

# **HABITATS DIRECTIVE ARTICLE 17 REPORT ( 2001 – 2006 )**

## **OVERVIEW OF CONSERVATION STATUS**

This paper is part of the web-based Article 17 Technical Report (2001-2006)  
<http://biodiversity.eionet.europa.eu/article17>  
compiled by the European Topic Centre on Biological Diversity for the  
European Commission (DG Environment)

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ETC/BD, Paris, 2008

# Overview of conservation status

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## Background

The concept of 'conservation status' is central to the Habitats Directive and one of the primary objectives of the Directive is to maintain at, or restore at favourable conservation status habitats and species of Community interest (*i.e.* all habitats and species listed in its annexes). Following the definition given in the Habitats Directive, within the reporting framework conservation status is composed of four parameters:

- Range, Habitat area, Structure and functions and Future prospects for habitats
- Range, Population, Area of habitat of species and Future prospects for species

Whether the conservation status is favourable or not is then evaluated based on these four parameters.<sup>1</sup>

At the end of the reporting period 2001-2006 the annexes of the Directive listed 216 European habitats on Annex I and approximately 1180 species on Annexes II, IV and V<sup>2</sup>. Bulgaria and Romania joined the European Union in 2007 and are not included in this reporting cycle. The conservation status of each habitat and species was assessed separately for each biogeographical region in which it occurs either at Member State or at European level. The biogeographical approach is an integral part of the Habitats Directive and was used for identifying the habitats and species of Community interest and for the selection of Sites of Community Importance as part of the Natura 2000 network. For the assessment of marine species and habitats four marine regions were used (see 'An overview of Article 17 reporting' for details). For convenience, in the rest of this paper biogeographical refers to both - marine and biogeographical regions.

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<sup>1</sup>For further details see Assessment, monitoring and reporting of conservation status – Preparing the 2001-2007 report under Article 17 of the Habitats Directive (DocHab-04-03/03 rev.3): or Explanatory Notes & Guidelines:

[http://circa.europa.eu/Public/irc/env/monnat/library?l=/habitats\\_reporting/reporting\\_2001-2007/reporting\\_framework&vm=detailed&sb=Title](http://circa.europa.eu/Public/irc/env/monnat/library?l=/habitats_reporting/reporting_2001-2007/reporting_framework&vm=detailed&sb=Title)

<sup>2</sup> For further details see 'Habitats and species covered by the Article 17 report'.

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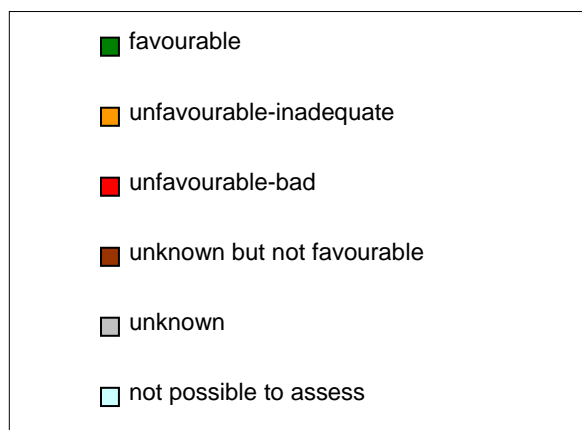
## Overview of methods

This document discusses the biogeographical assessments of conservation status made by the European Topic Centre on Biological Diversity (ETC/BD) based on the data and assessments reported by the Member States. In general the Member State assessments were weighted and aggregated to give a single European assessment per biogeographical region<sup>3</sup>.

At the Member States level the conservation status of each of the four parameters mentioned at the beginning of this document was assessed and the overall conservation status was evaluated according to the evaluation matrix. Four classes of conservation status were used in the Member State assessments: 'favourable', 'unfavourable-inadequate', 'unfavourable-bad' and 'unknown'. The overall conservation status could only be 'favourable' if the status of all four parameters were 'favourable', or if three were 'favourable' and the fourth was 'unknown'. If any of the parameters was 'unfavourable-inadequate' or 'unfavourable-bad' the overall conservation status was 'unfavourable-inadequate' or 'unfavourable-bad'. An assessment as 'unfavourable-bad' indicates a critical situation<sup>4</sup>.

In addition to the four classes of 'conservation status' used by the Member States, the ETC/BD introduced a fifth class - 'unknown but not favourable' - for cases where it was not possible to distinguish between the two levels of 'unfavourable' conservation status. Relatively high significance was given to the 'unfavourable-bad' and 'unknown' assessments. If their weight in the biogeographical region is equal to or exceeds a 25% threshold the overall biogeographical assessment is 'unfavourable bad'. On the other side to evaluate the conservation status at the biogeographical level as 'favourable' the weight of the 'favourable' assessment has to exceed 75% threshold. There were also cases where no regional assessment was possible due to the lack of data<sup>5</sup>. **These are grouped in the category 'not possible to assess'.**

As mentioned above the conservation status of the habitats and species which occur in one or more biogeographical regions was assessed separately for each region. The statistics presented in this document are based on the biogeographical assessments. The graphics use a standard colour scheme to indicate conservation status as shown in figure 1.



**Figure 1 - Legend used in the graphics presented in this document**

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<sup>3</sup> For further details see 'Introduction to Biogeographical assessments'.

<sup>4</sup> For further details see Explanatory Notes & Guidelines:

[http://circa.europa.eu/Public/irc/env/monnat/library?l=/habitats\\_reporting/reporting\\_2001-2007/reporting\\_framework&vm=detailed&sb=Title](http://circa.europa.eu/Public/irc/env/monnat/library?l=/habitats_reporting/reporting_2001-2007/reporting_framework&vm=detailed&sb=Title)

<sup>5</sup> For further details see Guidelines for assessing conservation status of habitats and species at the biogeographic level.

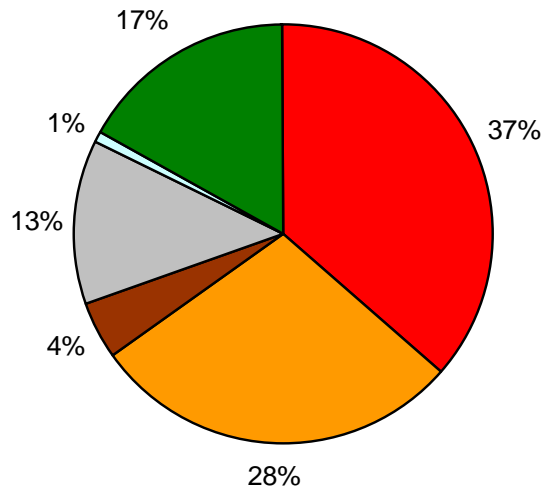
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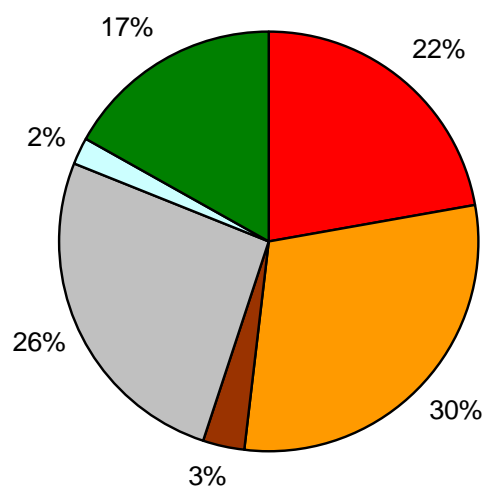
## Overview of results

### Conservation status in the EU25

At the Biogeographical level nearly 70% of 701 Annex I **habitat assessments** are 'unfavourable' and more than half of that number are 'unfavourable-bad', representing almost 40% of the assessments (figure 2). Only 17% of the habitats assessments are 'favourable' at the Biogeographical level.



**Figure 2 - Assessment of conservation status of Annex I habitats**



**Figure 3 - Assessment of conservation status of species**

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More than 50% of all 2 240 **species assessments** are 'unfavourable'; of these, more than 20% are 'unfavourable-bad' (figure 3). In fact, these numbers may be even higher, as a relatively high percentage (26%) of the biogeographical assessments for species are 'unknown'. The percentage of 'unknown' assessments for species is twice that for habitats.

While for habitats there was no particular group with a significantly higher percentage of 'unknown' conclusions, for species the gaps in knowledge are particularly high for several species groups such as for example cetaceans or bats<sup>6</sup>. As with habitats, only 17% of the biogeographical assessments for species are 'favourable'.

The Annexes of the Habitats Directive include habitats and species which are threatened in the European Union, so it is not surprising that high number of the habitats and species are not in 'favourable' conservation status.

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<sup>6</sup> See Data quality and completeness for details.

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## Conservation status in the different biogeographical regions

The conservation status was assessed for all habitats and species in each biogeographical region. Each of the seven biogeographical and four marine regions (Table 1) is characterised by specific climate, landforms and associated vegetation. As environmental conditions strongly influence socio-economical factors, particularly land use, the pressures on biodiversity both in the past and the present differs across the biogeographical regions.

Conservation status tends to be less favourable in the lowland regions with long-term and dense human settlements. For habitats this can be particularly seen in the Pannonian and Atlantic biogeographical regions, where the conservation status is 'unfavourable bad' for almost all of the habitat groups. Species tend to be more unfavourable in the Atlantic and the Continental biogeographical regions. However, given the limitations of the data, a detailed comparison between the regions is not possible. Because of the numerous gaps in the reports for habitats and species in the Mediterranean region many questions are outstanding. The assessments in the Atlantic region are often not possible because of high number of the 'unknown' assessments in Spain and non reported assessments from Portugal for plant species.

Table 1 – Biogeographical and marine regions

Region	Abbreviation used in this report
Alpine	ALP
Atlantic	ATL
Boreal	BOR
Continental	CON
Macaronesia	MAC
Mediterranean	MED
Pannonian	PAN
Marine Atlantic	MATL
Marine Baltic	MBAL
Marine Macaronesia	MMAC
Marine Mediterranean	MMED

### Conservation status of habitats

The proportion of the habitat assessments as 'unfavourable-bad' exceeds 40% in most of the biogeographical and marine regions (figure 4). The percentage of the habitats assessed as 'unfavourable' is more than 70% in most of the terrestrial biogeographical regions.

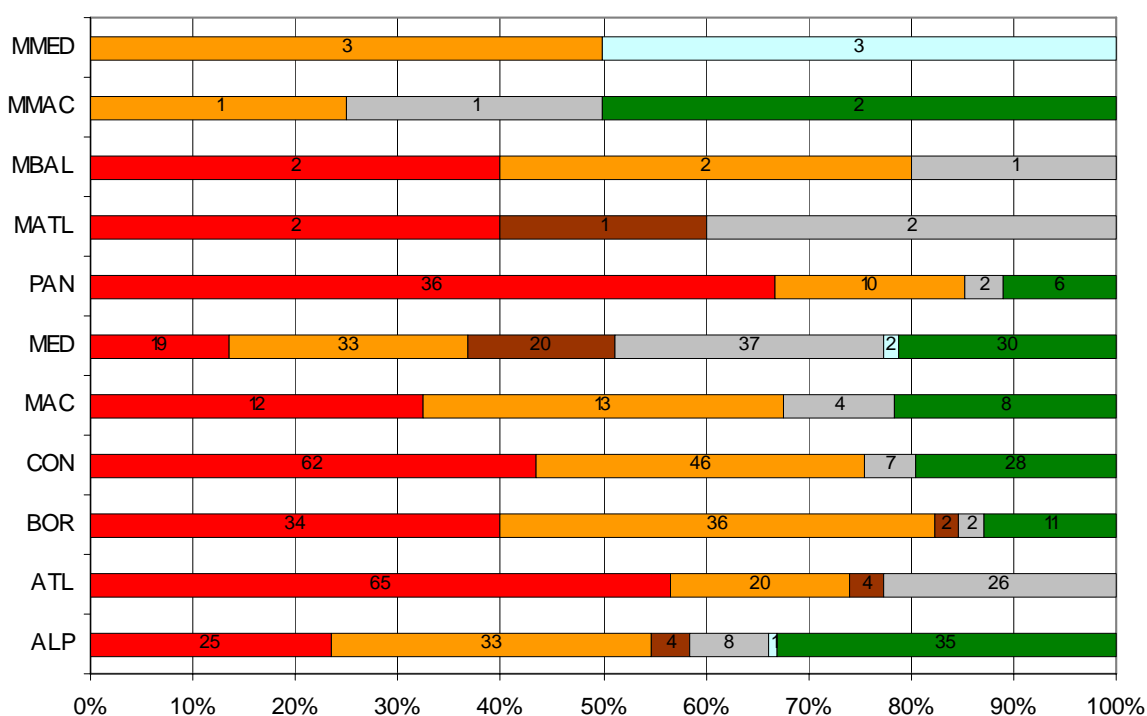
In the **Atlantic** and **Pannonian** biogeographical regions more than 50% of the habitats are assessed as 'unfavourable-bad', this percentage slightly exceeds the percentage in the other biogeographical regions.

The biogeographical assessments in the **Pannonian** biogeographical region are highly influenced by the national assessments from Hungary, which covers the major part of the region. It is one of the countries with the highest percentage of the 'unfavourable bad' assessments for habitats.

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In the **Atlantic** biogeographical region real percentage of 'unfavourable-bad' assessments may be even higher, as more than 20% of the assessments in this region are 'unknown' largely due to the Spanish assessments. At the Member State level the percentage of the 'unfavourable bad' assessments reaches approximately 80% in the United Kingdom and Belgium<sup>7</sup>.



**Figure 4 - Assessment of conservation status of habitats in the different biogeographical regions (numbers in the bars indicate the number of assessments)**

The **Continental** biogeographical region includes much of western and central Europe from the Mediterranean basin to the south and southern Sweden to the north. The natural conditions are not entirely homogenous and the socio – economic factors including the pressures on the natural environment differ across the region. The reported conservation status was better in the south (Italy and partly Slovenia) and north-east (Poland, Germany), especially for habitats. This influences the biogeographical assessment, and the overall results for this region.

After the Pannonian region, the highest percentage of the 'unfavourable' assessments is in the **Boreal** biogeographical region, although the percentage of 'unfavourable bad' is relatively low. The 'unfavourable inadequate' dominates in all of the habitats groups in this region except for grasslands where it is 'unfavourable bad'.

The region with the highest percentage of the habitats where the conservation status was assessed as 'favourable' is the **Alpine** region. The Alpine biogeographical region is spread across five geographical areas and includes several European mountain ranges. The human pressures in mountainous areas

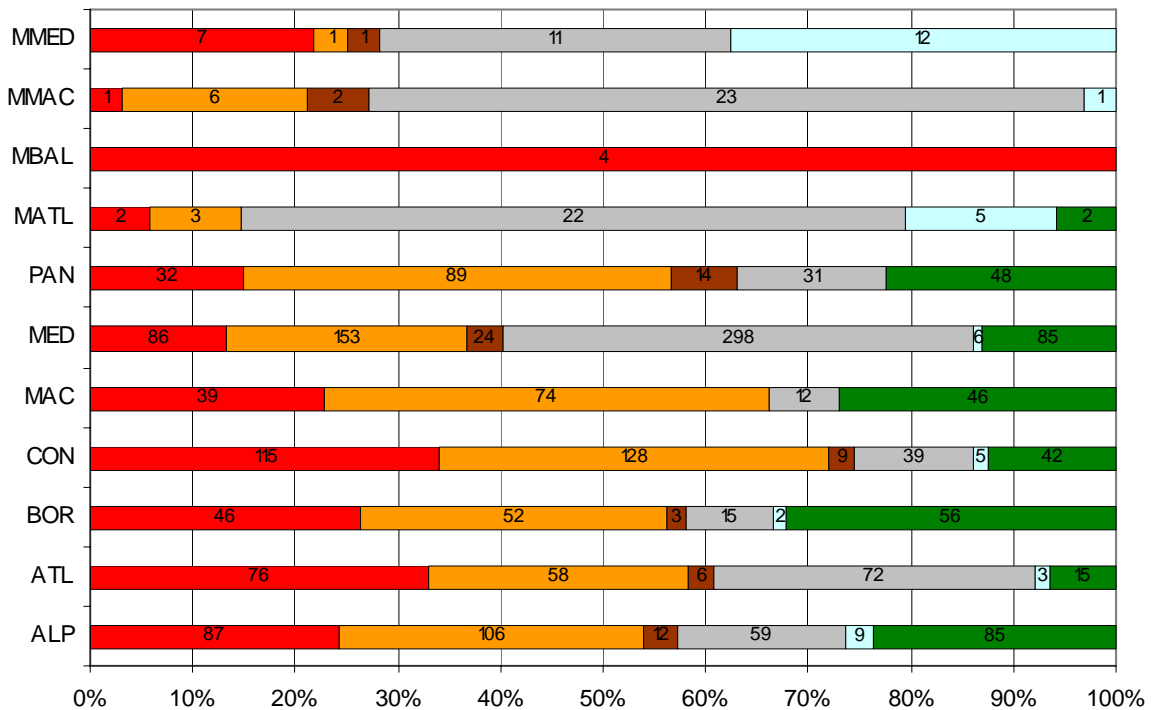
<sup>7</sup> Further information about the conservations status per Member States can be found in the National Summaries.

are typically lower than elsewhere and these areas usually have a long history of protected areas, including national parks and nature reserves. However, for species, the situation in the Alpine region is not very different to the other regions.

The number of **marine habitats** is low with only 6 habitat types, and 1120 \**Posidonia* beds (*Posidonium oceanicae*) only occurs in the Mediterranean. In the Marine Atlantic and Marine Baltic regions two of the five habitats present are assessed as 'unfavourable-bad' and none as 'favourable'. In the Marine Macaronesian and Marine Mediterranean regions none of the habitats are assessed as 'unfavourable bad', although for 3 of the 6 Marine Mediterranean habitats no assessment was possible (figure 4).

### Conservation status of species

The proportion of species assessed as 'unfavourable-bad' exceeds 20% in most of the biogeographical regions (figure 5). This proportion appears to be lower in all the biogeographical regions when compared to habitats, but the proportion of 'unknown' assessments is higher for species. The percentage of those assessed as 'unfavourable' is close to 60% in most of the terrestrial biogeographical regions, excluding the Mediterranean. The numbers are again lower in comparison to habitats but it must be stressed that this is probably because of the higher proportion of 'unknown' assessments.



**Figure 5 - Assessment of conservation status of species in the different biogeographical regions (numbers in the bars indicate the number of assessments)**

For the species the results across the biogeographical regions are much more homogenous in comparison to the habitats and the differences between biogeographical regions are minor.

However the highest percentage of 'unfavourable-bad' assessments are in the **Continental and Atlantic**. The results in the **Atlantic** regions are indicative and both the percentage of 'unfavourable bad' and of 'unfavourable' assessments may be higher, as a relatively high percentage of the assessments are 'unknown' in this region.

The lowest percentage of 'unfavourable-bad' assessments are in the **Pannonian and Mediterranean**.

In the **Mediterranean** biogeographical regions approximately 50% of the species assessments are unknown. The overall percentage of 'unfavourable' assessments is lowest in the Mediterranean region but this is probably due to the very high percentage of 'unknown'.

As noted for habitats, the assessments for the **Pannonian** region are largely influenced by assessments from Hungary. The 'unfavourable-bad' assessments never exceed 20% in the Pannonian region for any of the animal groups; but the percentage of the 'unfavourable' assessments is comparable to the other regions. None of the fish species has an 'unfavourable-bad' biogeographical assessment, but the percentage of 'unknowns' in this group is relatively high. Many species particularly associated with aquatic, wetland and riverine environments such as fish, amphibians, dragonflies or aquatic and wetland molluscs which are often assessed as 'unfavourable bad' elsewhere in western Europe are assessed as 'unfavourable-inadequate' or sometimes even as 'favourable' here.

For species, the percentage of 'favourable' assessments exceeds 20% in the **Boreal, Macaronesian, Pannonian and Alpine** regions and again the difference with the other regions is minor. However, the percentage of species assessed as 'unfavourable' is almost equal in all of the biogeographical regions. Further, in the Alpine region this is combined with a relatively high percentage of 'unknown'.

In the **Macaronesian** region, the statistics for the biogeographical region are largely a result of the assessments for vascular plants, which form the majority of species of community interest in this region. The majority of these plants are endemic to the Macaronesian biogeographical region, with many species endemic to single islands.

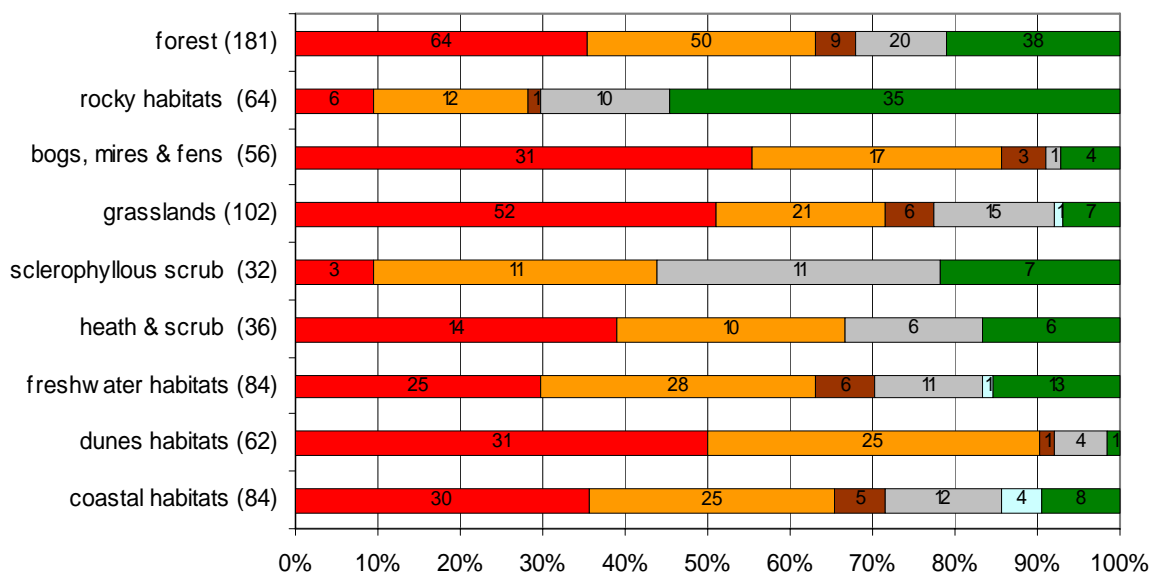
**Marine species** are mostly 'unknown' for all the marine regions except the Marine Baltic region, where they are all 'unfavourable-bad' (figure 5). Only cetaceans and seals listed on Annexes II and IV were reported from this region and all 4 species were assessed as 'unfavourable-bad'.

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## Conservation status of the different habitat groups

Annex I of the Habitats Directive includes a wide variety of habitats which are divided into nine groups of related habitat types such as forests or grasslands. Between these groups, dune habitats, grasslands and bogs, mires and fens seem to be the most threatened.

In all habitat groups, except for rocky habitats and sclerophyllous shrubs, the 'unfavourable-bad' assessments always exceed 30% (figure 6) with the dune habitats, grasslands and bogs, mires and fens tending to have more assessments as 'unfavourable-bad' and 'unfavourable' than the other groups.



**Figure 6 - Assessment of conservation status of habitats by habitat group (the number in brackets indicates the number of assessments in each group)**

The majority of **grassland** habitats are dependant on active management and the abandonment of traditional management leads to negative changes in the species composition and of other structural features. Especially in densely populated agricultural areas, grasslands are threatened by intensification and change of land use. The proportion of 'unfavourable-bad' assessments approaches or exceeds 80% in the Atlantic, Boreal and Pannonian regions and in both the Atlantic and Pannonian biogeographical regions none of the grassland habitats is in 'favourable' status.

**Bogs, mires and fens** require specific hydrological regimes. Apart from the changes in the hydrological conditions many of them are very sensitive to eutrophication for example due to the atmospheric deposition of nitrogenous compounds. The conservation status is 'unfavourable-bad' for more than 80% of the assessments for bogs, mires and fens in the Atlantic and Continental biogeographical regions. Only habitat type 7210 \* Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* is not assessed as 'unfavourable-bad' in these regions. In the Boreal and the Macaronesian biogeographical regions assessments as 'Unfavourable-inadequate' dominate and 'unfavourable bad' are not so frequent. In the Boreal region this may be partly explained by the favourable natural conditions for this habitat group, together with a relatively low level of human pressure.

All **dune habitats** have been assessed as 'unfavourable' except for 2270\* - Wooded dunes with *Pinus pinea* and/or *Pinus pinaster* in the Continental region (only Italy) with more than 50% of dune habitats in the Atlantic and Continental regions being assessed as 'unfavourable-bad'. Many Member States report developments related to tourism as threats and pressures for this habitat group.

By contrast, the percentage of 'unfavourable' assessments is lowest in the groups of **rocky habitats** and **sclerophyllous shrubs**. In the case of the later this is associated with the highest percentage of the 'unknown' assessments (approximately 35%) so in fact the percentage of 'unfavourable' assessments is probably higher. For the rocky habitats more than 50% of the assessments are 'favourable'. Except in the Atlantic biogeographical region the percentage of the 'favourable' assessment usually exceeds 70% across the biogeographical regions. The exception to this is 8340 - Permanent glaciers, restricted to the Alpine region and reported as 'unfavourable-bad' by all 7 countries. The reduction in length and volume of glaciers is usually attributed to climate change.

The percentage of 'unfavourable bad' assessments is higher in dune habitats, grasslands and bogs, mires and fens and this is true for all biogeographical regions. The highest percentage of 'unfavourable bad' assessments in **forests** occurs in the Macaronesian and Pannonian regions.

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## Conservation status of the different species groups

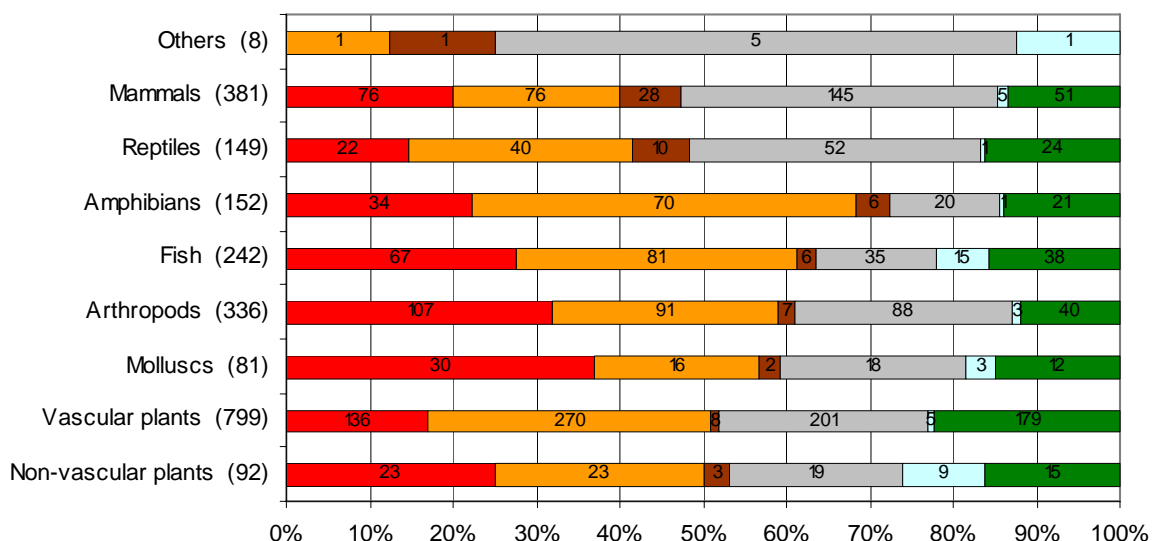
In all species groups, except for vascular plants and reptiles, the 'unfavourable-bad' assessments always reaches or exceeds 20% (figure 7), exceeding 30% for both invertebrate groups (molluscs, arthropods). The percentage of 'unfavourable' assessments is greater than 50% for all the species groups except mammals and reptiles.

While for habitat groups the percentage of an 'unfavourable-bad' assessments ranges from 9% to 55% and the percentage of 'favourable' assessments from 2% to 55%, there is much less variation between the different species groups. Compared to habitats, the percentage of species assessments as 'unknown' is much higher.

Because of the low variability and high percentage of 'unknown' it is not possible to compare the species groups. The species groups are heterogeneous, including species with differing ecological requirements occurring in different environments. The conservation status may not differ between the taxonomic groups but if the species were analysed by the ecological groups it might be possible to indicate groups, which are particularly threatened.

**Mammals** and **reptiles** are the species groups with highest percentage of 'unknown' assessments. Although the percentages of 'unfavourable' and 'unfavourable-bad' assessments seems to be slightly lower in comparison to other animal groups this is due to a higher percentage of 'unknowns' particularly amongst the Annex IV cetaceans and bats. For reptiles, there is a high percentage of 'unknown', particularly in the Mediterranean biogeographical region <sup>8</sup>.

The highest percentage of 'unfavourable-bad' assessments (more than 35%) is in the group of **molluscs**, although given the data quality the difference from other species groups is not significant. Half of the assessments in the subgroups of marine and freshwater molluscs are 'unfavourable-bad'; the conservation status of terrestrial snails seems to be better. The major threat for aquatic molluscs is water pollution and destruction of habitats.



**Figure 7 - Assessment of conservation status of habitats by habitat group (the number in brackets indicates the number of assessments in each group)**

<sup>8</sup> For more details see 'Data completeness, quality and coherence'.

The other groups where the percentage of 'unfavourable-bad' assessments exceed 30% is the **arthropod** group. Within this group many species are associated with threatened grasslands and wetlands; the order *Orthoptera* seems to be in better conservation status with only 10% of unfavourable-bad assessments with assessments as 'unfavourable-inadequate' most frequent. Although these insects occur mostly in grassland and ecotonal habitats, they are in general less sensitive to successional changes than other grassland insect such as butterflies. Assessments as 'unfavourable-bad' exceeds 35% for other orders of arthropod.

The highest percentage of the 'favourable' assessments is for **vascular plants**, where more than 20% of the assessments are favourable and less than 20% 'unfavourable bad'. This group includes a large number of endemics.

As with habitat types, there are regional differences in the proportion of assessment of conservation status in each species group. Molluscs and Arthropods belong to the most threatened groups in most regions. In the Macaronesian region the highest percentage of 'unfavourable-bad' assessments are for the mammals, while in the Pannonian region vascular and non-vascular plants have the highest percentage of 'unfavourable-bad' assessments.

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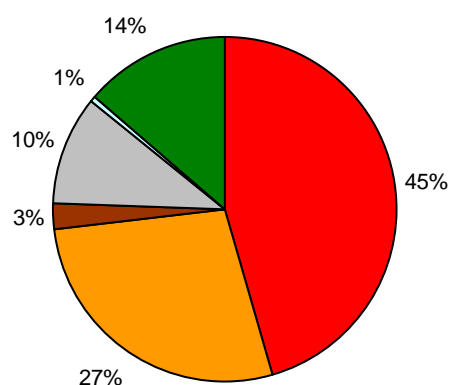
## Priority and non-priority habitats and species

The priority habitats and species have a particular status within the Habitats Directive. Priority status is given where conservation action is thought to be particularly necessary. In general the conservation status of the priority habitats was more often evaluated as 'unfavourable bad' in comparison to the non-priority habitats, with exception of some habitat groups. The conservation status of the priority and non-priority Annex II species does not differ. However it is hard to judge whether it is a general tendency or the artefact connected with the data quality and the method of aggregating Member State reports.

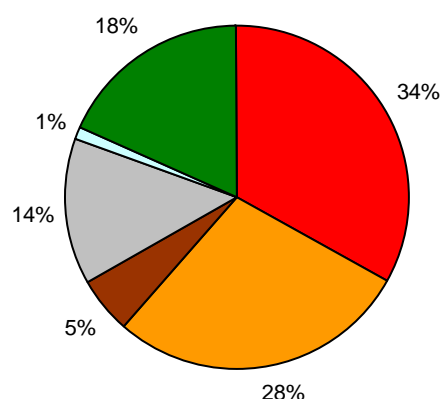
### Priority habitats

Out of 216 habitats 67 had priority status and 149 are non-priority habitats. The conservation status of the priority habitats seems to be worse than for non-priority habitats. More priority habitat assessments are 'unfavourable bad' or 'unfavourable' (figure 8), although in both cases the difference is only about 10%.

#### Priority habitats (67)



#### Non-priority habitats (149)



**Figure 8 - Assessment of conservation status of priority (left) and non priority (right) habitat.**

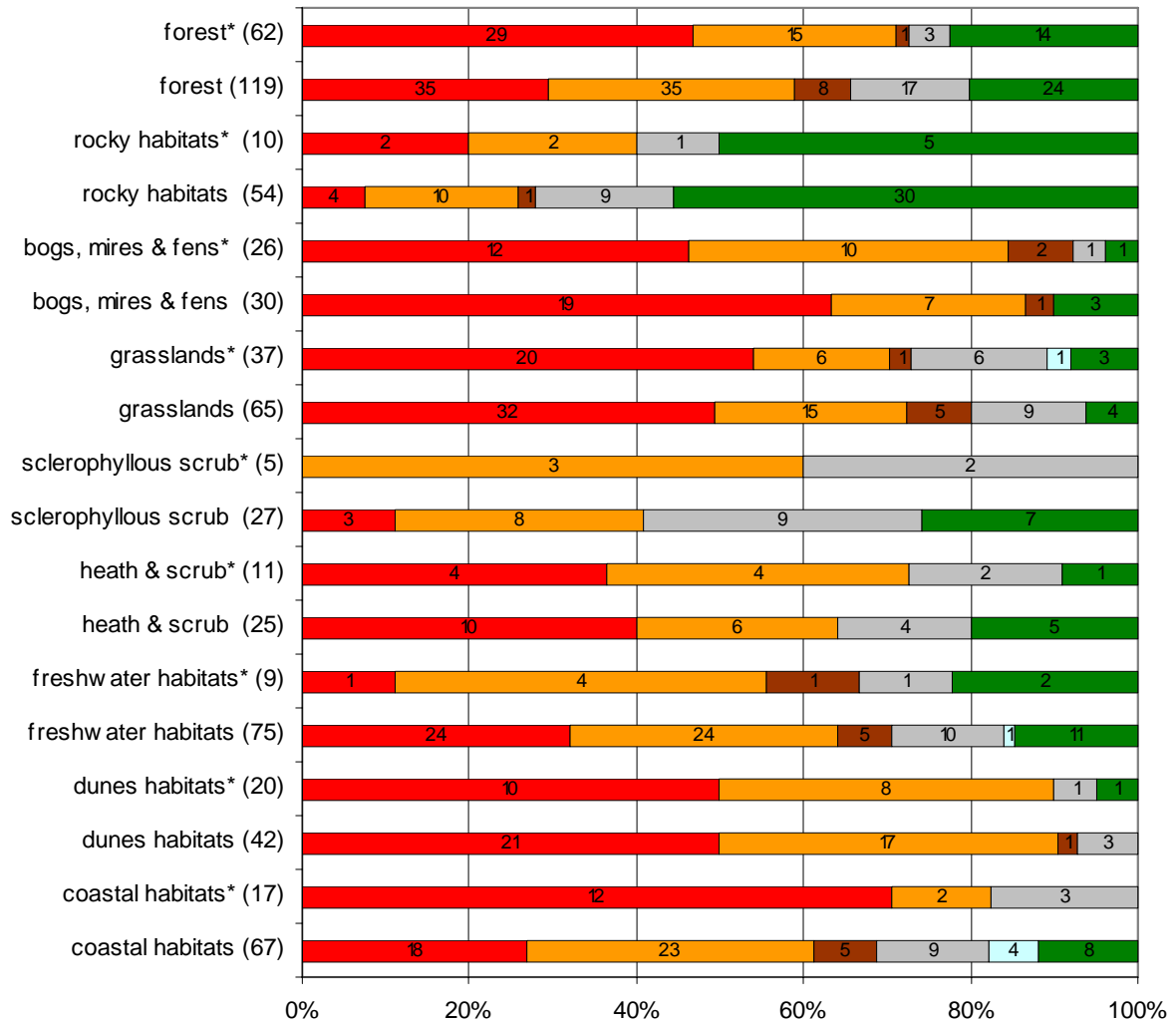
A higher percentage of 'unfavourable-bad' assessments for the priority habitats in comparison to the non-priority can be seen for **coastal and halophytic habitats** and **forest habitats** (figure 9).

For the **coastal and halophytic habitats**, 7 out of 28 habitat types are included as priority habitats and more than 70% of assessments are 'unfavourable-bad', compared to less than 30% for the non-priority habitats. None of the priority habitats in this group was assessed as 'favourable' and 'unfavourable bad'



assessments dominate across the biogeographical regions for almost all priority coastal habitats<sup>9</sup>. As habitats were selected for priority status because they were known to be especially threatened it is not surprising they generally have a bad conservation status. However there are coastal and halophytic habitats which do not have priority status but where 'unfavourable bad' assessments prevail across the biogeographical regions.

Almost half of the assessments in the group of priority forests are 'unfavourable-bad' compared to 30% of the assessments for the non-priority forests and "unfavourable-bad" assessments prevail across all regions for most of the forest habitat types, particularly for the forests of boreal and temperate Europe.



**Figure 9 - Assessment of conservation status of priority and non priority habitats in different habitats groups. Habitat types, that can have either priority or non-priority form are considered as priority habitats. The priority habitats are indicated by \*. They are compared to the non-priority habitats. The numbers in brackets indicates the number of the biogeographical assessments in each group**

<sup>9</sup> See Overview of biogeographical assessments

The percentage of the priority **rocky habitats** which are 'unfavourable-bad' or 'unfavourable' seems to be higher than of non- priority. This comparison could be due to the quality of the data and the proportion of the 'unknown' assessment misleading, as only 2 out of 14 rocky habitats have priority status. In general the conservation status of the rocky habitats is better in comparison to the other habitat groups and only 5 habitats including both priority habitat types were assessed 'as unfavourable bad' in one or more regions.

By contrast for **bogs, mires and fens** the conservation status of the priority habitats is better than of the non-priority (*i.e.* fewer 'unfavourable bad' assessments). The bogs, mires and fens are in general threatened habitats and in many countries, various conservation measures are frequently in place, which may result in the relatively better conservation status of the priority habitats in this group (figure 7). This group is fairly small with only 12 habitats (including 7 priority) and the difference between the priority habitats and non- priority habitats is mainly due to habitat 7210 \*Calcareous fens with *Cladium mariscus* and species of the *Caricion davallianae* which is assessed as 'unfavourable-inadequate' in almost all regions. More than a dozen Life<sup>10</sup> projects have focused on this habitat type.

The group of **freshwater habitats** is also small and only 2 out of 18 habitat types have priority status. Only one of them, the priority habitat Turloughs was assessed as 'unfavourable bad' in the Boreal biogeographical region, where it is present only in Estonia and threatened by mainly due to water pollution. The sclerophyllous scrubs are one of two habitat groups with the lowest percentage of the 'unfavourable-bad' assessments. None of the priority habitats within this group has been assessed as 'unfavourable-bad'.

The percentage of assessments as 'unfavourable-bad' is highest amongst the **dune habitats** where only one of the assessments is 'favourable'; - the priority habitat 2270\* Wooded dunes with *Pinus pinea* and/or *Pinus pinaster* in the Continental biogeographical region, only present in Italy.

### Priority species

Annexes II, IV and V of the Habitats Directive list the species for which the measures of the Directive apply. The priority status only concerns Annex II species; therefore, the following section only compares the conservation status of priority and non-priority Annex II species. There are 250 priority and 621 non-priority Annex II species<sup>11</sup>.

In general there are negligible differences between the conservation status of priority and non-priority Annex II species (figure 10).

In half of the species groups (**molluscs, amphibians, reptiles and non-vascular plants**) the number of the priority species in comparison to the number of the Annex II species is generally small. Although according to Figure 11 the percentages of 'unfavourable bad' or 'unfavourable' assessments ' may seem to differ between the priority and non-priority species given the number of the priority species this difference may be due to one assessments. Also the quality of the data is limited and the proportion of 'unknown' is high, so a simple comparison of the priority and non- priority species may be in this case misleading.

Three of four assessments in the group of priority **molluscs** are 'unfavourable-bad'.

Only one of 8 assessments is 'unfavourable-bad' for priority species in the group of **non- vascular plants**; - the liverwort *Marsupella profunda* in the Atlantic biogeographical region.

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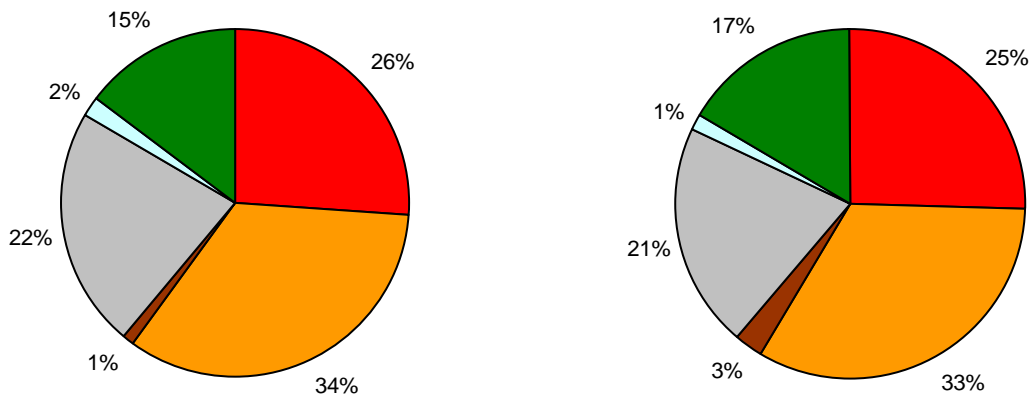
<sup>10</sup> L'Instrument Financier pour l'Environnement, see <http://ec.europa.eu/environment/life/index.htm>

<sup>11</sup> The species which are listed in the Annexes of the Directive at genus level are counted as they were reported e.g. all of the species of *Barbus* spp. which were reported are counted.

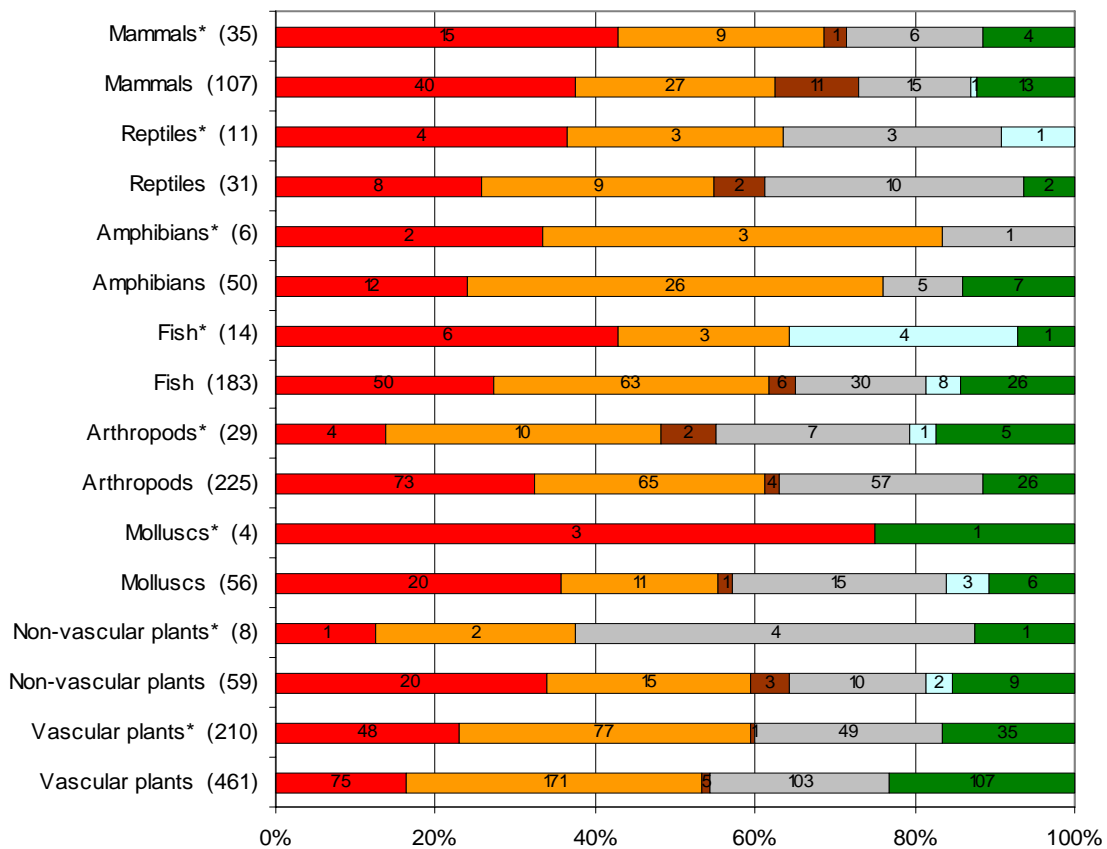
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**Priority species (250)**

**Non-priority Annex II species (621)**



**Figure 10 - Assessment of conservation status of priority and non-priority species Annex II species.**



**Figure 11 - Assessment of conservation status of priority and non priority Annex II species in different species groups. The priority species are marked by \*. They are compared to non-priority Annex II species. The numbers in brackets indicates the number of the biogeographical assessments for each group**

In the arthropod, fish, mammal and vascular plant groups, where larger proportions of species have priority status, the conservation status of the priority species is slightly better for the **arthropods** and only if just 'unfavourable-bad' assessments are considered. There are 10 priority arthropods out of 100 in Annex II. Assessments as 'unfavourable-inadequate' dominate and most of the priority species are never in 'unfavourable bad' conservation status at the biogeographical level. However there are many non-priority arthropods assessed 'as 'unfavourable bad' in most of biogeographical regions.

The conservation status of the priority **fish** species seems to be worse (more 'unfavourable bad' assessments) than of non-priority species. Again the numbers are small and the comparison may be questioned. However, a high proportion of 'unfavourable-bad' assessments for priority fish is mainly due to the conservation status of priority species of *Acipenseridae*. These long lived fish are threatened particularly due to destruction of the spawning habitats, water pollution and fishery.

The conservation status of priority and non-priority **mammals** and **vascular plants** does not seem to differ.

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## Differences in conservation status of species related to Annexes

**Annex II** and **Annex IV** of the Habitats Directive list the species which are considered most threatened in the European Union. Species listed in Annexes differ in the conservation measures. Annex IV species are strictly protected throughout their range while Annex II species are protected by the designation of SCI/SAC, many species are listed on both annexes. Annex II includes in total 871 and Annex IV 964 species<sup>12</sup>. Generally the conservation status of the Annex II and Annex IV species do not differ (figure 12), and this is also true for most species groups. However the conservation status of Annex IV mammals and reptile species seems to be better than of those listed in Annex II. In the mammals this is because of the large proportion of assessments as 'unknown' for cetaceans and bats. Annex IV includes many species of lizards and snakes, which are not included in the Annex II, many of them endemic species and these species are in general responsible for the better conservation status of Annex IV reptiles. In contrast to this for Annex IV fish species the percentage of 'unfavourable-bad' assessments is higher than for Annex II fish species. The number of the Annex IV fish species is relatively low. Beside the Annex II priority species, it includes three others species, for 2 of them and also well for Annex II priority *Acipenseridae* 'unfavourable-bad' assessments dominate across the biogeographical regions.

**Annex V** of the Habitats Directive lists species whose wild populations can be exploited but whose exploitation may need to be controlled. Annex V lists approximately 101 species<sup>13</sup>. Many of them are also included in Annex II, for example several species of fish. The conservation status of these species might, in general, be expected to be better than that of the strictly protected species of Annex IV, or those of Annex II which require designation of protected areas. In general the conservation status of Annex V species appears to be better particularly in comparison to the Annex II species (figure 12) and the proportion of assessments as 'unfavourable-bad' and 'unfavourable' are lower. This is especially the case of those species which are not also listed on Annex II, where only 10% of the species are in an 'unfavourable-bad' conservation status and less than 40% are 'unfavourable'.

For the Annex V species assessments as 'unfavourable bad' dominate in the groups of Annex V algae, Annex V freshwater crayfish, Annex V freshwater mussels and Annex V marine mammals<sup>14</sup>. The percentage of 'unfavourable-bad' assessments is high for the Annex V fish, 20% of the fish which are not included in the Annex II are assessed as 'unfavourable bad'.

Considering the species which are included in the Annex V but are not also included in Annex II the percentage of 'unfavourable' assessments is 50% or more for molluscs, arthropods, fish and amphibians (figure 13). In general, species which are listed on Annex V but not on Annex II are species where, according to the Habitats Directive, any exploitation should be regulated if the conservation status is not favourable, and as they are not listed in the Annex II of the Habitats Directive, they are not regarded as particularly threatened. However the percentage of assessments as 'unfavourable' is relatively high, particularly in the groups noted above.

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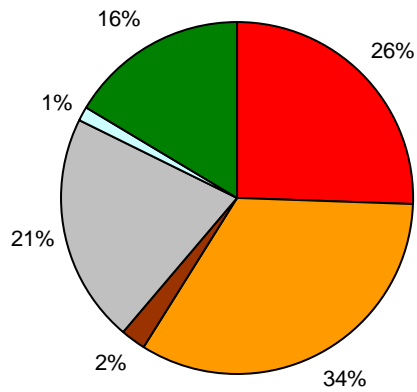
<sup>12</sup> The species which are listed in the Annexes of the Directive at genus level are counted as they were reported eg all of the species of *Barbus* spp. which were reported are counted.

<sup>13</sup> The species which are listed in the Annexes of the Directive at the genus level (excluding genera *Lycopodium*, *Sphagnum* and *Cladonia* subgenus *Cladina*) are counted as they were reported eg. all of the species of *Barbus* spp. which were reported are counted individually.

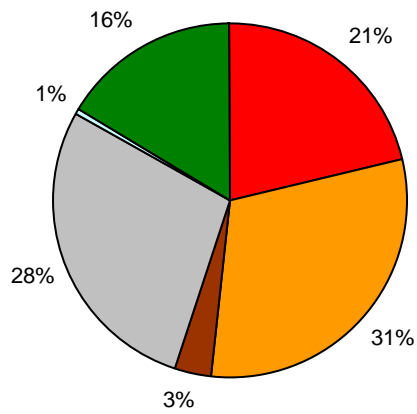
<sup>14</sup> See Overview of biogeographical assessments.

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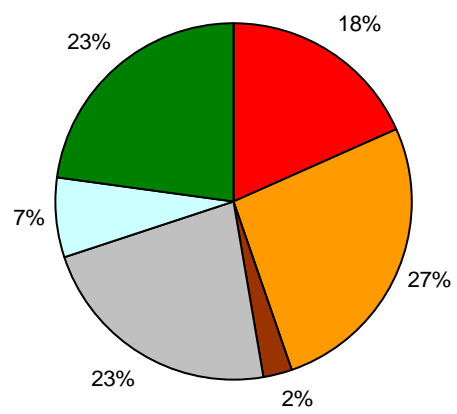
### Annex II species (871)



### Annex IV species (964)

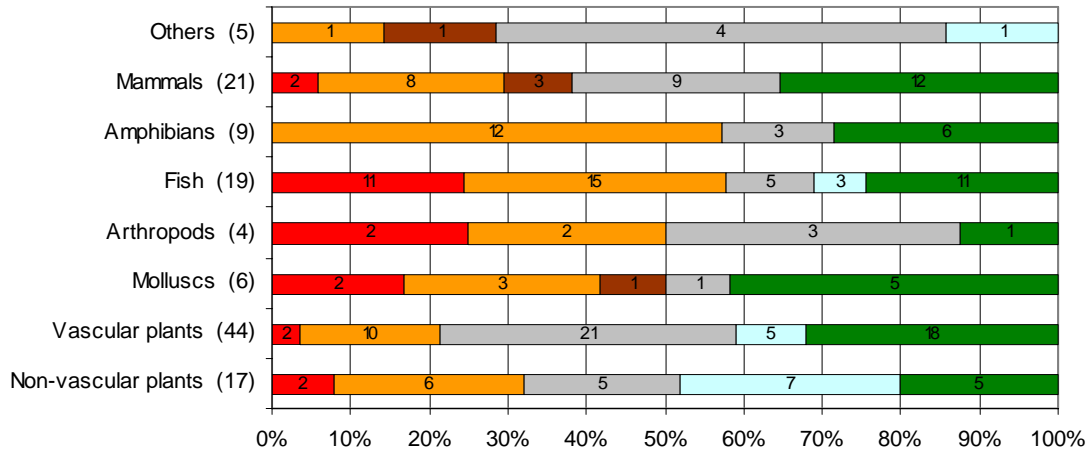


### Annex V species (101)



**Figure 12 - Assessment of conservation status of Annex II, Annex IV and Annex V species.**

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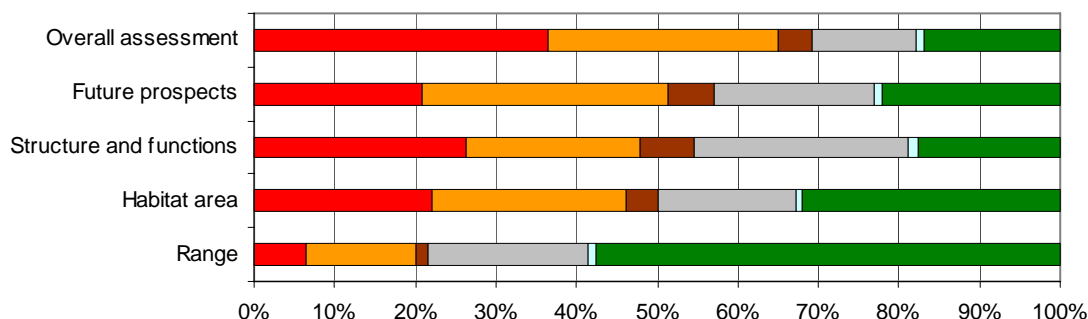
**Figure 13 - Assessment of conservation status of Annex V species that are not listed on Annex II by species group.**

## Conservation status of the individual parameters

As described above, the conservation status of a habitat or species is composed of four parameters. For habitat types these are: Range, Habitat area, Structure and functions and Future prospects. The status of the range reflects sufficiency of the range area and the range trend. The status of the habitat area beside the sufficiency of the area and trend includes spatial distribution of the habitat. Structure and functions includes the status of typical species and other components of the habitat and an evaluation of the ecosystem processes. For species, status of the population and trends includes the structural characteristics of the population such as sex and age structure, or dispersion of the populations in space as well as population size. The third parameter for species reflects the quality, area and trend of the habitat used by the species. Future prospects give an evaluation of the future viability of a habitat or species based on the status of the previous 3 parameter and known pressures and threats.

For habitats the assessment for range was 'favourable' in more than 50% of all assessments (figure 14). For most habitat types, range was not a limitation and the parameters determining conservation status were Habitat area, Structure and functions and Future prospects. If the range was assessed as 'unfavourable-bad' then the other parameters are usually also 'unfavourable-bad'.

Structure and functions was the parameter with the highest number of 'unknown' assessments. This parameter is more complex and requires a good understanding of the ecology of the habitat for the assessment, which is often lacking. 'Unknown' or 'not possible to assess' were particularly frequent for this parameter in Italy, Spain and Austria.

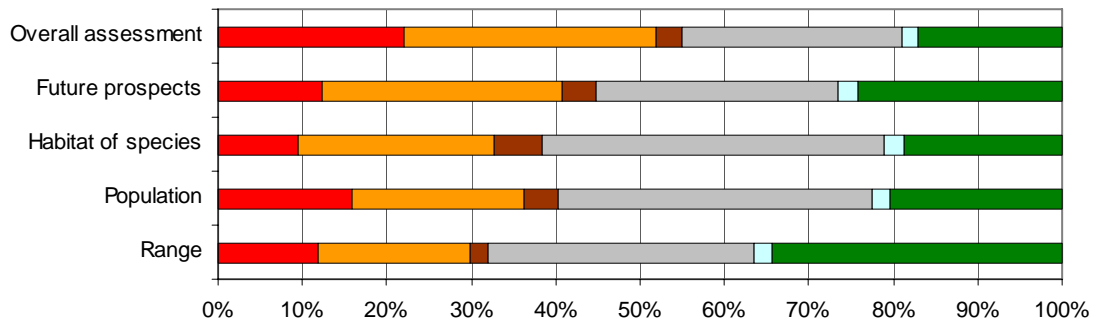


**Figure 14 - Assessment of conservation status of individual parameters - habitats**

For species, although range is more frequently 'favourable' than other parameters, the difference is not so marked as for habitats (figure 15). Conversely, there is a high number of species where 'unfavourable-bad' or 'unfavourable-inadequate' assessments are due to the decrease or insufficiency in the population size or the spatial extent of the species (represented by range). There are also many species where the major problem is the deterioration of the structures and functions of the habitat or future prospects.



The percentage of 'unknown' assessments is high for all parameters, for Habitat of the species the sum of the 'unknowns' and 'not possible to assess' is almost 50% and for the other parameters varies from approximately 35% to 45%.

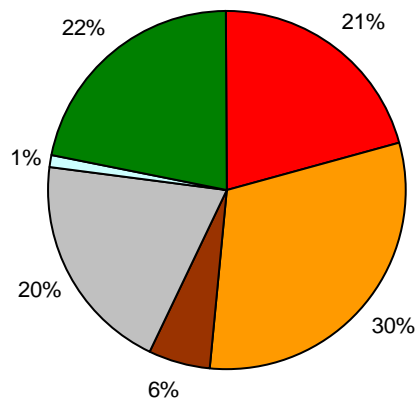


**Figure 15 - Assessment of conservation status of parameters - species**

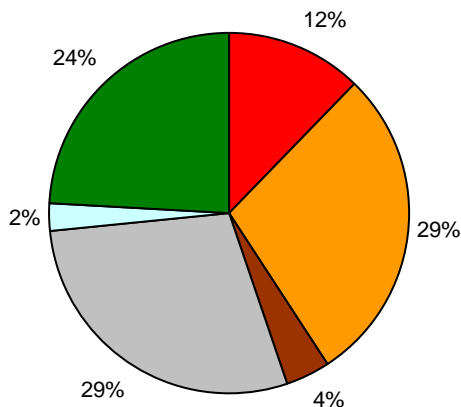
## Future Prospects

Future prospects is one of the four parameters of conservation status. While the four parameters are equal in their influence on the overall conservation status, the conservation status can be 'unfavourable-bad' even if the future prospects are 'unfavourable inadequate' or 'favourable'.

Future prospects are 'unfavourable' for more than 50% of the habitat assessments; and they are 'unfavourable-bad' for 20% (figure 16). For species, the percentage of 'unfavourable' assessments is lower than for habitats, but this is mainly due to the increased percentage of 'unknown' (figure 17). The proportion of the species with 'unfavourable-bad' future prospects is lower than for habitats, only 12%.



**Figure 16 - Assessment of future prospects of habitats**



**Figure 17 - Assessment of future prospects of species**

Table 2 shows the percentage of the different assessments for Future prospects for habitats and species with overall assessments as Favourable, Unfavourable-inadequate and Unfavourable-bad. If the overall conclusion is 'Unfavourable-inadequate' the future prospects are the same for 66% of habitat

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and 73% of species assessments and if the overall conclusion is 'unfavourable-bad' the Future prospects are the same for 57% of habitats and 55% for the species.

**Table 2 - Percentage of 'future prospects' assessments for habitats and species with an overall assessment Favourable, Unfavourable-inadequate and Unfavourable-bad.**

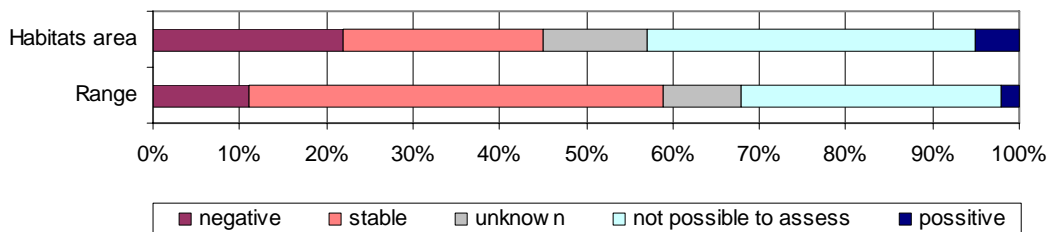
Overall assessment of conservation status	Assessment of the future prospects	Percentage habitats	Percentage species
Favourable	Favourable	93	98
	Unknown or not assessed	7	2
Unfavourable inadequate	Favourable	19	14
	Unfavourable inadequate	66	73
	Unfavourable bad (erroneous overall conclusion)	1	0,1
	Unknown but not favourable	4	3
	Unknown or not assessed	12	10
Unfavourable bad	Favourable	2	3
	Unfavourable inadequate	32	30
	Unfavourable bad	57	55
	Unknown but not favourable	5	4
	Unknown or not assessed	5	7

The relationship between the future prospects and the overall conservation status is tight. In the case of overall 'unfavourable' assessments the future prospects are mostly unfavourable, only approximately 20% of the habitats and the species in 'unfavourable conservation status has 'favourable' future prospects.

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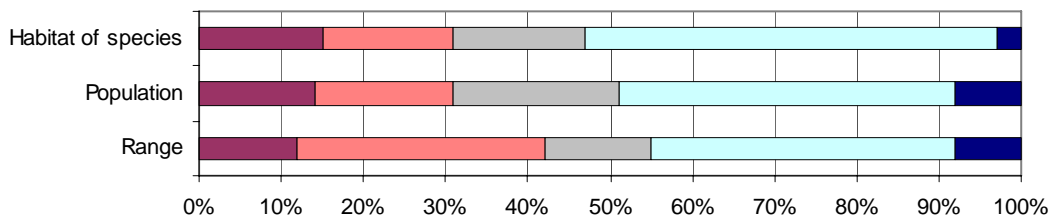
## Trends

Trends are a component of conservation status. The conservation status of a parameter cannot be favourable, if its trend is decreasing<sup>15</sup>. For habitats, trends for range and habitat area were evaluated. In the reporting format these trends are obligatory information, while the trend magnitude is optional. This limits the possibility to aggregate the trends in the biogeographical assessments, because without the trend magnitude it is difficult to determine the significance of the trend from the biogeographical perspective. So at the biogeographical level the trend was calculated only when the Member state evaluations were all the same. In some cases even if the Member States evaluations were not coherent the trends were estimated based on expert judgment.



**Figure 18 – Trend assessments - habitats**

It was possible to calculate the range trend for a region for 70% of the habitat assessments, the percentage of the assessments for which it was possible to determine the habitat area trend was lower (figure 18). The conservation status of the range is 'favourable' for more than 50% of the assessments (figure 14). In 80% of 'favourable' biogeographical assessments of the range the trend is stable or increasing, for favourable assessments of the habitat area it is 70%. Positive or stable trend is associated with approximately 15% of 'unfavourable' range assessments and 10% of 'unfavourable' habitat area assessments. For the 'unfavourable' assessments the trend is clearly decreasing only in about 40% of the assessments for both range and trend area. These numbers may differ as for almost half of the assessments it was not possible to evaluate the trend at the biogeographical level



**Figure 19 – Trend assessments - species**

<sup>15</sup> Habitat type 7120 is an exception to this general rule

For species it was possible to assess trends only for approximately half of the assessments for all three parameters (figure19). As for habitats, a positive or stable trend was closely associated with 'favourable' assessments. If the conclusion for a parameter is favourable the trend is stable or increasing in approximately 70% assessments for the range, 65% for the population and 55% for the habitat of the species. In the case of the 'unfavourable' assessment the trend is increasing or stable for almost 25% of the assessment for the range, 20% for the population and 15% for the habitat of species. If the status of the parameter was 'unfavourable' the trend was clearly decreasing in about 30% of the assessments for all three parameters. But again these numbers may differ as for almost half of the assessments it was not possible to evaluate the trend at the biogeographical level.

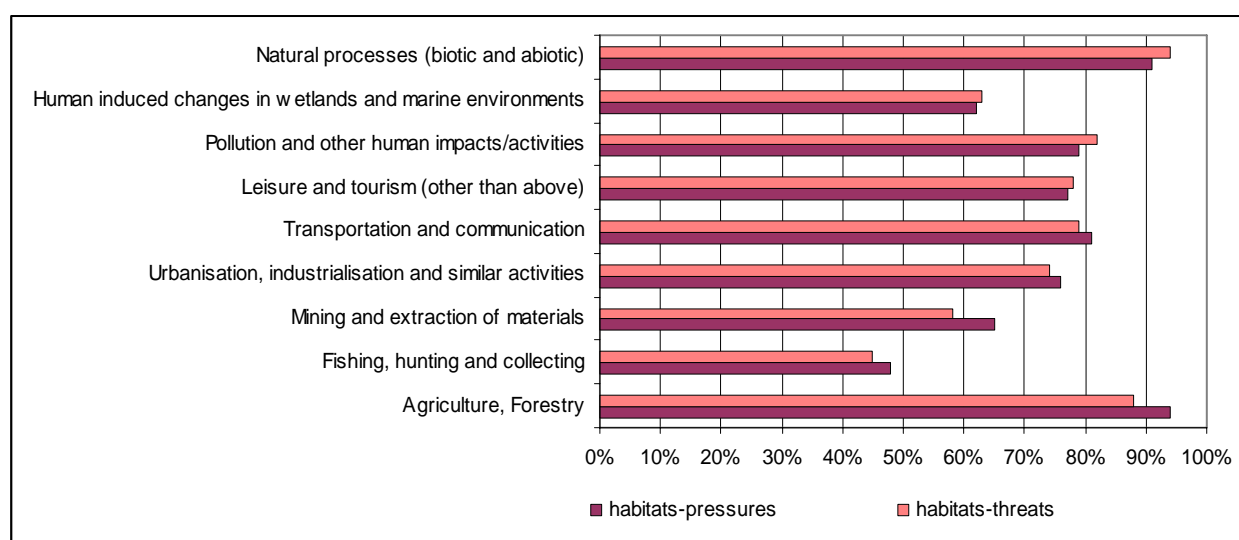
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## Pressures and threats

The main objective of the Article 17 reporting was to assess the conservation status of all the habitats and species of Community interest. This included the identification of the major pressures and potential future threats to the habitat or species populations. The type and the intensity of the pressures were then considered as a factor in the member State assessment of the future prospects.

The pressures and threats section of the reporting framework requires further harmonisation within the Member States<sup>16</sup>. The list pressures and threats reported by the Member States in some cases includes only few most significant activities or processes on the other hand sometimes it was a comprehensive list of all pressures which are negatively affecting the habitat or species populations.

The figures below show the percentage of the habitats or species for which a given group of activities or processes were reported as a pressure or potential threat by at least one of the Member States in at least one biogeographical region. The pressures included in the reporting format were grouped into 9 categories using a typology originally developed for the Standard Data Forms<sup>17</sup>.



**Figure 1 - Frequency (%) of pressures and threats reported for habitats (see text for details)**

'Agriculture and forestry' and 'Natural processes' dominate for both pressures and threats for habitats (figure 1). The high frequency of 'Agriculture and forestry' is not surprising as the habitats of potential agricultural or forestry interest represent a very high proportion of the habitats present in the Member States. Within this group abandonment of pasture, grazing (both over and under grazing) and fertilisation are the major pressures and threats for the agricultural habitats. General forestry management and forest planting represents the major pressures and threats to the forest habitats.

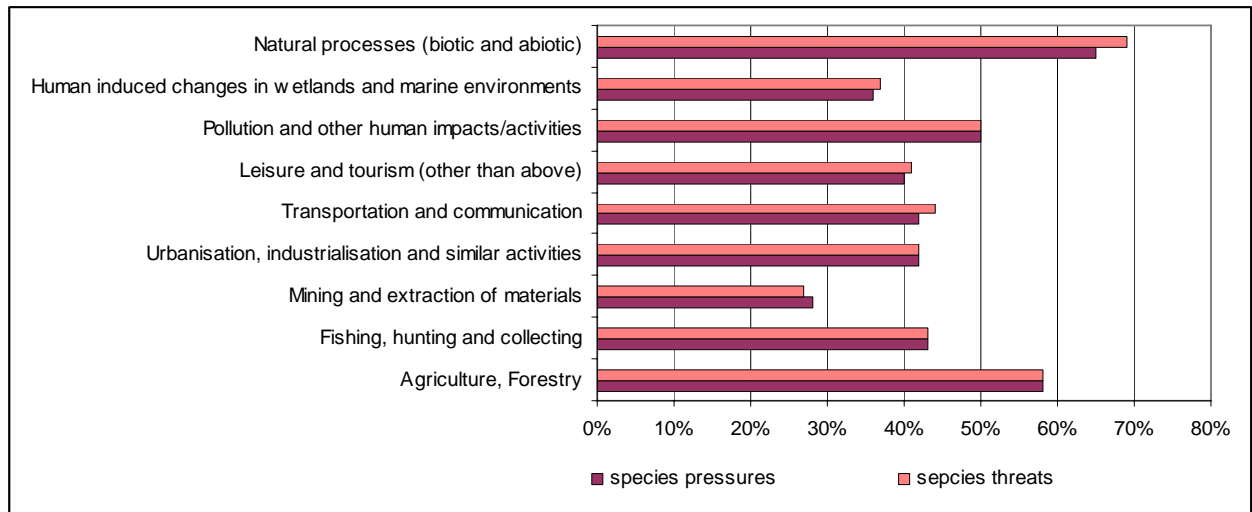
Many of the habitats included in the Annex I of the Habitats Directive do not represent the climax vegetation of given biogeographical region. As the result of various human activities the character of

<sup>16</sup> See Data completeness, quality and coherence

<sup>17</sup> See Appendix E to the Explanatory notes for the Natura 2000 Standard Data Form

[http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/standarddataforms/notes\\_en.pdf](http://ec.europa.eu/environment/nature/legislation/habitatsdirective/docs/standarddataforms/notes_en.pdf)

the environment is changing, for example the chemical composition of the atmosphere or water due to pollution, competitive relationship due to introduction of non indigenous invasive species or even due to changes of the level of nutrients in soil. The 'pressures' which correspond to above mentioned processes (biocenotic evolution, eutrophication, and invasion by species) were the pressures or threats most frequently reported within the group of 'Natural processes'.



**Figure 2 Frequency (%) of pressures and threats reported for species (see text for details)**

'Agriculture and forestry', 'Natural processes', and 'Pollution and other human impacts/activities' represent major pressures and threats to species. Many species are associated with forests or semi-natural agricultural habitats or are affected by changes of this component of the landscape. General forestry management, abandonment of the pastures, modification of the cultivation practices, removal of the dead and dying trees, removal of the hedges, fertilisation and the use of pesticides are the most frequent pressures and threats from the category, 'Agriculture and forestry'. The last mentioned points to other group of threats and pressures, which is 'Pollution and other human impacts/activities'. Here it is mainly the water pollution which represents significant threat and pressure to the species populations. From the group of 'Natural processes' processes mainly eutrophication and drying out threaten the habitats of the species either in present or potentially in the future. Predation, species invasion and antagonism from the introduced species are major pressures and threats to the species populations.