

B1.6c Macaronesian coastal dune scrub

Summary

This habitat comprises scrubby vegetation with a sparse cover of woody succulent plants and associated herbs on stabilised coastal dunes of parts of the Canarian archipelago where there is an arid Mediterranean or desert-like climate. It is seriously threatened by recreational activity, infrastructure development and invasion by alien species, a combination intense at some localities. Survival needs strict protection, denial of access and limitation of development.

Synthesis

This habitat has experienced a reduction in quantity of 50% over the past 50 years. Additionally, it has also experienced a reduction in quality with a severity of 80% which has affected 50% of the extent. It is therefore assessed as Endangered under Criterion A1 and C/D1.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Endangered	A1, C/D1	Endangered	A1, C/D1

Sub-habitat types that may require further examination

The habitat is relatively homogeneous within its area of occurrence, and thus no sub-habitat types require further examination.

Habitat Type

Code and name

B1.6c Macaronesian coastal dune scrub



Dune with *Zygodophyllum fontanesii* on Tenerife, Canary Islands, Spain. (Photo: Jan Jansen).



Dunes with *Traganetum moquinii* in Famara, Lanzarote, Canary Islands, Spain. (Photo: Marcelino del Arco).

Habitat description

This habitat type consists of coastal dunes of the Canarian archipelago, colonized by herbaceous and woody plants often with succulent leaves and stems. It is absent in the islands of El Hierro and La Palma. Shifting dunes are populated by herbaceous plant communities of the alliance *Polycarpeo niveae-Euphorbion paraliae* and the fixed grey dunes are covered by the perennial woody communities of the *Traganion moquinii*. In both cases vegetation cover is sparse, and the climate is Mediterranean arid or

desert-like.

Indicators of good quality:

- No disturbance signals
- Low vegetation cover
- Absence of invasive alien species

Characteristic species:

Flora: *Androcymbium psammophilum*, *Lotus lancerottensis*, *Polycarpha nivea*, *Polygonum balansae* var. *tectifolium*, *Pulicaria burchardii*, *Senecio leucanthemifolius* var. *falcifolius*, *Traganum moquinii*, *Zygophyllum fontanesii*, *Zygophyllum gaetulum*. Other taxa of broad distribution: *Cyperus kalli*, *Euphorbia paralias*, *Polygonum mariitimum*.

Classification

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

EUNIS:

B1.3 Shifting coastal dunes

EuroVegChecklist:

Traganion moquinii Sunding 1972

Polycarphae niveae-Euphorbion paraliae Rivas-Martínez et Wildpret in Rivas-Mart. et al. 2002

Annex I:

2130* Fixed coastal dunes with herbaceous vegetation (grey dunes)

Emerald:

B1.3 Shifting coastal dunes

B1.4 Coastal stable dune grassland (grey dunes)

MAES-2:

Heathland and shrub

IUCN:

13.3 Coastal sand dunes

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

Yes

Regions

Macaronesian

Justification

This habitat type is present only in the Canary Islands within the EU 28 and EU 28+. It also occurs in the coasts of southern Morocco and the Cabo Verde archipelago.

Geographic occurrence and trends

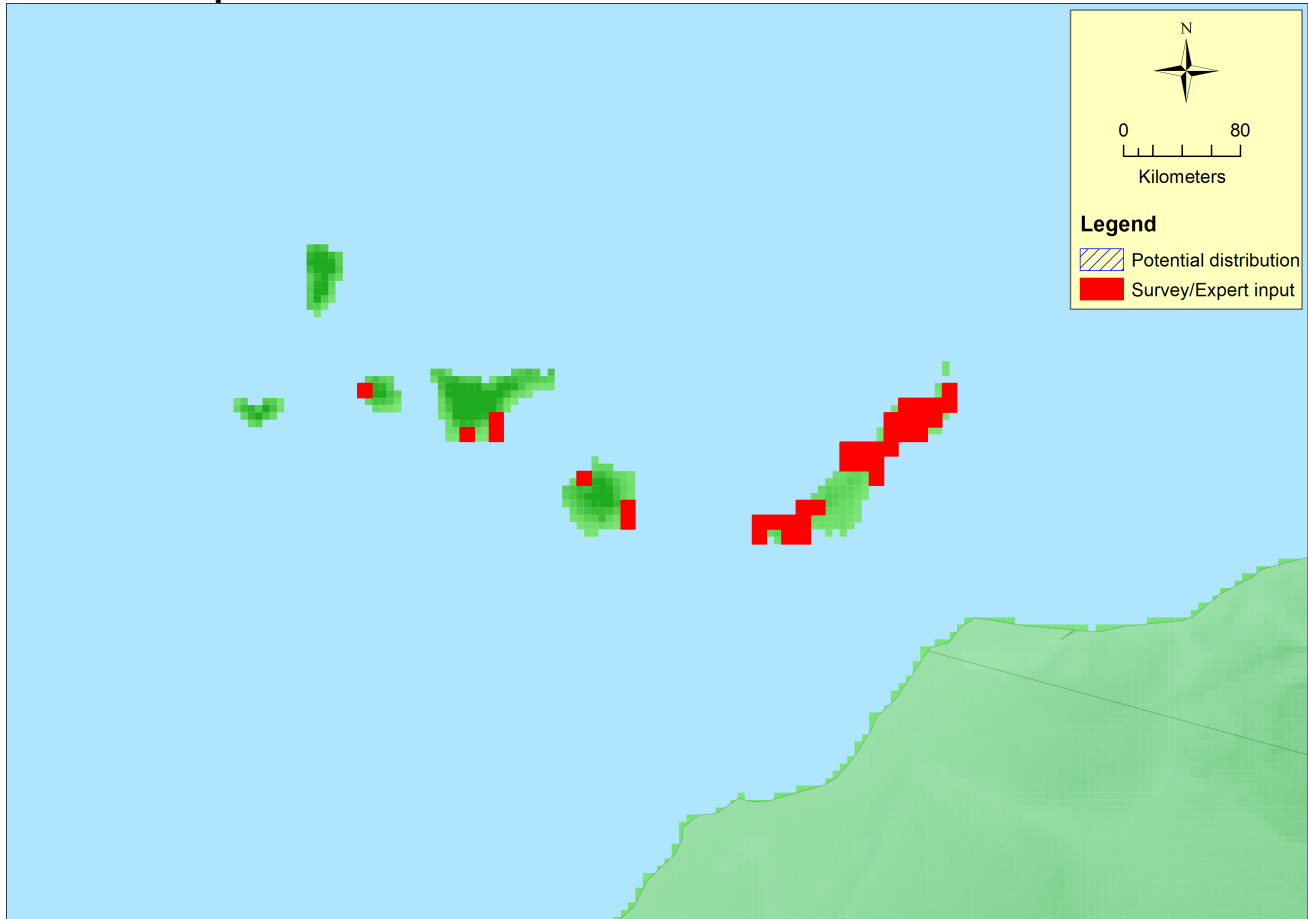
EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
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EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
Spain	Canary Islands: Present	3.12 Km ²	Decreasing	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	30500 Km ²	43	3.12 Km ²	
EU 28+	30500 Km ²	43	3.12 Km ²	

Distribution map



The map is complete. Data sources: Art17.

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

Around 40% of this habitat type lies within the EU 28, and it is particularly concentrated in the islands of Fuerteventura and Lanzarote, where extensive dune systems exist. The other islands in which it is found are La Gomera, Tenerife and Gran Canaria. Outside of the European Union, it is reported from southern Morocco and it expands along the western Sahara and the Cabo Verde islands.

Trends in quantity

This habitat is affected by pressure for human use as recreational areas, like all the coastal dunes systems in Spain are. The habitat is affected by pressures derived from construction (housing, roads, parking lots, temporary buildings) and direct human use, including trampling, litter, invasion by exotic species and transformation into arable land. The combination of these pressures has been so intense that it is now difficult to find sites with a relatively good state of naturalness, having experienced a severe decline of

50% of its distribution. It is also estimated that the habitat will continue declining in the future if the construction of touristic developments is not stopped.

- 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

It is reported to have suffered severe regression in quantity. Ongoing development of touristic resorts in the Canary Islands leads to an unstoppable decline of this habitat type.

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

Yes

Justification

Macaronesian arid dunes system with *Traganion moquinii* and *Polycarpeo niveae-Euphorbion paraliae* are naturally restricted to some islands in the Canary Islands, in Cabo Verde and southern Morocco.

Trends in quality

Quality degradation due to human influence of visitors (trampling), infrastructure development and invasion of invasive alien species have lead to a decline in the quality of the habitat type.

- Average current trend in quality

EU 28: Decreasing

EU 28+: Decreasing

Pressures and threats

The use of this habitat as recreational areas by human is affecting this habitat type, like it affects all the coastal dunes systems in the Canary Islands, and particularly the islands of Fuerteventura and Lanzarote. This human use of the habitat as recreational areas leads to subsequent trampling and waste, and it is also affected by pressures derived from building of infrastructures, including housing, roads, parking lots, temporary buildings and invasion by invasive alien species.

List of pressures and threats

Urbanisation, residential and commercial development

Urbanised areas, human habitation

Continuous urbanisation

Discontinuous urbanisation

Dispersed habitation

Disposal of household / Recreational facility waste

Human intrusions and disturbances

Walking, horseriding and non-motorised vehicles

Invasive, other problematic species and genes

Invasive non-native species

Conservation and management

Conservation of fragile sand dune ecosystems in areas under heavy human pressure due to touristic activity needs to be implemented through the restriction of access to areas in a way that the dune

dynamic system maintains its functionalities. Additionally, restriction to the building of houses and roads which interrupt the sand wind-blown flux from the outer beach areas to inland is essential for this purpose. A general monitoring scheme to control invasion by alien species is also needed.

List of conservation and management needs

Measures related to spatial planning

Establish protected areas/sites
Legal protection of habitats and species

Measures related to hunting, taking and fishing and species management

Specific single species or species group management measures

Conservation status

Annex I:

2130: MAC U2

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

Recovery after destruction is slow in arid environments. Artificial restoration is not reliable at the moment, since it is unlikely to obtain seeds or seedlings of *Traganum mocquini*, the adequate plant to perform a sound ecologic restoration. Restoration processes will not be successful if the appropriate biological material provided by local species is not used.

Effort required

20 years	50+ years	200+ years
Through intervention	Naturally	Naturally

Red List Assessment

Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	-50 %	-30 %	Unknown %	-50 %
EU 28+	-50 %	-30 %	Unknown %	-50 %

This habitat has experienced a decline of around 50% in the last 50 years, the same percentage of decline which has occurred since 1750 since touristic development in the Canary Island is relatively recent and it is reasonable to assume that prior to the 1960s there was little decrease in coastal habitats. In addition, a further decline of 30% is expected to occur over the next 30 years. Therefore, the habitat is assessed as Endangered under Criterion A.

Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	30500 Km ²	Yes	Yes	Unknown	43	Yes	Yes	Unknown	Unknown
EU 28+	30500 Km ²	Yes	Yes	Unknown	43	Yes	Yes	Unknown	Unknown

This habitat has a restricted extent of occurrence (EOO) and area of occupancy (AOO) in the Canary Islands, and there is a continuing decline in spatial extent, abiotic and biotic quality. Additionally, building of

infrastructure in the Canary Islands is likely to cause continuing declines within the next 20 years. Therefore, this habitat type is assessed as Vulnerable under Criterion B.

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 %	80 %	unknown %	unknown %	unknown %	unknown %
EU 28+	50 %	80 %	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 information provided by regional experts, it has been calculated that this habitat type has experienced a decline in quality that has affected 50% of its extent with a 80% relative severity as a result of human influence, and it is thus assessed as Endangered under Criterion C/D.

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, but it can reasonably be expected that at a medium term this habitat can be practically collapsed. It is thus assessed as Data Deficient under Criterion E.

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	EN	VU	DD	VU	VU	VU	DD	EN	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	EN	VU	DD	VU	VU	VU	DD	EN	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
Endangered	A1, C/D1	Endangered	A1, C/D1

Confidence in the assessment

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

knowledge)

Assessors

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Contributors

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Date of assessment

30/09/2015

Date of review

24/02/2016

References

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Rivas-Martínez, S., Widpret, W., Del Arco, M., Rodríguez, O., Pérez de Paz, P.L., García-Gallo, A., Acebes, J.R., Díaz, T.E. and Fernández-González, F. 1993. Las comunidades vegetales de la isla de Tenerife (Islas Canarias). *Itinera Geobotanica* 7: 169-374.