

F8.1 Canarian xerophytic scrub

Summary

This is open scrub formed by stem and leaf succulents and woody sclerophyllous shrubs that occurs in the arid and desertic locations on the Canaries. The former vegetation favours lower rocky situations, often on south-facing slopes, with rudimentary soils, the latter higher ground with more moisture and deeper soils. The vegetation is species-rich with endemics on different islands. Long histories of garzing have affected the extent and composition of the vegetation and other threats include urbanisation and tourist developments, particularly at lower levels where protected areas are less extensive.

Synthesis

The overall analysis of territorial data leads to the category Vulnerable (VU) for trends in quantity over the past 50 years and long-term trends over the past 500 years. The distribution of the habitat is very limited, resulting in Near Threatened assessments for criterion B1 (restricted range extent). For trends in quality a decrease of 10% over the past 50 years has been calculated, leading to the category Near Threatened. There are indications that species of the habitat have become extinct in historical/pre-historical times.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Vulnerable	A1, A3	Vulnerable	A1, A3

Sub-habitat types that may require further examination

A main division of the habitat is in two subtypes, one for the lowest and driest areas (the most threatened subtype) and one for higher, more moist sites. Besides, each of the Canary islands contains varieties with endemic species, and some of these sub-habitats occupy very small areas. An example is the *Euphorbia handiensis* dominated scrub on Fuerteventura, which remains in only 66 ha, less than 10% of its potential distribution range.

Habitat Type

Code and name

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The endemic association *Periploco laevigatae-Euphorbietum canariensis* with aspect of *Euphorbia canariensis* on the island of Tenerife (Photo: Marcelino-Jose del Arco Aguilar).



Mosaic of cardón, association *Micromerio gomerensis-Cistetum monspeliensis*, and juniperus woodland (habitat G3.9c) on the island of La Gomera (Photo: Marcelino-Jose del Arco Aguilar).

Habitat description

Open scrub formed by stem and leaf succulents, often belonging to the *Euphorbia* genus (*tabaibales* and *cardonales*), and woody sclerophyllous shrubs. It develops in the xerophytic to desertic lowland areas of the Canary Islands, covering practically the whole of the area in the eastern islands (Lanzarote and Fuerteventura) and the lower belts in the rest of the archipelago, particularly in the south facing slopes. The substrata are rocky, often with very poorly developed soils (lithosols).

The succulent scrub has elements of arid tropical origin, related to habitats existing in arid territories of tropical Africa. As in the other Canarian habitats, many geovicariant endemics for each of the islands or islands groups enrich the characteristic species list. This habitat type is divided into two main subtypes, one in the lower altitude on rocky soils and driest areas, in which the succulent scrub is dominant, and the second, in somewhat higher elevations, moister conditions and more structured soils, dominated by a xerophytic scrub of *Rhamnus* and *Olea*, much more related to Mediterranean ecosystems and containing more Mediterranean flora elements.

This habitat has been historically used by man and altered due to goat grazing, housing, and building of urban areas. As a result, it is easily invaded by nitrophilic species of the *Forsskaoleo-Rumicetalia lunariae*.

Indicators of good quality:

- Absence of nitrophilous and non-native species
- Presence and abundance of endemic succulent shrubs

Characteristic species:

Flora

Vascular plants: *Allagopappus dichotomus*, *Anagyris latifolia*, *Androcymbium hierrense*, *Argyranthemum callichryson*, *Argyranthemum coronopifolium*, *Argyranthemum escarrei*, *Argyranthemum gracile*, *Argyranthemum sundingii*, *Asparagus arborescens*, *Asparagus nesiotes*, *Asparagus pastorianus*, *Asparagus ploclamoides*, *Asparagus scoparius*, *Asparagus umbellatus*, *Brachypodium arbuscula*, *Bupleurum handiense*, *Bupleurum salicifolium* subsp. *acidiphyllum*, *Bystropogon plumosus*, *Bystropogon odoratissimus*, *Campylanthus salsoloides*, *Caralluma burchardii*, *Ceropegia dichotoma*, *Ceropegia fusca*, *Cistus monspeliensis* subsp. *canariensis*, *Convolvulus floridus*, *Convolvulus lopezsocasi*, *Convolvulus scoparius*, *Dorycnium eriophthalmum*, *Dracaena draco*, *Echium aculeatum*, *Echium brevirame*, *Echium decaisnei*, subsp. *purpuricense*, *Echium giganteum*, *Echium strictum*, *Erysimum bicolor*, *Euphorbia aphylla*, *Euphorbia atropurpurea*, *Euphorbia balsamifera*, *Euphorbia berthelotii*, *Euphorbia canariensis*, *Euphorbia handiense*, *Euphorbia lamarckii*, *Euphorbia regis-jubae*, *Globularia salicina*, *Helianthemum canarinse*, *Herniaria canariensis*, *Hypericum canariense*, *Jasminum odoratissimum*, *Juniperus turbinata* subsp. *canariensis*, *Justicia hyssopifolia*, *Kickxia sagittata*, *Kickxia scoparia*, *Kleinia neriifolia*, *Marcetella mocquiniana*, *Maytenus canariensis*, *Micromeria hyssopifolia* var. *hyssopifolia*, *Micromeria hyssopifolia* var. *kueglerii*, *Micromeria varia*, *Micromeria teneriffae* var. *cordifolia*, *Neochamaela pulverulenta*, *Olea europaea* subsp. *canariensis*, *Olea europaea* subsp. *cerasiformis*, *Pancratium canariense*, *Parolinia intermedia*, *Parolinia ornata*, *Paronychia canariensis*, *Periploca laevigata*, *Ploclama pendula*, *Reichardia famarae*, *Reseda scoparia*, *Retama raetam*, *Rhamnus crenulata*, *Rubia fruticosa* subsp. *melanocarpa*, *Rubia fruticosa* subsp. *fruticosa*, *Ruta pinnata*, *Rutheopsis herbanica*, *Scilla haemorrhiodalis*, *Seseli webbii*, *Sideritis brevicaulis*, *Sideritis dendrochahorra*, *Sideritis pumila*, *Spartocytisus filipes*, *Taeckholmia capillaries*, *Taeckholmia microcarpa*, *Taeckholmia pinnata*, *Tamus edulis*, *Teline osyrioides* subsp. *osyrioides*, *Teline osyrioides* subsp. *sericea*, *Teucrium heterophyllum*, *Vicia cirrhosa*.

Classification

This habitat may be equivalent to, or broader than, or narrower than the habitats or ecosystems in the

following typologies.

EUNIS:

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F6.5 Macaronesian garrigues

Annex 1:

no relationship

EuroVegChecklist (alliances):

Aeonio-Euphorbion canariensis Sunding 1972

Euphorbion regijsjubo-lamarckii Rivas-Mart., Wildpret, O. Rodríguez et Del Arco in Rivas-Mart. et al. 2011

Retamion rhodorhizoidis Del Arco et al. 2009

Cisto canariensis-Micromerion hyssopifoliae Pérez de Paz et al. 1990 corr. Rivas-Mart. in Rivas-Mart. 2011

Emerald:

no relationship

MAES-2:

Heathland and shrub

IUCN

3.5 Subtropical/Tropical Dry Shrubland

Does the habitat type present an outstanding example of typical characteristics of one or more biogeographic regions?

Yes

Regions

Macaronesian

Justification

The habitat only occurs on the Canarian islands, part of the Macaronesian biogeographic region.

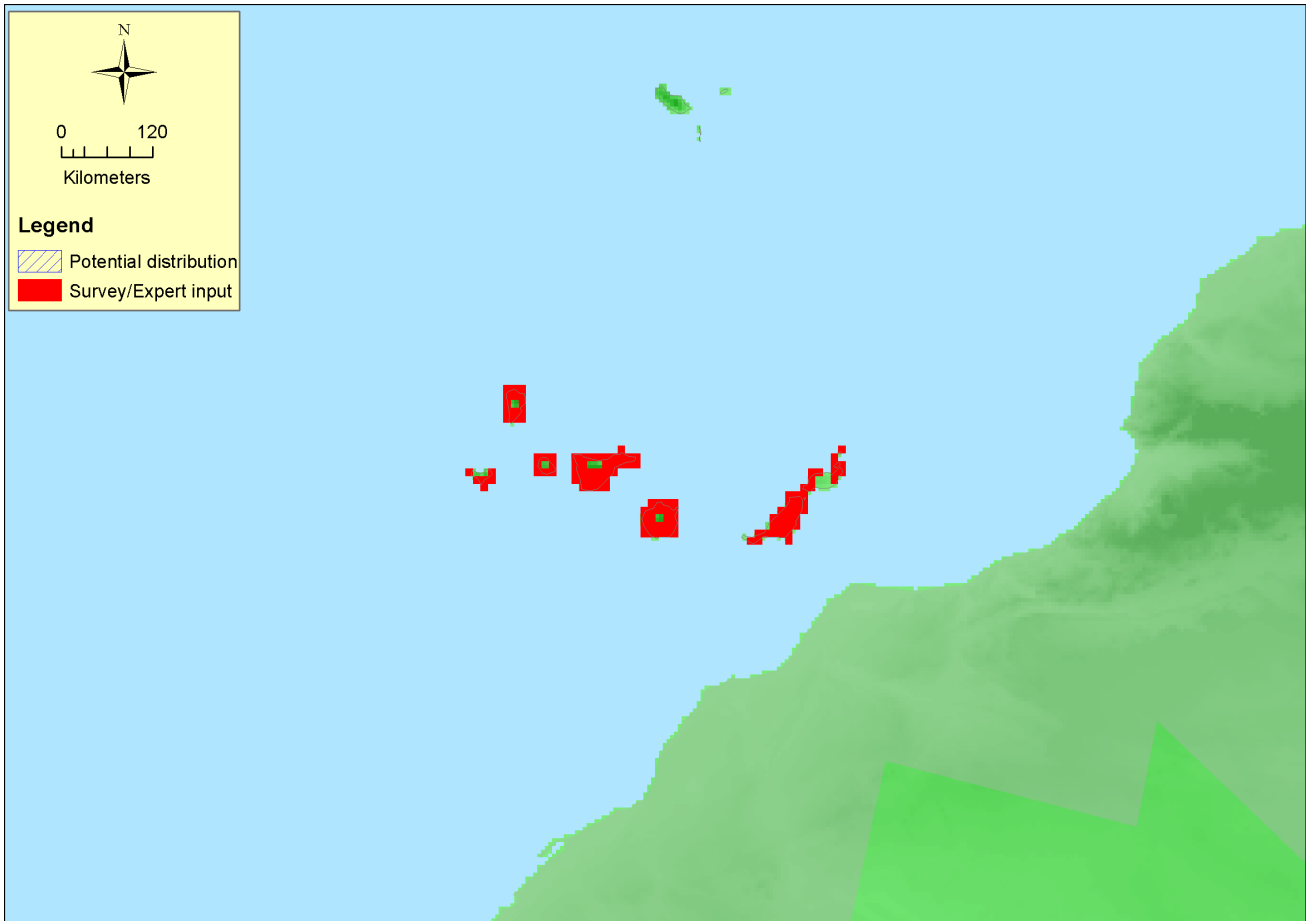
Geographic occurrence and trends

EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
<i>Spain</i>	Canary Islands: Present	275 Km ²	Unknown	Decreasing

Extent of Occurrence, Area of Occupancy and habitat area

	Extent of Occurrence (EOO)	Area of Occupancy (AOO)	Current estimated Total Area	Comment
EU 28	71600 Km ²	121	275 Km ²	Habitat only occurs in Canary Islands.
EU 28+	71600 Km ²	121	275 Km ²	Habitat only occurs in Canary Islands.

Distribution map



The map provides the complete distribution of the habitat. Data sources: NAT.

The area of the habitat according to Del Arco et al. (2010) is about 490 km².

How much of the current distribution of the habitat type lies within the EU 28?

100%

Trends in quantity

No quantitative data for the trend since 50 years have been provided in the territorial data, but an estimate can be made from figures provided by Del Arco et al. (2010); see the section Red List Assessment.

- Average current trend in quantity (extent)

EU 28: Decreasing

EU 28+: Decreasing

- Does the habitat type have a small natural range following regression?

Yes

Justification

The habitat has a restricted range, although the total EOO is slightly larger than the threshold for the criteria B. Negative trends (regression) are related to agricultural, urbanism and tourist development. The decline is ongoing and a further decline of the extent of habitat F8.1. is expected for the future.

- Does the habitat have a small natural range by reason of its intrinsically restricted area?

No

Justification

In most sites the habitat occurs in large patches, covering large parts of the lower belts of the Canary

Islands.

Trends in quality

According to the territorial data about 10% of the present habitat has decreased in quality, but no severity of decrease in quality is indicated. Some additional and alternative estimations of decline in quality are provided in the section Red List Assessment.

- Average current trend in quality

EU 28: Decreasing

EU 28+: Decreasing

Pressures and threats

Cultivation, mixed grazing, crop production and urbanisation. Pressures from the list include construction (E01), intensive agriculture (A06.01.01) and litter accumulation (H05.01). Development of agriculture and urban areas degrade and occupy a big part of the potential area of this habitat in the Canaries.

List of pressures and threats

Agriculture

Cultivation

Intensive mixed animal grazing

Non intensive mixed animal grazing

Annual and perennial non-timber crops

Urbanisation, residential and commercial development

Urbanised areas, human habitation

Natural biotic and abiotic processes (without catastrophes)

Accumulation of organic material

Conservation and management

The Natura 2000 network and the Canary Network of Natural Reserves cover large parts of the highest parts of the Canary Islands. A relatively low amount of the habitat F8.1 is within the boundaries of these protected areas. As regards thermo-sclerophyllous woodland, the possibilities of recovery are scarce, because of the high degree of disturbance and current use of its potential territory. Designation of protected areas should focus more on the lower areas where habitat F8.1 occurs.

List of conservation and management needs

Measures related to spatial planning

Establish protected areas/sites

Measures related to urban areas, industry, energy and transport

Other measures

Measures related to special resource use

Regulating/Management exploitation of natural resources on land

Conservation status

No related Annex 1-type.

When severely damaged, does the habitat retain the capacity to recover its typical character and functionality?

Unknown, but in general the dominant scrubs grow relatively slow, and restoration of complete habitats is expected to last relatively long.

Effort required

50+ years	200+ years
Naturally	Both

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	-45 %	unknown %	unknown %	-63 %
EU 28+	-45 %	unknown %	unknown %	-63 %

No quantitative data for the trend since 50 years have been provided in the territorial data, but an estimate can be made from figures provided by Del Arco et al. (2010). They indicate a decline of 94% over long-historical times. This figure has been corrected for the Red List assessment, as some secondary vegetation (*Euphorbia regis-jubae* scrub and garrigue-like communities with *Cytisus*, *Micromeria* and *Globularia*) are included in the definition of the habitat type F8.1, but were not taken into account by Del Arco et al. (2010). If these scrubs are included in the calculation, the long-time historical decline is about 70%. Most of this happened in the last 500 years (estimated: 90% of the trend), and most of that in the last 50 years (estimated: 60-70% of the trend). These data result in a negative trend of about 45% in the last 50 years (leading to the category Vulnerable), and a long-historical trend (over about 500 yrs) of 63% (leading to the category Vulnerable as well). As large parts of the habitat are not under protection at present, a slight further decline may be expected in the future, but no quantitative indication is given.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	71600 Km ²	Yes	Yes	no	121	Yes	Yes	no	no
EU 28+	71600 Km ²	Yes	Yes	no	121	Yes	Yes	no	no

The AOO (121 grid cells) and EOO (71600 km²) of the habitat are slightly higher than the thresholds for criterion B. As the decline is ongoing and threatening processes (tourism and building impacts, pollution) are continuing as well, the habitat is assessed as near threatened (NT) under criteria B1. For B2 the AOO value is too high to meet the NT category requirements. There are no indications of few locations and events that are capable to make the habitat Critically Endangered or Collapsed in the near future, so the habitat is considered Least Concern under B3.

Criterion C and D: Reduction in abiotic and/or biotic quality

Criteria C/D	C/D1		C/D2		C/D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	50 %	10 %	Unknown %	Unknown %	unknown %	Unknown %
EU 28+	50 %	10 %	Unknown %	Unknown %	unknown %	Unknown %

Criterion C	C1		C2		C3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %
EU 28+	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %	Unknown %

Criterion D	D1		D2		D3	
	Extent affected	Relative severity	Extent affected	Relative severity	Extent affected	Relative severity
EU 28	Unknown %	Unknown%	Unknown %	Unknown%	Unknown %	Unknown%
EU 28+	Unknown %	Unknown%	Unknown %	Unknown%	Unknown %	Unknown%

According to the territorial data about 10% of the present habitat has decreased in quality, but no severity of decrease in quality is indicated. It is estimated however that much larger parts (50%) are negatively impacted by occurrence of non-native species (for example *Opuntia*, grasses) and by pollution; the impact of these processes is low however; overall the extent affected has been estimated to be 50%, and the severity 10%, which is the accumulated decline in both biotic quality (invasive species) and abiotic quality (pollution). These scores lead to a Least Concern conclusion for criterion C/D1.

Criterion E: Quantitative analysis to evaluate risk of habitat collapse

Criterion E	Probability of collapse
EU 28	unknown
EU 28+	Unknown

There is no quantitative analysis available that estimates the probability of collapse of this habitat type.

Overall assessment "Balance sheet" for EU 28 and EU 28+

	A1	A2a	A2b	A3	B1	B2	B3	C/D1	C/D2	C/D3	C1	C2	C3	D1	D2	D3	E
EU28	VU	DD	DD	VU	NT	LC	LC	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	VU	DD	DD	VU	NT	LC	LC	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Vulnerable	A1, A3	Vulnerable	A1, A3

Confidence in the assessment

Medium (evenly split between quantitative data/literature and uncertain data sources and assured expert knowledge)

Assessors

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