plants in service	210	225	246	270	290	297
Number of analysed plants	204	219	242	248	275	297
Treated flow (m ³ /day)	1,519,978	1,536,135	1,556,860	1,534,239	1,606,844	1,958,800
Global average output of MES elimination(%)	93.0	91.0	92.2	93.6	89.3	93.2
Global average output of DBO ₅ elimination(%)	93.9	94.0	93.7	94.4	91.9	94.5
Plants in accordance with Directive 91/271/CEE(%)	98.5	98.2	94.3	93.6	95.5	95.6

Treatment evolution and destination of sludge produced in plants (tons of fresh material)

	1998	1999	2000	2001	2002	2003
Eliminated sludge						
according to destination	363,311	403,690	416,515	401,784	384,358	326,860
Farming and gardening	226,343	258,076	266,602	267,281	248,459	222,663
Quarry restoration	11,247	15,666	11,672	4,966	2,661	-
Landfill	125,343	129,942	138,241	126,744	133,223	104,197
Ecobrick and other	378	6	-	2,793	15	-
Treated sludge	56,672	50,163	47,752	73,015	199,680	335,348
Thermal drying	9,487	4,679	9,596	18,883	33,270	61,940
Composting	47,185	45,484	38,156	54,132	113,781	145,383
Aerobic/anaerobic digestion	-	-	-	-	143,463	128,025

Evolution of polluted load dumped in industrial centres⁽¹⁾



⁽¹⁾ According to the declaration of use and pollution of water (DUCA): sections B (05.02), C, D and E, if it is over 6,000 m³/year, the pollution exceeds parameters indicated in the regulation or there are available own systems of treatment according to the Decree 103/2000, of 6th. March.

Water needs: consumption use			Average volume (hm ³ /year)		
Needs	Internal basin	Inter-communal basin	Total Catalonia	%	
Domestic	518.8	54.2	573.0	18.3	
Industrial	251.5	31.9	283.4	9.1	
Total urban	770.3	86.1	856.4	27.4	
Irrigation	386.5	1,815.5	2,202.0	70.5	
Cattle raising	29.7	34.9	64.6	2.1	
Total farming	416.2	1,850.4	2,266.6	72.6	
Total	1,186.5	1,936.5	3,123.0	100.0	

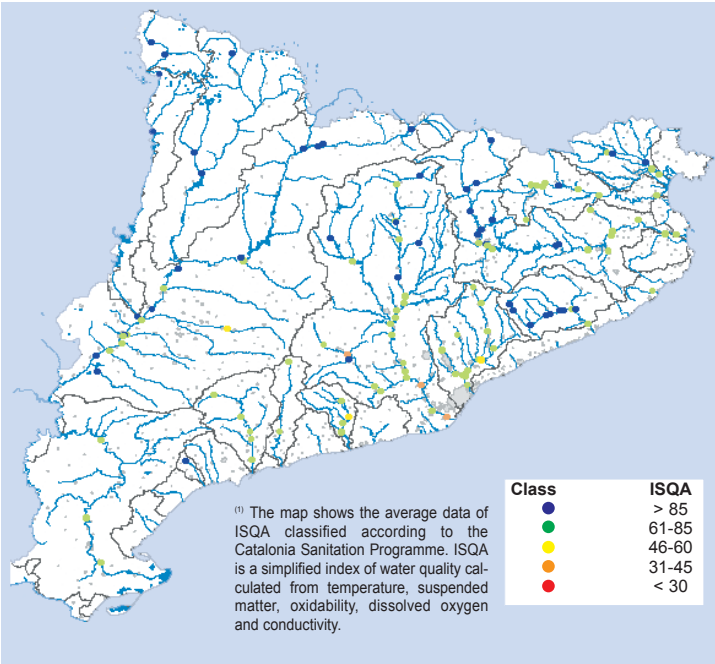
To supply hydroelectric and nuclear stations and fish farms are not considered consumption uses.
Based on the population in 1999.

Water quality and quantity control points

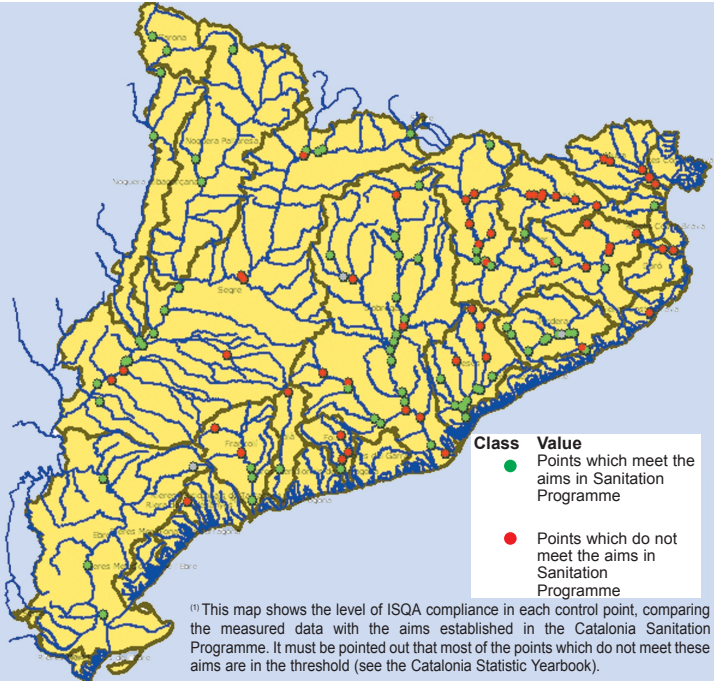
	1990	1995	2000	2001	2002	2003 ⁽¹⁾
Nets of quality control	361	1,267	6,438	5,991	6,519	5,699
Surface water	175	254	714	754	775	167
Ground water		596	1,416	1,333	1,600	1,445
Marine water	186	417	4,308	3,904	4,144	4,087
Nets of quantity control	470	620	738	772	808	768
Ground water	393	393	430	430	430	380
Surface water	77	227	308	342	378	388

⁽¹⁾ In 2003, the number of control points in surface waters is lower than in the previous ones because the sampling rate and the number of parameters controlled has been intensified.

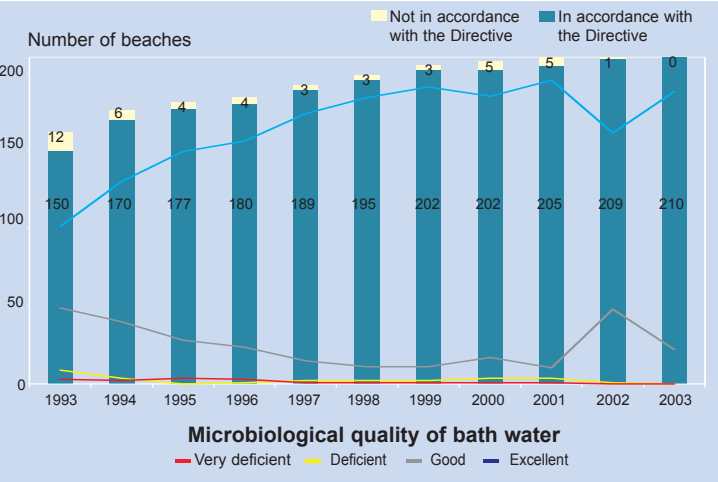
Quality of surface waters. Average data of ISQA 2003



Quality of surface waters. State of compliance of ISQA according to the aims set out in the Catalonia Sanitation Programme 2003



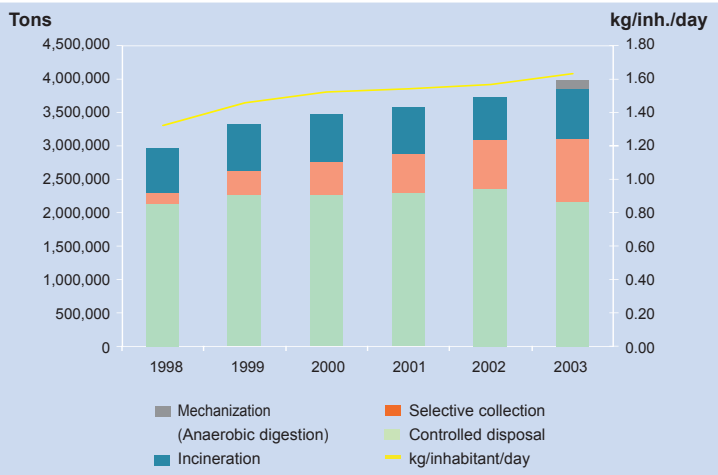
Degree of compliance with Directive 76/160/EEC



Waste

Final destination of municipal waste

Municipal waste production 2003: 3,989,194 tons
Production coefficient (kg/inh/day) 2003: 1.63



Municipal waste is the one proceeding from domestic activities and commercial, offices or services activities that for its nature or composition is comparable to domestic waste.
This chart uses the official population figures published by IDESCAT.

Selective collection 2003

Waste	Collected tons	Production coefficient (kg/inh/year) ⁽¹⁾	Number of bins	inhabitants/ bins ⁽¹⁾
Glass	178,313	26.6	20,914	321
Paper and cardboard	271,048	40.4	20,812	322
Light packing	58,063	8.7	20,650	325
Organic material ⁽²⁾	150,335	23.7	14,436	440
Batteries ⁽³⁾	502	0.08	20,264	
Medicines ⁽³⁾	334	0.05	3,400	
Bulky waste	109,049	16.3		
Pruning-gardening	44,042	6.6		
Collecting and storing centre ⁽⁴⁾	127,540			
Total selective collection	939,226			

⁽¹⁾ Official number of population in 2003 published by IDESCAT.

⁽²⁾ Only the population where selective collection is well-established has been considered.

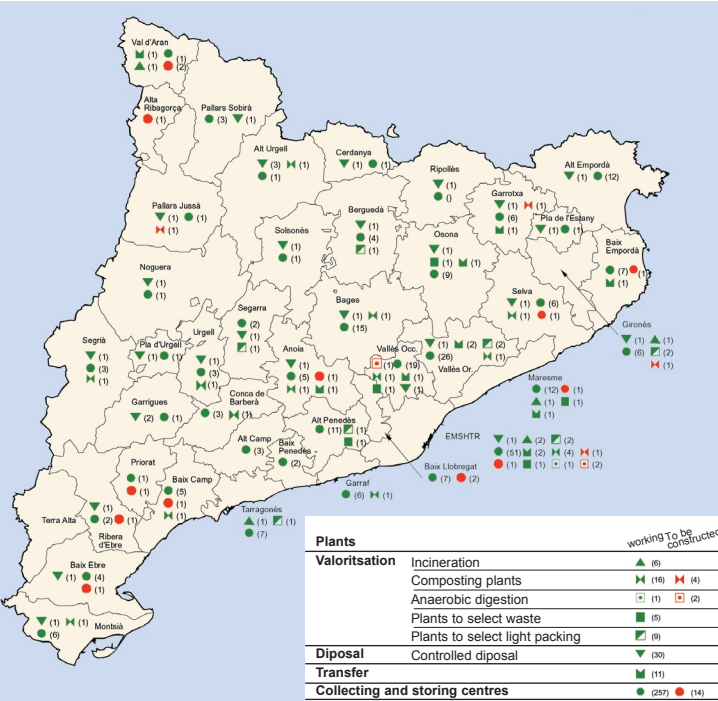
⁽³⁾ The number of containers refers to the number of centres or organisations collecting batteries or medicines: chemists, primary health care centres (CAPs), shops, etc.

⁽⁴⁾ Except glass, paper, bulky waste, pruning and gardening and batteries collected in a collecting and storing centre.

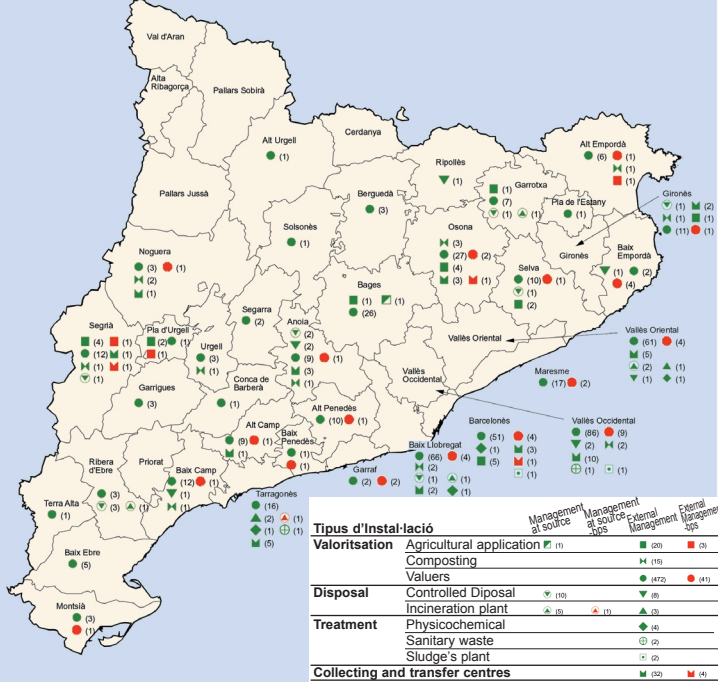
Treatment of declared industrial waste

Treatment	(tons)					
	Special		Non-special		Total	
	2002	2003	2002	2003	2002	2003
Valorisation	344,160	335,808	2,658,472	2,605,677	3,002,632	2,941,485
Subproduct	23,895	25,087	998,640	956,767	1,022,535	981,854
Storage	7,729	9,073	33,058	35,405	40,787	44,477
Physicochemical-biological-plant	99,348	126,032	194,961	226,484	294,309	352,516
Controlled disposal	58,830	63,922	1,361,064	1,318,864	1,419,894	1,382,785
Incineration	73,652	80,747	33,149	43,033	106,801	123,780
Insufficient management	1,166	478	13,391	8,207	14,557	8,685
Non-specified management	3,728	4,582	27,079	24,962	30,807	29,544
Total	612,508	645,729	5,319,812	5,219,398	5,932,320	5,865,126

Infrastructures of municipal waste treatment in 2003



Infrastructures of industrial waste treatment in 2003



(-) ppm: Authorised and waiting for starting up (n): Number of infrastructures authorised

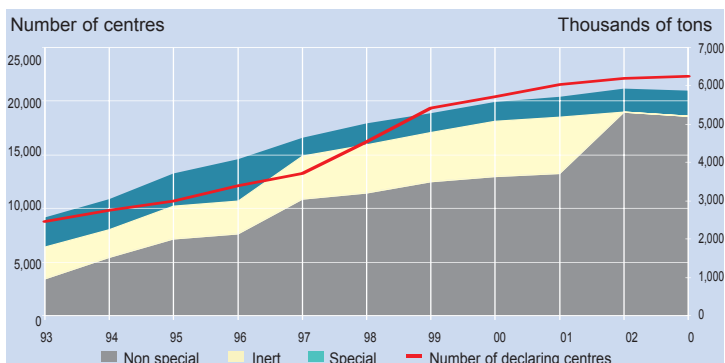
Map of Catalonia showing the distribution of wine production by comarca in 2017. The map is color-coded according to the legend:

- Less than 5,000 t/a
- From 5,000 to 15,000 t/a
- From 15,000 to 50,000 t/a
- From 50,000 to 100,000 t/a
- From 100,000 to 200,000 t/a
- More than 200,000 t/a

A map of Catalonia, Spain, divided into its provinces. Each province is shaded in a color corresponding to its annual wine production volume in tonnes (t/a). The shading ranges from light yellow for the lowest production to dark brown for the highest.

Province	Production Volume (t/a)
Val d'Aran	Less than 2,000
Alta Ribagorça	Less than 2,000
Pallars Sobirà	Less than 2,000
Cerdanya	From 2,000 to 20,000
Ripollès	From 2,000 to 20,000
Pallars Jussà	From 2,000 to 20,000
Alt Urgell	From 2,000 to 20,000
Solsonès	From 20,000 to 40,000
Berguedà	From 100,000 to 300,000
Osona	From 100,000 to 300,000
Garrotxa	From 40,000 to 100,000
Pla de l'Estany	From 40,000 to 100,000
Gironès	From 100,000 to 300,000
Baix Empordà	From 40,000 to 100,000
Noguera	From 20,000 to 40,000
Segarra	From 40,000 to 100,000
Bages	From 100,000 to 300,000
Selva	From 100,000 to 300,000
Pla d'Urgell	From 2,000 to 20,000
Urgell	From 2,000 to 20,000
Segrià	From 100,000 to 300,000
Garrigues	From 20,000 to 40,000
Anoia	From 100,000 to 300,000
Conca de Barberà	From 20,000 to 40,000
Vallès Oriental	From 100,000 to 300,000
Vallès Occidental	From 100,000 to 300,000
Alt Penedès	From 100,000 to 300,000
Baix Penedès	From 100,000 to 300,000
Baix Camp	From 100,000 to 300,000
Tarragonès	From 100,000 to 300,000
Alt Camp	From 100,000 to 300,000
Garrat	From 100,000 to 300,000
Barcelonès	From 100,000 to 300,000
Maresme	From 100,000 to 300,000
Priorat	From 20,000 to 40,000
Terra Alta	From 20,000 to 40,000
Ribera d'Ebre	From 20,000 to 40,000
Baix Ebre	From 40,000 to 100,000
Montsià	From 40,000 to 100,000

Evolution of the number of declaring centres and declared industrial waste



With the entry into force of the European Waste Catalogue in 2002, the category inert waste is eliminated (210 types of waste) and becomes non-special (149) or special in some cases (61).

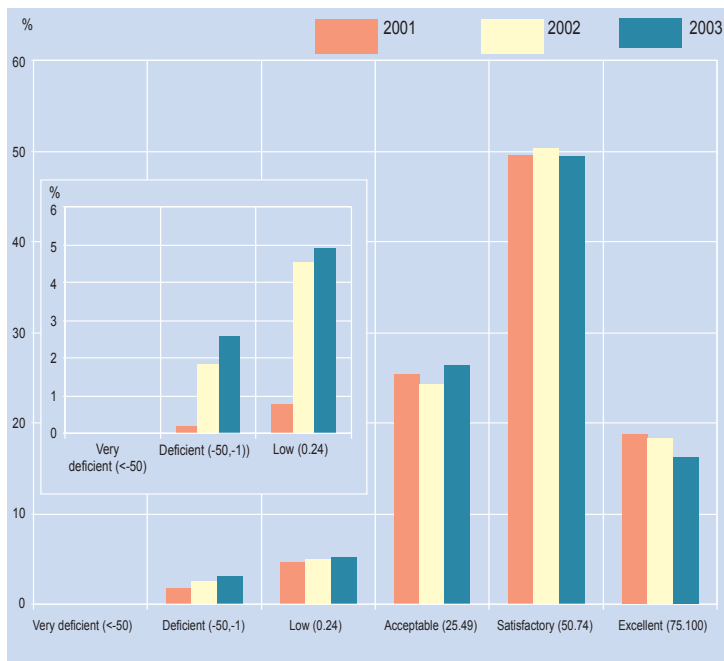
Industrial waste declaration in economic sectors

Subsector CCAE ⁽¹⁾	Sector	Tons	
		2002	2003
10	Extraction and accumulation of anthracite, hard coal, lignite and peat	30,120	18,583
15	Food and drink industry	1,214,935	1,306,053
17	Textile industry	138,555	124,203
19	Hide preparation, tanning and finish; hide manufacture, leather goods, saddlery and shoe shop	60,354	50,743
20	Wood and cork industry, except furniture, basketwork and esparto workshop	155,058	188,233
21	Paper industry	381,757	381,554
22	Edition, graphic arts and reproduction of registered supports	136,648	117,742
24	Chemical industry	649,089	631,886
25	Products manufacture in rubber and plastic material	118,182	122,653
26	Manufacture of other mineral non-metallic products	219,603	257,895
27	Metallurgy	426,643	395,371
28	Manufacture of metallic products except machinery and equipment	354,305	354,844
29	Industry of machinery construction and mechanical equipment	73,694	71,430
31	Machinery of manufacture and electric material	66,873	65,620
34	Manufacture of motor vehicles, trailers and semi-trailers	305,263	317,024
36	Furniture manufacture and other manufacture industries	57,694	75,602
37	Recycling	230,343	161,488
40	Production and distribution of electric energy, gas, steam and hot water	183,314	101,245
90	Activities of public sanitation	1,029,659	1,031,764
	Other	100,231	91,195
Total		5,932,320	5,865,126

⁽¹⁾ Catalan Classification of Economic Activities.

Atmospheric environment

Distribution of ICQA⁽¹⁾ level according to air quality level



⁽¹⁾ The parameters used for the calculation of ICQA are the levels of: carbon monoxide (CO), nitrogen dioxide (NO₂), sulphur dioxide (SO₂), ozone (O₃) and suspended particles PM₁₀ and PST.

Control of levels of ozone immission

	1999	2000	2001	2002	2003
Total number of sensors	48	47	48	37	39
Stations exceeding the population alert threshold ⁽¹⁾	0	0	0	1	0
Stations exceeding the population information threshold ⁽²⁾	16	12	20	9	22
Time value exceeding the population information threshold	43	61	96	41	222
Medium level (µg/m³)	44	44	43	43	47
Maxium level (µg/m³)	237	273	272	384	288

⁽¹⁾ 360 µg/m³ in one hour (RD 1494/1995).

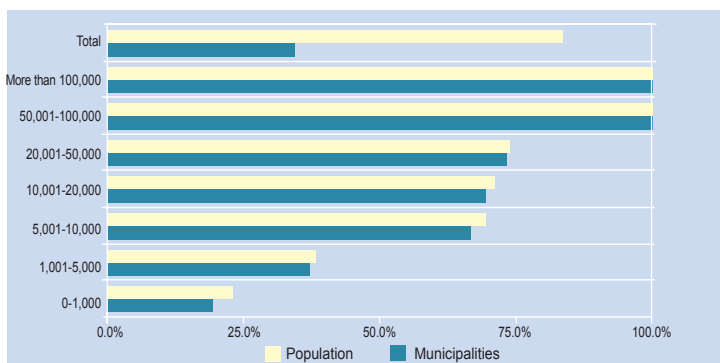
⁽²⁾ 180 µg/m³ in one hour (RD1494/1995).

Voluntary systems to protect the environment

Number of companies with voluntary systems to protect the environment

System	1998	1999	2000	2001	2002	2003
Environmental label	1	3	8	8	8	9
Emblem of environmental quality guarantee						
Products	77	711	803	806	806	819
Services	-	-	1	28	53	87
Ecoaudit and environmental management (EMAS system)	5	31	59	110	133	147

Local bodies subscribing the Aalborg Charter 2003



Percentages are calculated on the total of municipalities and/or population for each interval considered.

Protection and management of biodiversity

PEIN development status with regard to the definitive delimitation of areas

	Situation on 31.12.1999			Situation on 31.12.2003		
	Number of areas	surface area hectares	% ⁽¹⁾	Number of areas	surface area hectares	% ⁽¹⁾
Areas with definitive limits	79 (49 being processed)	329,709	50.9	122 (42 being processed)	590,459	91.1
a) Areas delimited by special plan	66 (48 being processed)	233,569	36.0	105 (42 being processed)	386,452	59.6
b) Areas delimited by ENPE declaration	13 (1 being processed) (5 RNFS)	96,140	14.8	17 (4 RNFS)	204,007	31.5

⁽¹⁾ Percentage on the final stage of PEIN: 648,065 hectares

ENPE: Natural Area of Special Protection.

RNFS: Declared Natural Wildlife Reserves, pending validation for the purposes of the definitive limitation of the areas.

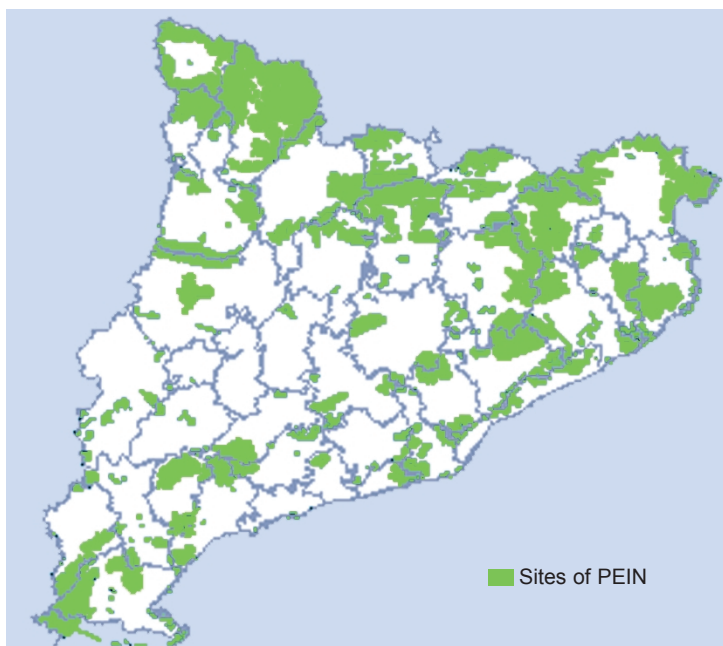
Parks of Catalonia 2003

	Year of creation	Terrestrial (ha) ⁽¹⁾	Marine (ha)(protection areas, etc.)	Observers (2)	Visitors (2)
National Parks					
Aiguëstortes i Estany de Sant Maurici	1955	14,119		26,733	356,000
Natural Parks					
El Cadí-Moixeró	1983	39,671			430,000
Zona Volcànica de la Garrotxa	1982	12,007			600,000
Aiguamolls de l'Empordà	1983	4,729			152,000
Delta de l'Ebre	1983	7,313	489		833,000
Montserrat	1987	3,630		4,039	2.242,000
El Montseny	1987	17,372		12,748	-
Sant Llorenç del Munt i Serra de l'Obac	1987	9,638		4,056	-
Cap de Creus	1998	10,813	3,073		450,000
Els Ports	2001	35,051			76,000
El Montsant	2002	9,192			-
L'Alt Pirineu	2003	69,850			
Natural Sites of National Interest:					
Pedraforca	1982	1,671			
Poblet	1984	3,408			200,000
L'Albera	1986	4,108			41,000
Pinya de Rosa	2003	50			
Nature Reserves:					
Delta del Llobregat	1987	297		201	95,000
Marine Reserves:					
Illes Medes	1990		511		264,000
Masia Blanca (damping zone)	2000		448		
Sites protected by urban legislation:					
Collserola	1987	6,535			-
Garraf	1986	12,377			-
Montnegre-Corredor	1989	15,010			-
Montesquiu	1986	547			-
Olèrdola	1992	609			-

⁽¹⁾ Some of the sites of ENPEs can be included in other forms of protection as, for example, nature reserves.

⁽²⁾ Estimated figures.

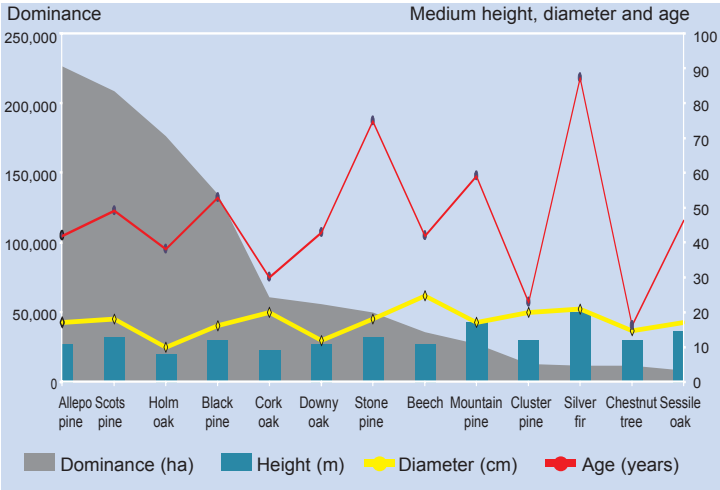
Plan of sites of natural interest (PEIN) 2003



Evolution of some species of Catalan fauna

Species	1996	1997	1998	1999	2000	2001	2002	2003
Great white egret	-	1	-	-	1	6	7	8
Bonelli's eagle	68	66	66	63	63	66	66	66
Dupont's lark	-	-	-	-	25	20	10-12	4-6
Marsh harrier	-	-	24	31	34	35	40	45
Bittern	6	8	6	1	1	1	1	4-5
Glossy ibis	-	1	6	-	12	21	23	26
Montagu's harrier	30	40	45	41	50	73	70	66
Greater flamingo	1,500	1,500	1,273	1,461	1,600	251	1,677	1,355
Audouin's gull	11,328	11,588	11,556	10,189	10,558	11,666	10,122	10,356
Otter (individuals)	-	-	-	-	270	-	>400	-
Lesser grey shrike	-	-	-	22	14	18	19	17
Bearded vulture	14	15	15	19	20	21	21	22
Vulture				397	-	-	-	-
Sandwich tern	-	-	-	-	931	1,666	1,893	2,127
Bengalensis tern	1	-	-	-	1	1	1	2
Common tern	-	3,479	-	-	3,085	3,393	4,221	4,734
Little tern	-	337	-	-	244	294	314	332
Lesser kestrel	16	27	31	28	42	67	74	94

Main tree species in Catalonia



Source: Forest and Ecological Inventory of Catalonia, 1988-1998. CREAM

Open cast mining according to its degree of restoration 2003

Degree of restoration	Dossier		Surface area	
	Number	%	Hectares	%
Authorised open cast mining which have not started explotation	214	8.2	913	7.8
Open cast mining with non-started restoration	1,045	39.9	4,701	40.4
Open cast mining with integrated restoration	441	16.9	3,945	33.9
Restored open cast mining in a guarantee period	241	9.2	1,019	8.8
Restored open cast mining with a returned deposit or of DPH ⁽¹⁾	675	25.8	1,054	9.1
Total	2,616	100.0	11,632	100.0

⁽¹⁾ Hydraulic Public Property (DPH).

Number of environmental impact declarations issued⁽¹⁾

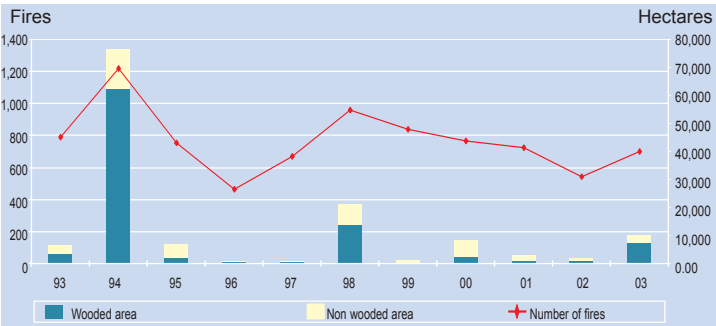
Actions	1990	1992	1994	1996	1998	2000	2002	2003
Harbours	3	1	2	0	2	3	1	0
Lineal infrastructures	2	5	21	13	17	34	22	18
Basins	0	2	5	0	0	0	0	0
Industrial activities	4	7	7	16	39	13	64	50
Soil use transformation	0	2	2	1	3	4	5	10
Affecting PEIN sites	0	0	21	20	28	24	3	9
Total	9	17	58	50	89	78	95	87

⁽¹⁾ According to the date of approval of Environmental Report.

Hunting and fishing areas 2003

	Number of areas	Extension hectares
Authorised hunting/fishing		
Hunting national reserves	7	235,047
Controlled hunting zones	14	87,499
Controlled fishing zones	316	12,879
Protected areas		
Wild fauna refuges	62	6,396
Hunting refuges	2	389
Fishing refuges	212	-

Evolution of number of fires and affected extension



Sources:

Department of the Environment and Housing,
Department of Town and Country Planning and Public Works
Department of Employment and Industry
Department of Government and Public Administrations
Institute of Statistics of Catalonia
Cartographic Institute of Catalonia

Edition:

Department of the Environment and Housing of the Government of Catalonia
and the Institute of Statistics of Catalonia.

The data are at 31st December of the indicated year.

<http://mediambient.gencat.net/cat/>

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