

## F3.1b Temperate *Rubus* scrub

### Summary

This habitat comprises deciduous or sometimes evergreen subscrub dominated by various *Rubus* spp. mostly in the Atlantic and subatlantic regions, and elsewhere in locally cool conditions. It develops in ungrazed open landscapes and forest clear-cuts as part of succession, but can be a more or less persistent features of cultural landscapes such as forest margins, as hedgerows and along road verges. There is great genetic diversity among the *Rubus* itself (including many endemics) and the associated floras can be varied. The most important threats are related to intensification of the rural landscape, like removal of hedges, eutrophication and spread of invasive species and the habitat is replaced by scrub and forest in succession. Maintaining the diversity and dynamism of lowland landscapes is essential for conservation.

### Synthesis

The data for assessment of trends in extent cover less than 40% of the area of the type. Although the provided data for some of the Red List criteria indicate a Least Concern status for the habitat, the overall conclusion is Data Deficient, because of the many knowledge gaps, especially for trends in quantity.

Overall Category & Criteria			
EU 28		EU 28+	
Red List Category	Red List Criteria	Red List Category	Red List Criteria
Data Deficient	-	Data Deficient	-

### Sub-habitat types that may require further examination

As the species composition differs largely in different regions, due to many regional endemic *Rubus* species, many different subhabitats may be distinguished that need further examination. In general relatively stable, "old" stands (like in forest edges or stands on former old forest localities) and stands are relatively richer in endemics than more recently developed stands developing in heathlands. Such species-rich bramble scrub is the most important subhabitat for further examination.

### Habitat Type

#### Code and name

F3.1b Temperate *Rubus* scrub



Clear cut site with species-rich bramble scrub including *Rubus bracteatus*, *R. echinatus*, *R. holerythrus*, *R. leightonii*, *R. oblongifrons*, *R. pedatifolius* and *R. questieri* near Bauné (dep. Maine-et-Loire) in France. (Photo: Rienk-Jan Bijlsma).



Heavily grazed bramble scrub with *Rubus nemoralis* and *R. vigorosus* in New Forest (Hampshire, UK). (Photo: Rienk-Jan Bijlsma).

## Habitat description

Deciduous or sometimes evergreen scrub dominated by bramble (*Rubus spp*) found in the Atlantic and Sub-Atlantic regions, and outside these regions in sites with a specific cool microclimate. Bramble scrub grows in 'intermediate' conditions (on not too wet or too dry soils, in not too warm or too cold climates), in intermediate succession stages or spatial transitions (from low herbaceous vegetation towards forest) and under a relatively stable microclimate. Most bramble species are not resistant towards grazing or mowing and also not towards flooding. The habitat contains - often species-rich - bramble scrubs of the open landscapes (intermediate succession stages), forest edges and some forest clear-cut areas. It also includes semi-natural structures of the cultural landscape dominated by brambles, like hedge rows, road verges and other structures separating parcels of agricultural land. In some cases they form spatial transitions to (higher) scrubs of the habitat F3.1e Temperate and submediterranean thorn scrub.

Within the habitat type, a main division can be made based on soil type. A first subtype contains bramble scrub of poor, sandy soils in north-western Europe, belonging to the class *Lonicero-Rubetea plicati*, alliance *Lonicero-Rubion silvatici*. A second subtype includes bramble scrub on nutrient richer or more base-rich soils, with a broader distribution in central and western Europe, and belonging to the class *Rhamno-Prunetea*, alliance *Pruno spinosae-Rubion radulae*. The latter subtype forms transitions towards habitat type E3.1e Temperate and submediterranean thorn scrub.

The type relates to inland (in general) long-lasting scrubs, relatively rich in bramble species. Temporary bramble communities on clear-cut forest areas on nutrient-rich or base-rich soils (alliance *Athyrio filix-feminae-Rubion idaei*) form a short-term succession stage towards *Sambuco racemosae-Salicion capreae*; both alliances together are considered part of habitat F3.1d Temperate woodland clearing scrub. Bramble scrubs in Atlantic dunes are considered part of type B1.6a Atlantic and Baltic coastal dune scrub. Also excluded from this habitat are the (sub)mediterranean bramble scrubs with *Rubus ulmifolius* as the main (and often only) species. *Rubus ulmifolius* has a broad ecology, and vegetation dominated by it in most situations is a mixture of *Rubus ulmifolius* with thorny shrubs of the class *Rhamno-Prunetea* (for example *Rosa spp.*). They are not bramble scrubs in a strict sense, and habitats of this type (alliance *Pruno spinosae-Rubion ulmifolii*), are considered as part of type F3.1e Temperate and submediterranean thorn scrub. Finally, also bramble scrubs dominated by non-European species, like *Rubus armeniacus*, are excluded.

Natural bramble scrubs as intermediate succession stages from grassland or heathland towards forest are restricted to Atlantic and Subatlantic lowlands and submontane areas of Central-Europe. Further eastwards (like in eastern Germany and the Czech Republic) brambles are mainly restricted to shaded conditions (forest understorey, forest edges), and the bramble habitat is more scattered in localities with specific conditions. Further northwards the number of brambles decreases quickly, with only a few species in southern Norway and south Sweden. Also southwards few species occur, and species-rich communities become rare. It is plausible that bramble scrubs have increased during the 20th century in parts of the distribution range, as in the 19th century the semi-natural landscape was much more open and more intensively grazed. On the other hand, during the 20th century severe losses will have happened in the cultural landscape, due to increasing parcel sizes (removal of hedges), eutrophication and invasion of non-native species (such as *Prunus serotina*).

*Rubus* in Europe is one of the most species-rich (and most complicated) genera in the temperate parts of Europe, with many taxa propagating by apomictic (non-sexual) mechanisms. In total, about 700 species have been described in *Atlas Flora Europaeae*, while about 1000 species are estimated to exist in Europe. Most of these species are considered to be relatively young, probably originating from a small set of relict species after the Ice Ages. The highest species richness of *Rubus* is found in Ireland, the United Kingdom, southern Denmark, the Netherlands, Belgium, Germany, northern France and the Czech Republic. Many of the *Rubus* species are regional endemics, giving this type a high importance from a biodiversity point of

view. The most characteristic brambles in this Temperate bramble scrubs habitat are species of the *Rubus* subsection *Rubus*, which are deciduous. Especially the series *rhamnifolii* and *discolores* within this subsection, some of the most spiny groups of brambles, are well represented.

As well as for endemic bramble species, bramble scrubs are important for fauna, providing nectar for many insect groups when flowering, food for birds and mammals, and important hiding or nesting structures for many animal species.

Indicators of good quality:

- Presence of regional endemic species
- Absence of alien species
- High diversity in *Rubus* species

Characteristic species:

Mentioned are characteristic widespread species in the distribution range and regional endemics from (mainly) Germany and the Netherlands. In Ireland, England, France, Belgium, Denmark and the Czech republic, the species composition of the habitat type is little known. Therefore the list of regional endemic species will lack characteristic species from these countries.

Flora: Vascular plants: *Rubus adpersus*, *Rubus amiantinus*, *Rubus ammobius*, *Rubus bertramii*, *Rubus bifrons*, *Rubus calvus*, *Rubus contractipes*, *Rubus discors*, *Rubus distractus*, *Rubus divaricatus*, *Rubus drenthicus*, *Rubus egregius*, *Rubus elegantispinosus*, *Rubus flexuosus*, *Rubus frederici*, *Rubus gelertii*, *Rubus geniculatus*, *Rubus glandithyrsos*, *Rubus grabowskii*, *Rubus gratus*, *Rubus hypomalacus*, *Rubus integribasis*, *Rubus laciniatus*, *Rubus laevicaulis*, *Rubus lasiandrus*, *Rubus lindleianus*, *Rubus macrophyllus*, *Rubus montanus*, *Rubus mucronulatus*, *Rubus mycrophyllus*, *Rubus nemoralis*, *Rubus nessensis*, *Rubus opacus*, *Rubus pallidus*, *Rubus passionis*, *Rubus phoenicacanthus*, *Rubus phyllostachys*, *Rubus plicatus*, *Rubus polyanthemus*, *Rubus praecox*, *Rubus pyramidalis*, *Rubus radula*, *Rubus radulooides*, *Rubus rubercadaver*, *Rubus rufescens*, *Rubus rudis*, *Rubus scissus*, *Rubus schlechtendalii*, *Rubus senticosus*, *Rubus silvaticus*, *Rubus sprengelii*, *Rubus steracanthos*, *Rubus sulcatus*, *Rubus taxandriae*, *Rubus trichanthus*, *Rubus vestitus*, *Rubus vigorosus*, *Rubus wahlenbergii*, *Rubus winteri*.

### **Classification**

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

EUNIS:

F3.1 Temperate thickets and scrub

EuroVegChecklist:

*Pruno spinosae-Rubion radulae* Weber 1974

*Lonicero-Rubion silvatici* Tx. et Neumann ex Wittig 1977

Annex I:

No relationship

Emerald:

No relationship

MAES-2:

Heathland and shrub

IUCN:

### 3.4 Temperate shrubland

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

Yes

Regions

Atlantic

Justification

The habitat is most widespread and abundant and has the highest species diversity in the Atlantic biogeographical region.

#### Geographic occurrence and trends

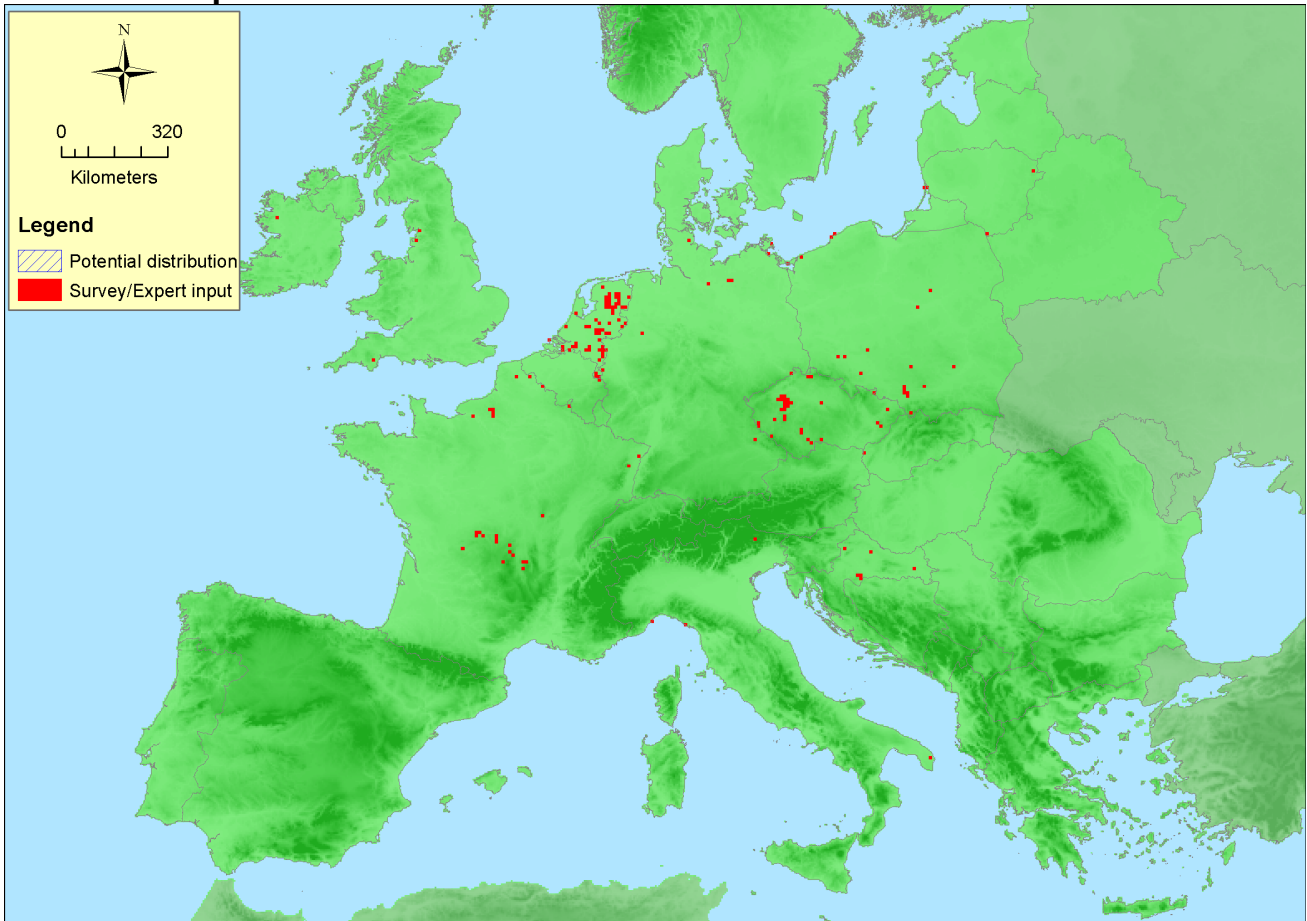
EU 28	Present or Presence Uncertain	Current area of habitat	Recent trend in quantity (last 50 yrs)	Recent trend in quality (last 50 yrs)
<i>Austria</i>	Uncertain	Km <sup>2</sup>	-	-
<i>Belgium</i>	Present	unknown Km <sup>2</sup>	Decreasing	Unknown
<i>Bulgaria</i>	Present	unknown Km <sup>2</sup>	Increasing	Stable
<i>Croatia</i>	Present	1.5 Km <sup>2</sup>	Increasing	Stable
<i>Czech Republic</i>	Present	100 Km <sup>2</sup>	Increasing	Stable
<i>Denmark</i>	Present	unknown Km <sup>2</sup>	Unknown	Unknown
<i>France</i>	France mainland: Present	unknown Km <sup>2</sup>	Increasing	Unknown
<i>Germany</i>	Present	unknown Km <sup>2</sup>	Unknown	Decreasing
<i>Hungary</i>	Present	5-50 Km <sup>2</sup>	Unknown	-
<i>Ireland</i>	Present	unknown Km <sup>2</sup>	Unknown	Unknown
<i>Luxembourg</i>	Present	unknown Km <sup>2</sup>	-	-
<i>Netherlands</i>	Present	unknown Km <sup>2</sup>	Unknown	Decreasing
<i>Poland</i>	Present	unknown Km <sup>2</sup>	Unknown	Unknown
<i>Slovakia</i>	Present	10 Km <sup>2</sup>	Stable	Stable
<i>Slovenia</i>	Present	4 Km <sup>2</sup>	Stable	Stable
<i>Spain</i>	Spain mainland: Present	0.8 Km <sup>2</sup>	Stable	Decreasing
<i>UK</i>	Northern Island: Present United Kingdom: Present	210 Km <sup>2</sup>	Decreasing	Decreasing

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>Switzerland</i>	Present	5 Km <sup>2</sup>	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	2565300 Km <sup>2</sup>	163	unknown Km <sup>2</sup>	
EU 28+	2565300 Km <sup>2</sup>	169	unknown Km <sup>2</sup>	

## Distribution map



The map is very incomplete due to large data gaps. Data sources: EVA.

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

About 95%. The habitat mainly occurs in the Atlantic region. It becomes rare going in northern, eastern and southern direction.

### Trends in quantity

Two countries (Switzerland, UK) report a slight decrease, while in Belgium there may be a negative trend as well. Two countries (Bulgaria, Czech Republic) report an increase, and two countries (Spain, Hungary) a stable quantity. Seven countries do not report any data on trends in extent or distribution. The countries with the largest reported extent report respectively an increase (Czech Republic) and a decrease (UK). There is too little data to calculate European trends, because countries that probably have large extents (France, Ireland, Germany, Netherlands) could not provide any quantitative data.

- Average current trend in quantity (extent)

EU 28: Unknown

EU 28+: Unknown

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

No

*Justification*

The habitat is widespread in Europe.

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

No

*Justification*

The habitat often occurs in small patches, but many such patches may be present in the landscape,

especially in the Atlantic region.

## **Trends in quality**

Few quantitative data are available about trends in quality. Several countries report no trend (stable quality). Those countries that report decreases indicate that the amount and severity of decrease in general is low. No European trend has been calculated due to too many data gaps, but overall it is assessed that there is a negative trend that affects a relatively small area (10%) with low severity of degradation.

- Average current trend in quality  
EU 28: Decreasing  
EU 28+: Decreasing

## **Pressures and threats**

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The main causes of decrease are the removal of hedges and, more generally, the intensification of the agricultural landscape, including eutrophication. The type may form a succession stage in heathlands and grasslands after abandonment, but further succession leads to forest development. Also an increase of invasive shrubs and forestation may form threats.

### **List of pressures and threats**

#### **Agriculture**

Agricultural intensification  
Removal of hedges and copses or scrub

#### **Sylviculture, forestry**

Forest and Plantation management & use

#### **Invasive, other problematic species and genes**

Invasive non-native species

#### **Natural biotic and abiotic processes (without catastrophes)**

Species composition change (succession)

## **Conservation and management**

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In most cases no management is needed, but in some situation removal of trees or alien invasive species may be needed to prevent deterioration of the habitat.

### **List of conservation and management needs**

#### **No measures**

No measures needed for the conservation of the habitat/species

#### **Measures related to agriculture and open habitats**

Maintaining grasslands and other open habitats

### **Conservation status**

There is no related Annex I habitat type.

### **When severely damaged, does the habitat retain the capacity to recover its typical**

## character and functionality?

The habitat is able to restore naturally, even within relatively short periods. However many species have only a very limited regional occurrence and by damaging the habitat some of them are in danger of becoming extinct without any possibility of restoration.

### Effort required

10 years
Naturally

## Red List Assessment

### Criterion A: Reduction in quantity

Criterion A	A1	A2a	A2b	A3
EU 28	-6.1 %	unknown %	unknown %	unknown %
EU 28+	-6.2 %	unknown %	unknown %	unknown %

A negative trend of -6.1 (EU28+: -6.2) was calculated based on data of few countries, approximately covering less than 40% of the area, not including some of the countries in which the habitat is most widespread, like Germany, the Netherlands, France and Ireland. Because of these large data gaps the overall conclusion for A1 is DD (Data Deficient).

### Criterion B: Restricted geographic distribution

Criterion B	B1				B2				B3
	EOO	a	b	c	AOO	a	b	c	
EU 28	>50000 Km <sup>2</sup>	Unknown	Unknown		>50	Unknown	Unknown		
EU 28+	>50000 Km <sup>2</sup>	Unknown	Unknown		>50	No	Unknown		

The habitat is rather widespread throughout Europe. Rather precise EOO and AOO could not be calculated due to lack of distribution data. For sure however, the EOO is much larger than 50000, and the AOO much larger than 50.

### 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	<25 %	slight %	unknown %	unknown %	unknown %	unknown %
EU 28+	<25 %	slight %	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%

Nine out of 15 countries reported no or slight negative trends with 0-25% area affected. Several other countries did not provide any data. Overall it is assessed that less than 30% of the area is covered by data on both quantity and trends in quality. Making the assumption that the available data is representative for the majority of the range, it is most likely that trends in quality over the last 50 years are slight (in terms of severity), affecting less than 25% of the area. It is unclear whether negative trends are mainly abiotic or biotic.

### 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	DD	DD	DD	DD	LC	LC	LC	LC	DD	DD	DD	DD	DD	DD	DD	DD	DD
EU28+	DD	DD	DD	DD	LC	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
Data Deficient	-	Data Deficient	-

### Confidence in the assessment

Low (mainly based on uncertain or indirect information, inferred and suspected data values, and/or limited expert knowledge)

### Assessors

J. Janssen

### Contributors

Type description: J. Janssen, R.-J. Bijlsma, R. Haveman

Territorial data: J.A. Campos, A. Čarni, M. Chytrý, J.-M. Couvreur, R. Delarze, M. Dimitrov, P. Finck, R. Haveman, J. Janssen, N. Juvan, G. Király, K.J. Kirby, A. Mikolajczak, D. Paelinckx, P. Perrin, U. Rath, U. Riecken, J. Šibík, Z. Škvorc, A. Ssymank, A.

Working Group Heathland & Scrub: M. Aronsson, F. Bioret, C. Bitá-Nicolae, J. Capelo, A. Čarni, P. Dimopoulos, J. Janssen, J. Loidi

### Reviewers

J. Rodwell

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## References

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