

HABITATS DIRECTIVE ARTICLE 17 REPORT (2001 – 2006)

SOME SPECIFIC ANALYSIS ON CONSERVATION STATUS

This paper is part of the web-based Article 17 Technical Report (2001-2006)
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ETC/BD, Paris, 2008

Some specific analysis on conservation status

This paper examines a few themes arising from the Article 17 reports, discussing the conservation status of agricultural habitats, of species with restricted distributions, the possible role of the EU LIFE programme and a discussion of climate change.

Contents

| | |
|---|----|
| Conservation status of habitats linked to agriculture | 2 |
| Species with restricted distribution | 7 |
| LIFE and improving conservation status | 9 |
| Habitats and species affected by climate change | 10 |
| Appendix 1 - Species of Annexes II, IV & V which have a very restricted distribution in EU25 | 14 |
| Appendix 2 - Habitats and species where climate change effects reported trends in range, area and/or population | 18 |

Conservation status of habitats linked to agriculture

Ostermann (1998)¹ listed Annex I habitats he considered to be dependent on agriculture, for example grasslands dependent on extensive grazing. This list has been revised by the EEA-ETC/BD² to include habitats added to the annex in 2004 when 10 new Member States joined the European Union. The proportion of assessments for biogeographical regions falling into each class ('Favourable', etc) was calculated for these habitats and of the non-agricultural habitats and the results are shown in [Figure 1](#).

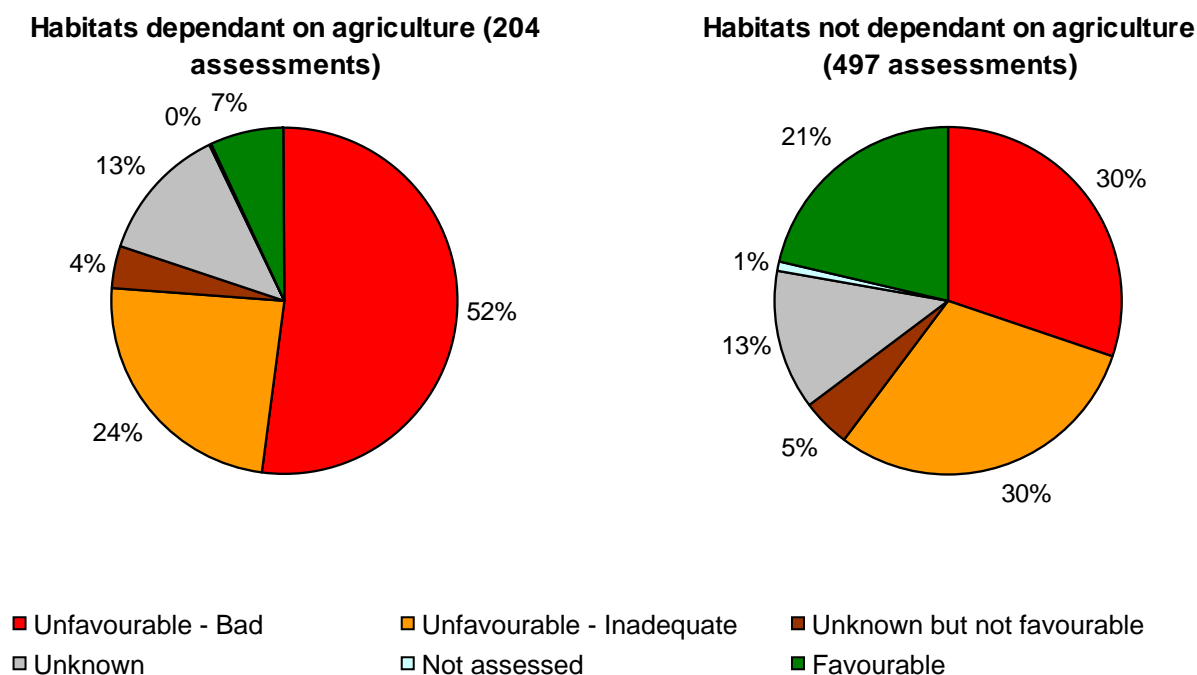


Figure 1 - Conservation status of habitats dependent (left) or not dependent (right) on agriculture (see text for details)

It is clear that the habitat types linked to agriculture, in general, have a worse conservation status with only 7% favourable compared to 21% for non-agricultural habitats. There is variation between regions with no Member State reporting a habitat dependent on agriculture as favourable in the Atlantic region. Excluding Macaronesia, which has very few habitats dependent on agriculture, the highest percentage of favourable is in the Continental with 9% followed by the Alpine and Boreal regions which both have 7% (see [Figure 2](#)). It is difficult to compare the Mediterranean with other regions as the proportion of unknown is very high although the data would suggest these habitats are more favourable in this region than elsewhere. However, as discussed in the document 'Data completeness, quality and coherence' it is not clear that the same criteria have been applied by countries such as Italy and Greece as elsewhere in Europe when assessing conservation status.

¹ Ostermann, O.P 1998 *The need for management of nature conservation sites designated under Natura 2000*. Journal of Applied Ecology 35: 968-973

² Halada, Evans, Romão & Petersen *Which habitats of European Importance depend on agricultural practices?*. Unpublished manuscript.

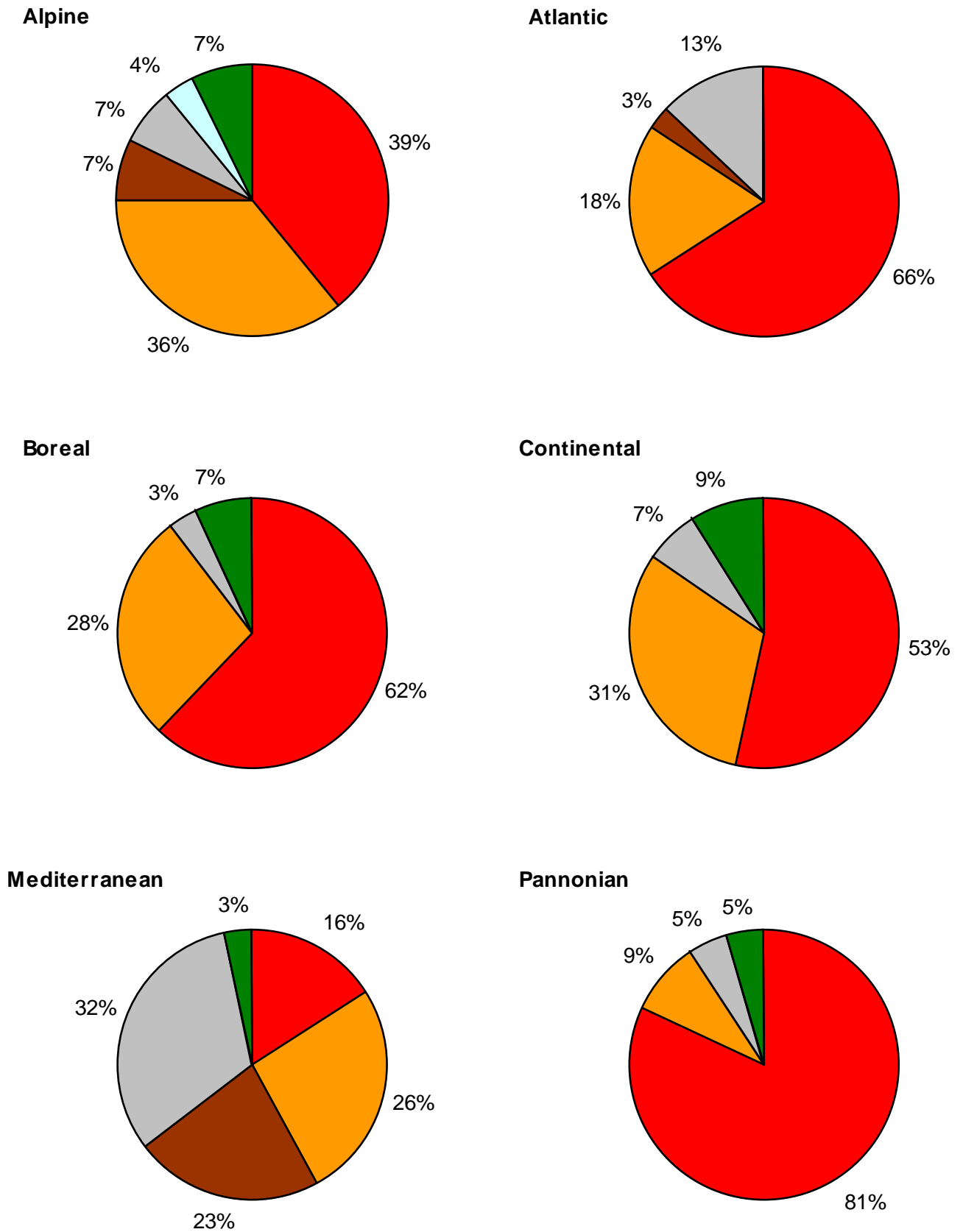


Figure 2 – Conservation status of agricultural habitats in 6 biogeographical regions

The bad conservation status of agricultural habitats in the Atlantic region could be linked to the pressures in this region which includes a high proportion of farmland including some of the most intensively farmed land in the European Union as shown on figure 3. Although [Figure 3](#) only shows the EU15, work on High Nature Value Farming by ETC/LUSI suggests that agriculture in the Pannonian region is relatively intensive and this is confirmed by [Figure 4](#).

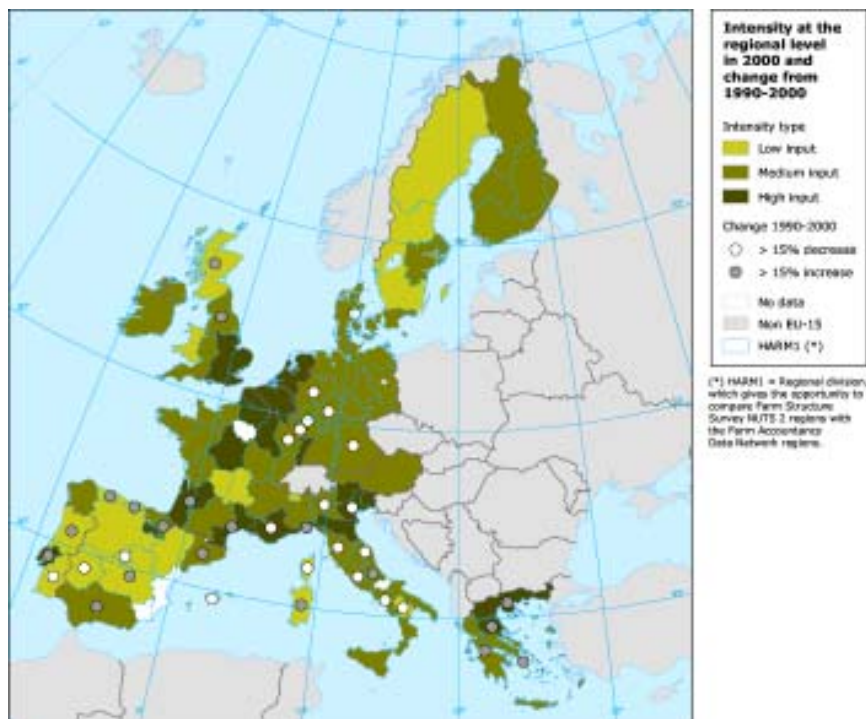


Figure 3 - Regional importance of low-input, medium-input and high-input farming and the trend 1990-2000 for the EU15. The low input regions are the 20 regions with the lowest average expenditure on inputs; high-input regions are the 20 regions with the highest average expenditure on inputs, and medium-input regions constitute the remainder. (EEA, 1998)³

³ *Progress towards halting the loss of biodiversity by 2010* EEA Report No 5/2006 <http://dataservice.eea.europa.eu/atlas/viewdata/viewpub.asp?id=1952>. Meanwhile, JRC and the EEA have further refined the HNV mapping.

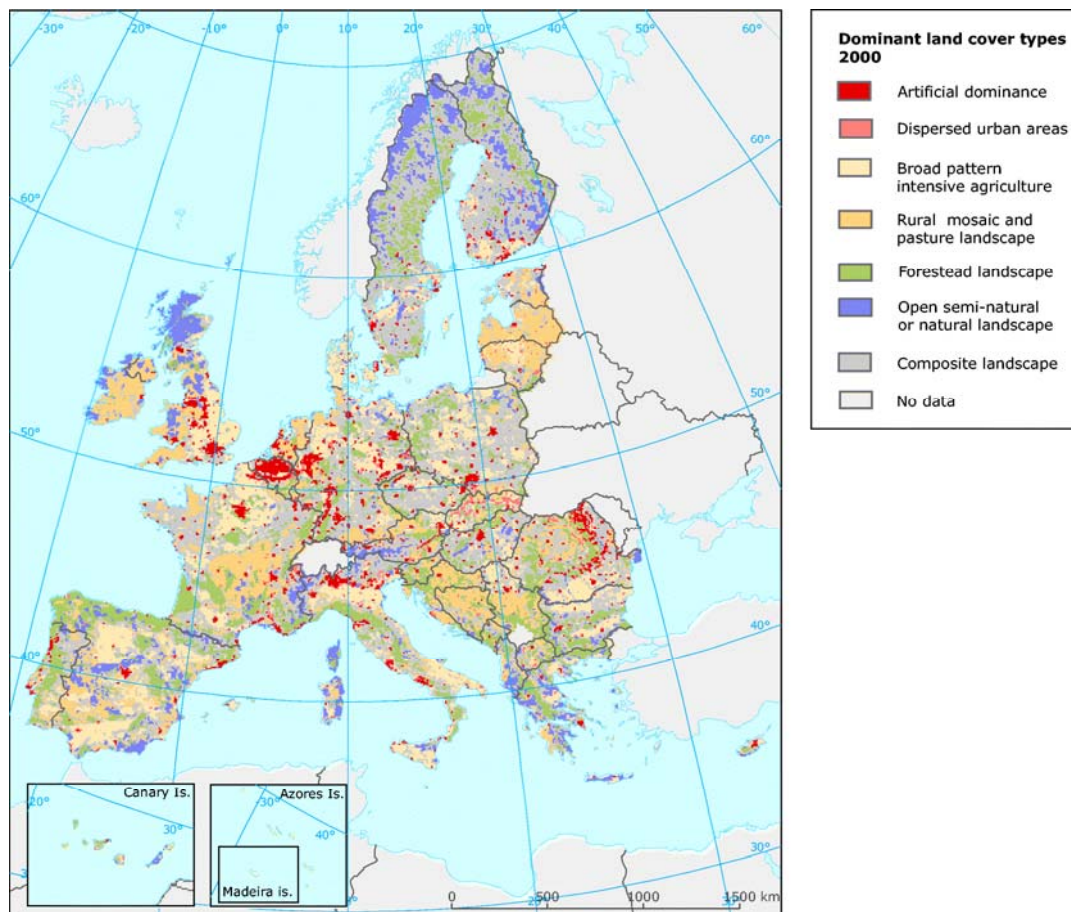


Figure 4 - Dominant landscape types of Europe, based on Corine land cover 2000⁴

The proportion of land used as farmland in the Pannonian region is the highest in the EU at 75%, followed by the Atlantic region with 67%⁵ which is the second highest. These contrast with only 22% in the Alpine region and 19% in the Boreal.

A paper prepared by the ETC/BD for the EEA in 2006 identified a short list of species which were strongly associated with extensive agriculture to help with the identification of areas of High Nature Value Farming⁶. These species, together with their assessment for each region are shown on Table 1. Most assessments are 'unfavourable' (19 of 21 assessments excluding unknowns) and there are only two assessments as 'favourable', for the cricket *Saga pedo* in the Atlantic region and the plant *Gladiolus palustris* in the Mediterranean. In the Atlantic region *Saga pedo* is only present in a small part of France, adjacent to the Mediterranean region where it is more widespread, while *Gladiolus palustris* in the Mediterranean region only occurs in Italy who have assessed this species as 'favourable' in all regions in which occurs but always with 'habitat for the species' as unknown.

⁴ <http://dataservice.eea.europa.eu/atlas/viewdata/viewpub.asp?id=3839>

⁵ Heer, M.D., Kapos, V. & Brink, B.T. (2005) *Biodiversity trends in Europe: development and testing of a species trend indicator for evaluating progress towards the 2010 target*. Philos Trans R Soc Lond B Biol Sci. 360, 297–308

⁶ Lubos Halada, Peter Gadjos Marie-Paule Vignault and Dominique Richard (2007) Report on species listed in annexes to the Habitat Directive of relevance for mapping High Nature Value Farming areas on a European scale

Table 1 - Conservation status of species identified as strongly dependent on agriculture (no species were listed for the Boreal region)

| Species | Alpine | Atlantic | Continental | Mediterranean | Pannonian |
|--------------------------------------|--------|----------|-------------|---------------|-----------|
| Plants | | | | | |
| <i>Serratula lycopifolia,</i> | U2 | | | U1 | U1 |
| <i>Bromus grossus,</i> | XX | | XX | XX | |
| <i>Stipa zalesskii</i> | | | U1 | | |
| <i>Gladiolus palustris</i> | U1 | | U1 | FV | U1 |
| Mammals | | | | | |
| <i>Spermophilus citellus</i> | U2 | | U2 | U1 | U1 |
| <i>Cricetus cricetus</i> | U1 | U2 | U2 | | U1 |
| Insects | | | | | |
| <i>Paracaloptenus caloptenoides,</i> | XX | | | XX | U1 |
| <i>Saga pedo</i> | U1 | FV | U1 | U2 | XX |

Other studies have shown that populations of species associated with farming tend to be declining faster than other groups, for example Heer, Kapos & Brink reported a 25% decline in farmland species since 1970, with other species groups showing declines of 5% or less⁵. The same study reported greater declines in the EU15 compared to the EU10 which is consistent with declines in both species populations and the poor conservation status of habitats associated with agriculture being linked to the high proportion of land in Western Europe, in particular the Atlantic region, used for intensive agriculture.

Species with restricted distribution

In order to analyse the distribution of species⁷ diversity across the EU25, species with a restricted distribution were identified using ArcGIS. The species where the reported distribution falls within a box with an area of 10 000 km² or less were identified as species with restricted distribution within EU25. Approximately 416 species out of a total of 1 182 reported species (35%) have a very restricted distribution within the EU25. From these 416 species, 10 species are located in only one grid cell of 10x10 km and another 186 are restricted to a rectangle of 1 000 km². While a large number are endemics, some are also found beyond the EU25 borders, some in EU Member States Bulgaria or Romania, and others in other European, African or Asian countries

A list of these 416 species is in [Appendix 1](#).

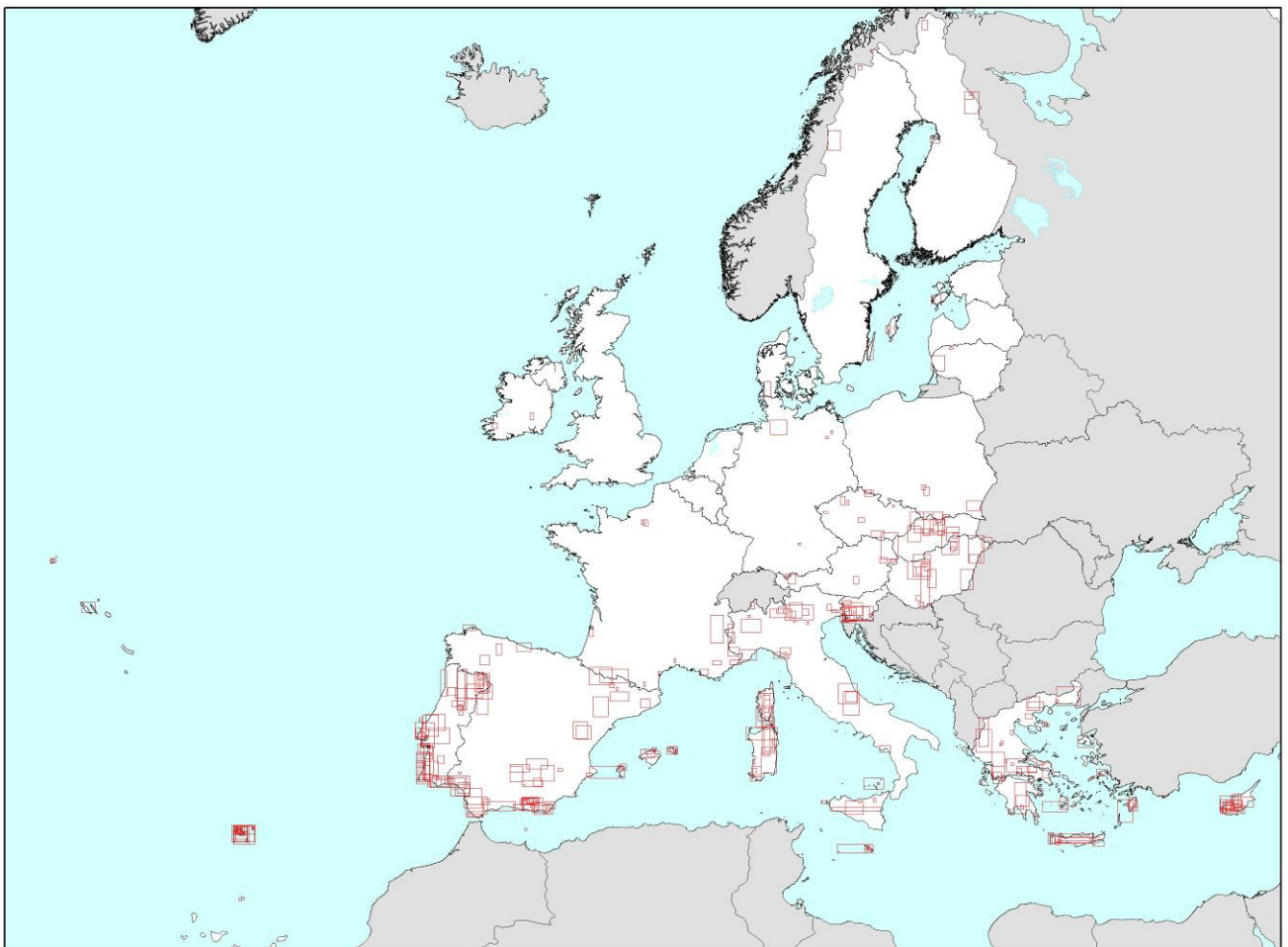


Figure 5 - Distribution of species of community interest with a restricted distribution within the EU25 (see text for details)

Although [Figure 5](#) combines EU25 endemics and species also found elsewhere, the importance of the Mediterranean basin for endemic species listed in the Annexes of the Directive is clearly shown. In fact this map underestimates its importance as many species maps from Spain were missing. Similarly, although the importance of Madeira for endemic species is clear, the importance of the Canary Islands (Spain) is not shown due to missing maps. Both these regions are widely described as biodiversity 'hotspots'⁸.

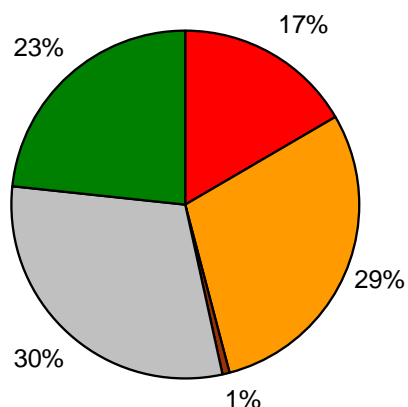
⁷ Please note that we are only dealing with species from the Annexes of the Habitats Directive

⁸ E.g. see Médail, F. & Quézel, P. (1999) *Biodiversity Hotspots in the Mediterranean Basin: Setting Global Conservation Priorities*. *Conservation Biology*, vol. 13 pp. 1510-1513.

The species with very restricted distribution seem to have a better conservation status than those that are more widespread (Figure 6) but the differences are small and the proportion of 'unknown' assessments is relatively high. However, the large majority of the species with very restricted distribution were reported by only one Member State in only one biogeographical region, so the statistics are not influenced by the methodology that was used for aggregating data at the biogeographical level.

Rare and localised species are very often a focus of conservation measures and initiatives, which can influence positively their conservation status. For example, Spain has pioneered the use of 'micro-reserves'⁹ to conserve plants and for some very localised endemics such reserves can cover the entire population. This approach has now been adopted by several other countries including Latvia and Greece.

**Species with restricted distribution
(431 assessments)**



Species which do not have restricted distribution (1809 assessments)

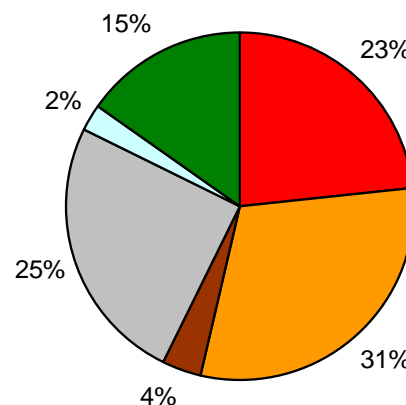


Figure 6 - Conservation status assessments of species with restricted distribution (left) and a wider distribution (right) (see text for definition).

⁹ Laguna, E. (2001). The micro-reserves as a tool for conservation of threatened plants in Europe. *Nature and Environment series* (Council of Europe, Strasbourg) 121: 1–120.

Padilla, A. & A. Ramón. 1997. Planeamiento ambiental a escala de detalle: Microrreservas de flora en la Comunidad Valenciana. *Investigaciones Geográficas* 17: 117-128. Universidad de Alicante.

LIFE and improving conservation status

Several countries have used the option to indicate that the conservation status of a habitat or species, although unfavourable, is improving or deteriorating (indicated by U1-, U1+, U2- and U2+ on the Article 17 web tool). The habitats and species noted as 'unfavourable but improving' include several which have been the subject of projects funded by the European Union's LIFE programme (<http://ec.europa.eu/environment/life/>). Examples include plant species such as the Lake Constance forget-me-not (*Myosotis rehsteineri*) in Austria and the Troodos Rockcress (*Arabis kennedyae*) in Cyprus and habitats such as the priority habitats 9020 * Fennoscandian hemiboreal natural old broad-leaved deciduous forests (*Quercus*, *Tilia*, *Acer*, *Fraxinus* or *Ulmus*) rich in epiphytes in Finland or 91D0 * Bog woodland and 91C0 * Caledonian forest, both in the United Kingdom.

In some cases Member States have mentioned LIFE projects in their reports, for example habitat 7110 *Raised bog which is assessed as 'unfavourable' in all regions in which it occurs, and mostly as 'unfavourable-bad', is improving in only country, the United Kingdom who mention a three year LIFE project (Restoration of Scottish raised bogs) as well as several national initiatives to restore this habitat.

Further investigation is required to see if the reported improvements in conservation status are a result of the work funded by LIFE.

LIFE funded projects may also have been involved in restoring or maintaining some species and habitats which have been assessed as having a favourable conservation status. For example the priority habitat 9370 *Palm groves of Phoenix is reported as 'favourable' by Greece with an increasing population following the project 'Conservation measures for the Palm Forest of Vai, Greece'¹⁰. Many of the micro-reserves (see above, references at footnote 8) have been created as part of LIFE projects including the project which led their development. Again further work is required to assess the importance of LIFE projects in achieving or maintaining habitats and species at favourable conservation status.

¹⁰ <http://ec.europa.eu/environment/life/themes/animalandplants/features2006/palm.htm>

Habitats and species affected by climate change

Although climate change was not included as such in the list of possible threats and pressures for the 2001-2006 report, Member States were asked to give major reasons for any reported trends in range, area and population. Climate change was one of the suggested options and was indicated as a reason for 42 habitats (19%) and 144 species (12%). A full list of the habitats and species where climate change was noted as a reason for reported trends is given as an [Appendix 2](#) at the end of this report.

Table 1 - Number of the habitats per habitat group for which climate change was noted by one or more Member State as a reason for reported trends in range and/or area.

| Habitat group | N° affected by climate change | N° of habitats in group | % effected |
|----------------------|-------------------------------|-------------------------|------------|
| Bogs, mires & fens | 6 | 12 | 50 |
| Dunes | 6 | 21 | 29 |
| Forests | 16 | 72 | 22 |
| Heaths | 2 | 10 | 20 |
| Sclerophyllous scrub | 2 | 13 | 15 |
| Coastal | 4 | 28 | 14 |
| Rocky habitats | 2 | 14 | 14 |
| Grasslands | 3 | 29 | 10 |
| Freshwater | 1 | 19 | 5 |
| All habitats | 42 | 218 | 19 |

Table 1 clearly shows that bogs, mires and fens as a group are being strongly influenced by climate change. In addition four more habitats reported in other habitat groups are also wetlands (2170 Dunes with *Salix repens* ssp. *argentea* (*Salicion arenariae*), 91D0 *Bog woodland, 91E0 *Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion*, *Alnion incanae*, *Salicion albae*) and 92B0 Riparian formations on intermittent Mediterranean water courses with *Rhododendron ponticum*, *Salix* and others) suggesting that wetlands in general are being influenced by climate change more than any other group of habitats.

Dune habitats are also frequently noted as declining due to climate change and this is probably linked with rising sea levels as shown by [Figure 7](#).

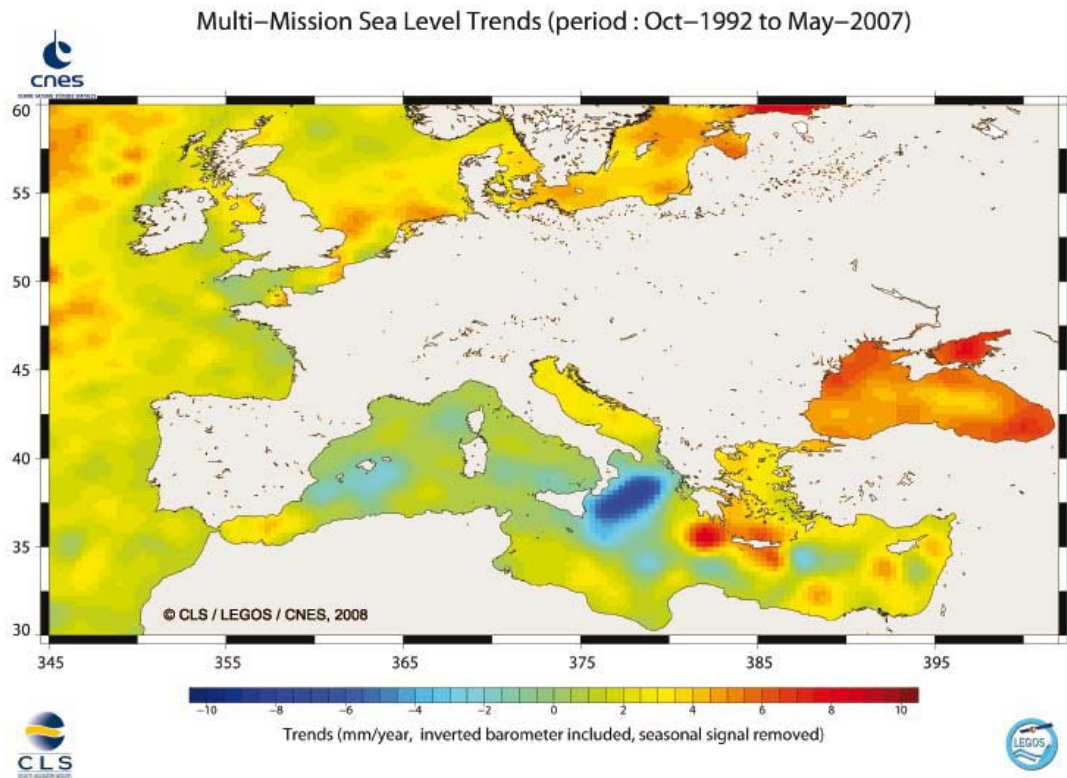


Figure 7 – Sea level changes in Europe, October 1992–May 2007¹¹

Although the group of rocky habitats only includes two habitats where climate change is given as a reason for trends, it includes habitat type 8340 Permanent glaciers which is probably the Annex I habitat most directly threatened by changing climate as shown on [Figure 8](#) and where the link to changing climate is well established¹². Some predictions suggest that all the glaciers in the European Alps could disappear within a relatively short period¹³ if current trends continue.

¹¹ EEA (2008) *Impacts of Europe's changing climate - 2008 indicator-based assessment* EEA Report No 4/2008

¹² e.g. see Rosenzweig, C. et al. (2008) *Attributing physical and biological impacts to anthropogenic climate change*. *Nature* **453**, 353-357

¹³ Zemp, M. et al. (2006). *Alpine glaciers to disappear within decades?* *Geophysical Research Letters*. 33 L13504

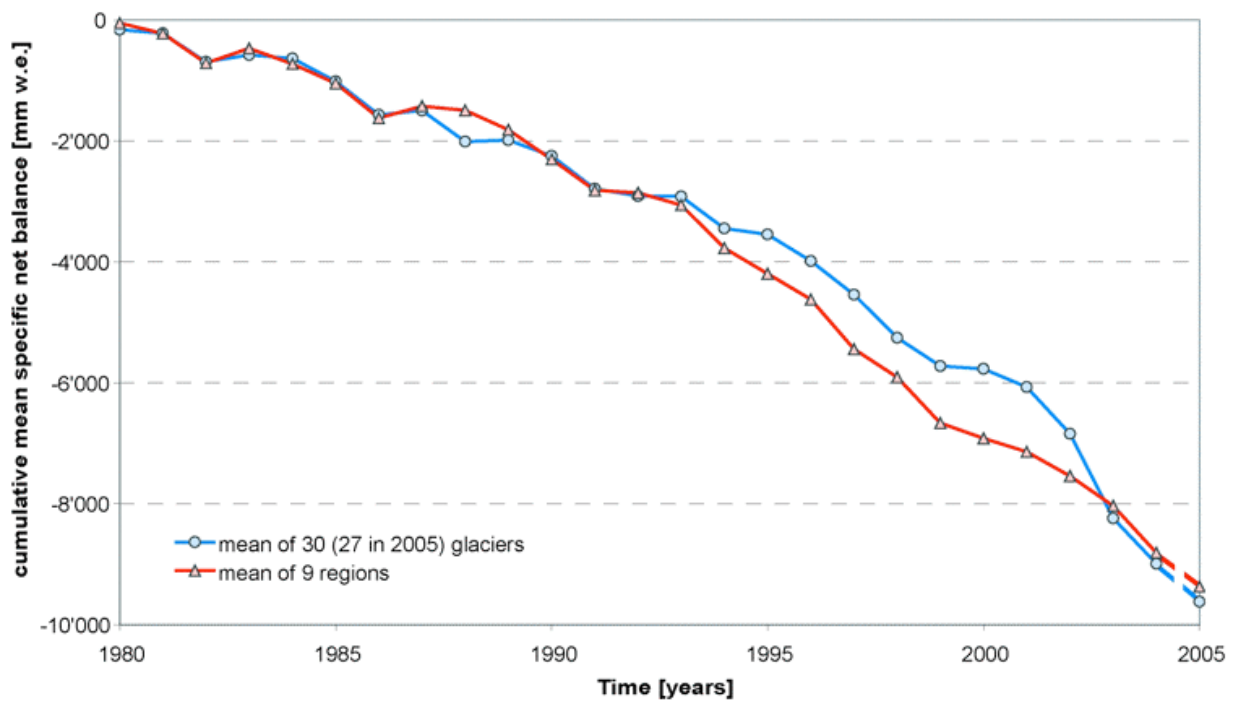


Figure 8 - Cumulative mean specific net balance continuously measured on 30 glaciers in 9 mountain ranges for the period 1980 to 2004, and on 27 glaciers in 9 mountain ranges for 2005.¹⁴

¹⁴ Zemp, M., Hoelzle, M., Paul, F. & Haeberli, W. (2007) *World glacier monitoring service – call-for-data for the observation period 2000–2005 and International Polar Year activities* pp134-136 in *The Dynamics and Mass Budget of Arctic Glaciers*, Extended abstracts Workshop and GLACIODYN (IPY) Meeting, 15 - 18 January 2007, Pontresina (Switzerland), IASC Working Group on Arctic Glaciology, ftp://ftp.phys.uu.nl/pub/reijmer/website/site_iascwag/reports/abstracts_ws2007.pdf

Table 2 shows that of the major species groups, the amphibians are reacting to changing climate more than the other groups. This species group is strongly associated with wetlands, the most sensitive group of habitats and amphibians have been widely identified as being particularly sensitive to climate change, both due to loss of suitable habitats and to changes in phenology as temperature is often a cue for the start of the breeding season¹⁵. It has been predicted that amphibians will continue to be adversely affected if current predictions of climate change are correct¹⁶.

Table 2 - Number of the species per species group for which climate change was noted by one or more Member State as a reason for reported trends in range and/or population.

| Species group | No. effected by climate change | No. of species in group | % effected |
|---------------------|--------------------------------|-------------------------|------------|
| Other (1) | 2 | 2 | 100 |
| Amphibians | 23 | 51 | 45 |
| Arthropods | 34 | 118 | 29 |
| Mammals | 32 | 125 | 26 |
| Non-vascular plants | 8 | 38 | 21 |
| Molluscs | 6 | 35 | 17 |
| Reptiles | 11 | 87 | 13 |
| Fish | 4 | 100 | 4 |
| Vascular plants | 18 | 602 | 3 |
| All species | 144 | 1158 | 12 |

(1) 'other' are *Corallium rubrum* (red coral) & *Hirudo medicinalis* (medicinal leech)

Fish and vascular plants are notable as rarely having climate change reported as a reason for trends. The majority of fish included in the annexes are freshwater species and the freshwater group of habitats was also the habitat group least frequently noted as influenced by climate change. Alpine plants are often cited as a group where the impacts of climate change are already occurring (see e.g. <http://www.gloria.ac.at/>) but of the 18 vascular plant species noted only *Arnica montana* is associated with mountains.

Only habitats and species where trends are already being influenced by climate change have been noted by the Member States, it is likely that as climate change becomes more noticeable, and habitats and species have more time to react, more habitats and species listed on the annexes will show an impact. To help identify the role, if any, of climate change the typology used for reporting threats and pressures should be modified for the next reporting cycle.

¹⁵ Camille P. (2006). *Ecological and Evolutionary Responses to Recent Climate Change*. Annual Review of Ecology, Evolution, and Systematics Vol. 37: 637-669

¹⁶ Araújo, M.B., Thuiller, W. & Pearson, R.G. (2006) *Climate warming and the decline of amphibians and reptiles in Europe*. Journal of Biogeography **33**, 1712-1728

Appendix 1 - Species of Annexes II, IV & V which have a very restricted distribution in EU25

| Species Name | Extent (km ²) |
|--|---------------------------|
| <i>Armadillidium ghardalensis</i> | 100 |
| <i>Astragalus maritimus</i> | 100 |
| <i>Campanula gelida</i> | 100 |
| <i>Carabus olympiae</i> | 100 |
| <i>Gypsophila papillosa</i> | 100 |
| <i>Helichrysum melitense</i> | 100 |
| <i>Herniaria latifolia</i> ssp. <i>litardierei</i> | 100 |
| <i>Lampedusa melitensis</i> | 100 |
| <i>Lamyropsis microcephala</i> | 100 |
| <i>Myrmecophilus baronii</i> | 100 |
| <i>Narcissus triandrus</i> ssp. <i>capax</i> | 100 |
| <i>Ochryaea tatrensis</i> | 100 |
| <i>Papaver laestadianum</i> | 100 |
| <i>Poa riphaea</i> | 100 |
| <i>Pseudoseriscus cameroni</i> | 100 |
| <i>Ribes sardoum</i> | 100 |
| <i>Saxifraga berica</i> | 100 |
| <i>Abies nebrodensis</i> | 110 |
| <i>Cerastium dinaricum</i> | 110 |
| <i>Congerina kusceri</i> | 110 |
| <i>Scilla litardierei</i> | 110 |
| <i>Silene hicsesiae</i> | 110 |
| <i>Borderea chouardii</i> | 120 |
| <i>Anthemis glaberrima</i> | 130 |
| <i>Bupleurum kakiskalae</i> | 130 |
| <i>Centaurea alba</i> ssp. <i>princeps</i> | 130 |
| <i>Centaurea kalambakensis</i> | 130 |
| <i>Centaurea lactiflora</i> | 130 |
| <i>Consolida samia</i> | 130 |
| <i>Convolvulus argyrothamnus</i> | 130 |
| <i>Coregonus fontanae</i> | 130 |
| <i>Diplotaxis siettiana</i> | 130 |
| <i>Erodium astragaloides</i> | 130 |
| <i>Helichrysum sibthorpii</i> | 130 |
| <i>Iberis arbuscula</i> | 130 |
| <i>Jurinea fontqueri</i> | 130 |
| <i>Laserpitium longiradium</i> | 130 |
| <i>Nepeta sphaciotica</i> | 130 |
| <i>Odontites granatensis</i> | 130 |
| <i>Seseli intricatum</i> | 130 |
| <i>Veronica oetaea</i> | 130 |
| <i>Alosa vistonica</i> | 140 |
| <i>Coregonus lucinensis</i> | 140 |
| <i>Polygonum praelongum</i> | 140 |
| <i>Salix salviifolia</i> ssp. <i>australis</i> | 140 |
| <i>Stipa bavarica</i> | 140 |
| <i>Xestia brunneopicta</i> | 140 |
| <i>Convolvulus fernandesii</i> | 150 |
| <i>Corticaria planula</i> | 150 |

| Species Name | Extent (km ²) |
|---|---------------------------|
| <i>Dianthus cintranus</i> ssp. <i>cintranus</i> | 150 |
| <i>Herniaria algarvica</i> | 150 |
| <i>Malcolmia lacera</i> ssp. <i>gracillima</i> | 150 |
| <i>Plantago almogravensis</i> | 150 |
| <i>Rubus genevieri</i> ssp. <i>herminii</i> | 150 |
| <i>Senecio lagascanus</i> ssp. <i>lusitanicus</i> | 150 |
| <i>Aichryson dumosum</i> | 160 |
| <i>Andryala crithmifolia</i> | 160 |
| <i>Argyranthemum thalassophyllum</i> | 160 |
| <i>Beta patula</i> | 160 |
| <i>Caseolus calculus</i> | 160 |
| <i>Discula leacockiana</i> | 160 |
| <i>Geomitra moniziana</i> | 160 |
| <i>Idiomela subplicata</i> | 160 |
| <i>Leiostyla comeocostata</i> | 160 |
| <i>Phalaris maderensis</i> | 160 |
| <i>Saxifraga portosanctana</i> | 160 |
| <i>Tarentola boettgeri</i> | 160 |
| <i>Kogia breviceps</i> | 190 |
| <i>Alyssum pyrenaicum</i> | 200 |
| <i>Brachytrupes megacephalus</i> | 200 |
| <i>Centaurea corymbosa</i> | 200 |
| <i>Cerastium alsinifolium</i> | 200 |
| <i>Cottus petiti</i> | 200 |
| <i>Dianthus arenarius</i> ssp. <i>bohemicus</i> | 200 |
| <i>Orobanche densiflora</i> | 200 |
| <i>Pulsatilla vulgaris</i> ssp. <i>gotlandica</i> | 200 |
| <i>Sphagnum pulchrum</i> | 200 |
| <i>Astragalus verrucosus</i> | 210 |
| <i>Armeria helodes</i> | 230 |
| <i>Centaurea kartschiana</i> | 230 |
| <i>Moehringia tommasinii</i> | 230 |
| <i>Petagnia saniculifolia</i> | 230 |
| <i>Vicia bifoliolata</i> | 240 |
| <i>Euphorbia margalidiana</i> | 250 |
| <i>Genista dorycnifolia</i> | 250 |
| <i>Naufraga balearica</i> | 250 |
| <i>Antirrhinum charidemi</i> | 270 |
| <i>Coronopus navasii</i> | 280 |
| <i>Crepis crocifolia</i> | 280 |
| <i>Distichophyllum carinatum</i> | 280 |
| <i>Fritillaria conica</i> | 280 |
| <i>Jankaea heldreichii</i> | 280 |
| <i>Moehringia fontqueri</i> | 280 |
| <i>Sideritis serrata</i> | 280 |
| <i>Symphytum cycladense</i> | 280 |
| <i>Centaurea alba</i> ssp. <i>heldreichii</i> | 290 |
| <i>Hypericum aciferum</i> | 290 |
| <i>Nepeta dirphya</i> | 290 |

| Species Name | Extent (km ²) |
|--|---------------------------|
| <i>Silene orphanidis</i> | 290 |
| <i>Armeria soleirolii</i> | 300 |
| <i>Armeria berlingensis</i> | 310 |
| <i>Herniaria lusitanica ssp. berlingiana</i> | 310 |
| <i>Asphodelus bento-rainhae</i> | 320 |
| <i>Doronicum plantagineum ssp. tournefortii</i> | 320 |
| <i>Caseolus commixta</i> | 340 |
| <i>Chionodoxa lochiai</i> | 340 |
| <i>Anthyllis lemniatica</i> | 350 |
| <i>Argyranthemum pinnatifidum ssp. succulentum</i> | 350 |
| <i>Artemisia laciniata</i> | 350 |
| <i>Berberis maderensis</i> | 350 |
| <i>Bunium brevifolium</i> | 350 |
| <i>Hymenophyllum maderense</i> | 350 |
| <i>Sorbus maderensis</i> | 350 |
| <i>Teucrium abutiloides</i> | 350 |
| <i>Viola paradoxa</i> | 350 |
| <i>Brassica macrocarpa</i> | 360 |
| <i>Erucastrum palustre</i> | 370 |
| <i>Aconitum corsicum</i> | 400 |
| <i>Hyoseris frutescens</i> | 400 |
| <i>Lampedusa imitatrix</i> | 400 |
| <i>Platanthera obtusata ssp. oligantha</i> | 400 |
| <i>Viola hispida</i> | 400 |
| <i>Athamanta cortiana</i> | 410 |
| <i>Linum muelleri</i> | 410 |
| <i>Erysimum pieninicum</i> | 420 |
| <i>Euphrasia azorica</i> | 420 |
| <i>Apium bermejoi</i> | 430 |
| <i>Hladnikia pastinacifolia</i> | 440 |
| <i>Petrocoptis pseudoviscosa</i> | 450 |
| <i>Linaria hellenica</i> | 460 |
| <i>Teucrium lepicephalum</i> | 460 |
| <i>Galium cracoviense</i> | 470 |
| <i>Senecio caespitosus</i> | 470 |
| <i>Arenaria nevadensis</i> | 490 |
| <i>Goodyera macrophylla</i> | 490 |
| <i>Helianthemum alypoides</i> | 490 |
| <i>Senecio nevadensis</i> | 490 |
| <i>Centaurea peucedanifolia</i> | 500 |
| <i>Pedicularis sudetica</i> | 500 |
| <i>Linum dolomiticum</i> | 510 |
| <i>Polymixis rufocincta isolata</i> | 510 |
| <i>Centaurea rothmalerana</i> | 520 |
| <i>Theodoxus prevostianus</i> | 520 |
| <i>Festuca henriquesii</i> | 530 |
| <i>Onosma tornensis</i> | 530 |
| <i>Bupleurum capillare</i> | 540 |
| <i>Centaurea attica ssp. megarensis</i> | 540 |
| <i>Margaritifera durrovensis</i> | 540 |
| <i>Paladilhia hungarica</i> | 540 |
| <i>Discula tabellata</i> | 550 |
| <i>Discus guerinianus</i> | 560 |

| Species Name | Extent (km ²) |
|---|---------------------------|
| <i>Propomacrus cypriacus</i> | 580 |
| <i>Scilla morrisii</i> | 580 |
| <i>Alosa killarnensis</i> | 590 |
| <i>Jasione crispa ssp. serpentinica</i> | 590 |
| <i>Biscutella neustriaca</i> | 600 |
| <i>Daphne arbuscula</i> | 600 |
| <i>Minuartia smejkalii</i> | 600 |
| <i>Centaurea akamantis</i> | 610 |
| <i>Deschampsia maderensis</i> | 610 |
| <i>Hydromantes flavus</i> | 610 |
| <i>Jasminum azoricum</i> | 610 |
| <i>Linaria tonzigii</i> | 610 |
| <i>Odontites holliana</i> | 610 |
| <i>Orchis scopulorum</i> | 610 |
| <i>Plantago malato-belzii</i> | 610 |
| <i>Ranunculus kykkoensis</i> | 610 |
| <i>Sedum brissemoretii</i> | 610 |
| <i>Brassica glabrescens</i> | 620 |
| <i>Erebia christi</i> | 620 |
| <i>Centaurea balearica</i> | 680 |
| <i>Viola jaubertiana</i> | 690 |
| <i>Erigeron frigidus</i> | 700 |
| <i>Senecio elodes</i> | 700 |
| <i>Arabis kennedyae</i> | 750 |
| <i>Fritillaria rhodocanakis</i> | 760 |
| <i>Alosa macedonica</i> | 770 |
| <i>Cucullia mixta</i> | 780 |
| <i>Asplenium jahandiezii</i> | 800 |
| <i>Corydalis gotlandica</i> | 800 |
| <i>Isoetes boryana</i> | 800 |
| <i>Polystichum drepanum</i> | 800 |
| <i>Stipa zaleskii</i> | 800 |
| <i>Ornithogalum reverchonii</i> | 820 |
| <i>Omphalodes kuzinskyanae</i> | 830 |
| <i>Sinapidendron rupestre</i> | 830 |
| <i>Teucrium betonicum</i> | 830 |
| <i>Moehringia villosa</i> | 880 |
| <i>Cyclamen fatrense</i> | 900 |
| <i>Stipa styriaca</i> | 900 |
| <i>Genista holopetala</i> | 910 |
| <i>Salamandra atra aurorae</i> | 910 |
| <i>Echium candicans</i> | 930 |
| <i>Helicopsis striata austriaca</i> | 940 |
| <i>Allium grosii</i> | 950 |
| <i>Cochlearia polonica</i> | 980 |
| <i>Herniaria latifolia ssp. litardierei</i> | 1000 |
| <i>Puccinellia phryganodes</i> | 1000 |
| <i>Pinguicula crystallina</i> | 1050 |
| <i>Cochlearia tatrae</i> | 1080 |
| <i>Leucosium nicaeense</i> | 1080 |
| <i>Coluber laurenti</i> | 1090 |
| <i>Duvalius gebhardti</i> | 1110 |
| <i>Androcymbium rechingeri</i> | 1130 |

| Species Name | Extent (km ²) |
|---|---------------------------|
| <i>Dryopteris fragans</i> | 1150 |
| <i>Campanula bohemica</i> | 1170 |
| <i>Scardinus graecus</i> | 1180 |
| <i>Arenaria provincialis</i> | 1200 |
| <i>Saxifraga presolanensis</i> | 1200 |
| <i>Daphne petraea</i> | 1220 |
| <i>Picris willkommii</i> | 1220 |
| <i>Echinodium spinosum</i> | 1230 |
| <i>Geranium maderense</i> | 1230 |
| <i>Linaria ricardoii</i> | 1230 |
| <i>Thamnobryum fernandesii</i> | 1230 |
| <i>Lethenteron zanandrai</i> | 1240 |
| <i>Cirsium latifolium</i> | 1320 |
| <i>Pittosporum coriaceum</i> | 1320 |
| <i>Armeria pseudarmeria</i> | 1330 |
| <i>Glyphipterix loricatella</i> | 1340 |
| <i>Paeonia clusii ssp. rhodia</i> | 1340 |
| <i>Aquilegia pyrenaica ssp. cazorlensis</i> | 1350 |
| <i>Crocus cyprius</i> | 1360 |
| <i>Chaenorhinum serpyllifolium ssp. lusitanicum</i> | 1390 |
| <i>Rosmarinus tomentosus</i> | 1400 |
| <i>Teucrium turredanum</i> | 1400 |
| <i>Centaureum somedanum</i> | 1410 |
| <i>Draba cinerea</i> | 1430 |
| <i>Centaurea borjae</i> | 1480 |
| <i>Colchicum cousturieri</i> | 1480 |
| <i>Lacerta anatolica</i> | 1530 |
| <i>Limonium insulare</i> | 1530 |
| <i>Primula apennina</i> | 1530 |
| <i>Leontodon microcephalus</i> | 1550 |
| <i>Ranunculus weyleri</i> | 1550 |
| <i>Marcetella maderensis</i> | 1570 |
| <i>Anarrhinum longipedicelatum</i> | 1590 |
| <i>Pinguicula nevadensis</i> | 1590 |
| <i>Centaurea pulvinata</i> | 1600 |
| <i>Cremnophyton lanfrancoi</i> | 1600 |
| <i>Elatine gussonei</i> | 1600 |
| <i>Ophrys melitensis</i> | 1600 |
| <i>Palaeocyanus crassifolius</i> | 1600 |
| <i>Primula palinuri</i> | 1600 |
| <i>Narcissus scaberulus</i> | 1610 |
| <i>Salamandra lanzai</i> | 1640 |
| <i>Carduus myriacanthus</i> | 1650 |
| <i>Anthyllis hystrix</i> | 1690 |
| <i>Daphne rodriguezii</i> | 1690 |
| <i>Saxifraga vayredana</i> | 1690 |
| <i>Coenagrion hylas</i> | 1700 |
| <i>Ladigesocypris ghigii</i> | 1700 |
| <i>Phyllometra culminaria</i> | 1710 |
| <i>Leontodon boryi</i> | 1760 |
| <i>Dianthus moravicus</i> | 1800 |
| <i>Rhinanthus oesilensis</i> | 1820 |
| <i>Hydromantes ambrosii</i> | 1850 |

| Species Name | Extent (km ²) |
|---|---------------------------|
| <i>Petrocoptis grandiflora</i> | 1900 |
| <i>Eptesicus bottae</i> | 1910 |
| <i>Ononis hackelii</i> | 1910 |
| <i>Saxifraga valdensis</i> | 1930 |
| <i>Centaurea niederi</i> | 1990 |
| <i>Dianthus marizii</i> | 1990 |
| <i>Hydromantes genei</i> | 2020 |
| <i>Tuberaria major</i> | 2020 |
| <i>Eudontomyzon hellenicus</i> | 2040 |
| <i>Teucrium charidemi</i> | 2100 |
| <i>Plecotus sardus</i> | 2130 |
| <i>Saxifraga florulenta</i> | 2130 |
| <i>Macrovipera schweizeri</i> | 2140 |
| <i>Arytrura musculus</i> | 2150 |
| <i>Hydromantes supramontis</i> | 2150 |
| <i>Coregonus oxyrhynchus</i> | 2160 |
| <i>Carabus hampei</i> | 2180 |
| <i>Sibthorpia peregrina</i> | 2220 |
| <i>Ovis orientalis ophion</i> | 2310 |
| <i>Erodium rupicola</i> | 2320 |
| <i>Wagenitzia lancifolia</i> | 2350 |
| <i>Silene rothmaleri</i> | 2370 |
| <i>Alytes muletensis</i> | 2400 |
| <i>Artemisia oelandica</i> | 2400 |
| <i>Alyssum pintodasilvae</i> | 2410 |
| <i>Androsace mathildae</i> | 2540 |
| <i>Crocus hartmannianus</i> | 2540 |
| <i>Santolina impressa</i> | 2550 |
| <i>Micropyropsis tuberosa</i> | 2580 |
| <i>Crepis granatensis</i> | 2610 |
| <i>Rhynchosinapis monensis ssp. recurvata</i> | 2610 |
| <i>Antirrhinum lopesianum</i> | 2620 |
| <i>Paeonia parnassica</i> | 2620 |
| <i>Dryopteris corleyi</i> | 2650 |
| <i>Astragalus tremolsianus</i> | 2710 |
| <i>Phlomis cypria</i> | 2710 |
| <i>Euphrasia grandiflora</i> | 2830 |
| <i>Cobitis trichonica</i> | 2840 |
| <i>Fritillaria obliqua</i> | 2920 |
| <i>Androcymbium europaeum</i> | 3090 |
| <i>Barbus cyclolepis</i> | 3110 |
| <i>Centaurea citricolor</i> | 3190 |
| <i>Micromeria taygetea</i> | 3190 |
| <i>Melilotus segetalis ssp. fallax</i> | 3220 |
| <i>Dorcadion fulvum cervae</i> | 3310 |
| <i>Cheirolophus massonianus</i> | 3400 |
| <i>Diplotaxis vicentina</i> | 3430 |
| <i>Jasione lusitanica</i> | 3480 |
| <i>Monizia edulis</i> | 3490 |
| <i>Petrocoptis montsicciana</i> | 3550 |
| <i>Linaria tursica</i> | 3570 |
| <i>Coluber cypriensis</i> | 3600 |
| <i>Limonium dodartii ssp. lusitanicum</i> | 3660 |

| Species Name | Extent (km ²) |
|--|---------------------------|
| <i>Duvalius hungaricus</i> | 3750 |
| <i>Linaria algarviana</i> | 3830 |
| <i>Fritillaria drenovskii</i> | 3870 |
| <i>Sciurus anomalus</i> | 3920 |
| <i>Centaurea gadorensis</i> | 3950 |
| <i>Rupicapra rupicapra tatrica</i> | 3970 |
| <i>Campanula sabatia</i> | 3980 |
| <i>Gaudinia hispanica</i> | 3980 |
| <i>Avenula hackellii</i> | 4020 |
| <i>Biscutella vicentina</i> | 4020 |
| <i>Cistus palhinhae</i> | 4020 |
| <i>Primula glaucescens</i> | 4030 |
| <i>Natrix natrix cypriaca</i> | 4110 |
| <i>Iberocypris palaciosi</i> | 4130 |
| <i>Convolvulus massonii</i> | 4140 |
| <i>Astragalus macrocarpus ssp. lefkarensis</i> | 4160 |
| <i>Sphagnum quinquefarium</i> | 4200 |
| <i>Tephroses longifolia ssp. moravica</i> | 4200 |
| <i>Saxifraga tombeanensis</i> | 4250 |
| <i>Sideritis javalambrensis</i> | 4480 |
| <i>Algyroides marchi</i> | 4540 |
| <i>Coincya rupestris</i> | 4550 |
| <i>Oenanthe divaricata</i> | 4570 |
| <i>Narcissus viridiflorus</i> | 4580 |
| <i>Artemisia granatensis</i> | 4620 |
| <i>Cytisus aeolicus</i> | 4660 |
| <i>Galium litorale</i> | 4670 |
| <i>Thymus lotocephalus</i> | 4710 |
| <i>Arabis scopoliana</i> | 4810 |
| <i>Barbus guiraonis</i> | 5000 |
| <i>Aster sorrentinii</i> | 5020 |
| <i>Colchicum corsicum</i> | 5020 |
| <i>Podarcis melisellensis</i> | 5140 |
| <i>Oenanthe conioides</i> | 5170 |
| <i>Musschia wollastonii</i> | 5240 |
| <i>Primula carniolica</i> | 5310 |
| <i>Tulipa cypria</i> | 5390 |
| <i>Gymnigritella runei</i> | 5400 |
| <i>Saussurea alpina ssp. esthoni</i> | 5410 |
| <i>Hygromia kovacsi</i> | 5430 |
| <i>Isoetes malinverniana</i> | 5460 |
| <i>Podarcis milensis</i> | 5510 |
| <i>Zelkova abelicea</i> | 5570 |
| <i>Calendula maderensis</i> | 5690 |
| <i>Scilla beirana</i> | 5780 |
| <i>Chondrostoma almakai</i> | 5810 |
| <i>Dorycnium pentaphyllum ssp. transmontanum</i> | 5980 |
| <i>Musschia aurea</i> | 6000 |
| <i>Ramonda serbica</i> | 6280 |
| <i>Boleum asperum</i> | 6300 |
| <i>Hydromantes imperialis</i> | 6330 |
| <i>Galium viridiflorum</i> | 6390 |
| <i>Murbeckiella pinnatifida ssp. herminii</i> | 6400 |

| Species Name | Extent (km ²) |
|--|---------------------------|
| <i>Pseudarrhenatherum pallens</i> | 6530 |
| <i>Dianthus nitidus</i> | 6600 |
| <i>Linaria pseudolaxiflora</i> | 6620 |
| <i>Saxifraga cintrana</i> | 6630 |
| <i>Arenaria ciliata ssp. pseudofrigida</i> | 6760 |
| <i>Rousettus aegyptiacus</i> | 6770 |
| <i>Plantago algarbiensis</i> | 7020 |
| <i>Myosotis retusifolia</i> | 7160 |
| <i>Asyneuma giganteum</i> | 7170 |
| <i>Limonium strictissimum</i> | 7190 |
| <i>Chamaemeles coriacea</i> | 7270 |
| <i>Centranthus trinervis</i> | 7280 |
| <i>Leuzea longifolia</i> | 7290 |
| <i>Aphanius baeticus</i> | 7370 |
| <i>Cephalanthera cucullata</i> | 7510 |
| <i>Leptodirus hochenwarti</i> | 7520 |
| <i>Silurus aristotelis</i> | 7520 |
| <i>Solenanthes albanicus</i> | 7560 |
| <i>Maytenus umbellata</i> | 7660 |
| <i>Globularia stygia</i> | 7670 |
| <i>Silene velutina</i> | 7670 |
| <i>Centaurea vicentina</i> | 7690 |
| <i>Hymenostemma pseudanthemis</i> | 7780 |
| <i>Vincetoxicum pannonicum</i> | 7780 |
| <i>Potentilla delphinensis</i> | 7800 |
| <i>Sideroxylon marmulano</i> | 7870 |
| <i>Androsace pyrenaica</i> | 8010 |
| <i>Rupicapra pyrenaica ornata</i> | 8030 |
| <i>Armeria velutina</i> | 8070 |
| <i>Armeria sampaioi</i> | 8140 |
| <i>Thymus camphoratus</i> | 8150 |
| <i>Holcus setiglumis ssp. duriensis</i> | 8180 |
| <i>Pyrus magyarica</i> | 8180 |
| <i>Sadleriana pannonica</i> | 8220 |
| <i>Adonis distorta</i> | 8250 |
| <i>Aconitum firmum ssp. moravicum</i> | 8300 |
| <i>Barbus graecus</i> | 8360 |
| <i>Lignyoptera fumidaria</i> | 8400 |
| <i>Centaurea horrida</i> | 8430 |
| <i>Phagnalon benettii</i> | 8550 |
| <i>Androsace cylindrica</i> | 8790 |
| <i>Discoglossus montalentii</i> | 9100 |
| <i>Primula spectabilis</i> | 9100 |
| <i>Silene hifacensis</i> | 9120 |
| <i>Linaria ficvalhoana</i> | 9130 |
| <i>Pseudogaurotina excellens</i> | 9170 |
| <i>Pulsatilla pratensis ssp. hungarica</i> | 9200 |
| <i>Linaria coutinhoi</i> | 9400 |
| <i>Halimium verticillatum</i> | 9630 |
| <i>Acipenser stellatus</i> | 9740 |
| <i>Artemisia pancicii</i> | 9740 |
| <i>Proteus anguinus</i> | 9840 |
| <i>Euphrasia genargentea</i> | 9870 |

Appendix 2 - Habitats and species where climate change effects reported trends in range, area and/or population

| Habitat code | Habitat name |
|--------------|---|
| 1150 | *Coastal lagoons |
| 1210 | Annual vegetation of drift lines |
| 1220 | Perennial vegetation of stony banks |
| 1330 | Atlantic salt meadows (<i>Glauco-Puccinellietalia maritimae</i>) |
| 2110 | Embryonic shifting dunes |
| 2130 | *Fixed coastal dunes with herbaceous vegetation (grey dunes) |
| 2170 | Dunes with <i>Salix repens</i> ssp. <i>argentea</i> (<i>Salicion arenariae</i>) |
| 2180 | Wooded dunes of the Atlantic, Continental and Boreal region |
| 2190 | Humid dune slacks |
| 2260 | Cisto-Lavenduletalia dune sclerophyllous scrubs |
| 3260 | Water courses of plain to montane levels with the <i>Ranunculion fluitantis</i> and <i>Callitricho-Batrachion</i> vegetation |
| 4010 | Northern Atlantic wet heaths with <i>Erica tetralix</i> |
| 4030 | European dry heaths |
| 5330 | Thermo-Mediterranean and pre-desert scrub |
| 5420 | <i>Sarcopoterium spinosum</i> phryganas |
| 6150 | Siliceous alpine and boreal grasslands |
| 6210 | Semi-natural dry grasslands and scrubland facies on calcareous substrates (<i>Festuco Brometalia</i>) (*important orchid sites) |
| 6310 | Dehesas with evergreen <i>Quercus</i> spp. |
| 7110 | *Active raised bogs |
| 7120 | Degraded raised bogs still capable of natural regeneration |
| 7140 | Transition mires and quaking bogs |
| 7150 | Depressions on peat substrates of the <i>Rhynchosporion</i> |
| 7230 | Alkaline fens |
| 7240 | *Alpine pioneer formations of <i>Caricion bicoloris-atrofuscae</i> |
| 8160 | *Medio-European calcareous screes of hill and montane levels |

| Habitat code | Habitat name |
|--------------|--|
| 8340 | Permanent glaciers |
| 9010 | *Western taiga |
| 9110 | <i>Luzulo-Fagetum</i> beech forests |
| 9130 | <i>Asperulo-Fagetum</i> beech forests |
| 9150 | Medio-European limestone beech forests of the <i>Cephalanthero-Fagion</i> |
| 9170 | <i>Galio-Carpinetum</i> oak-hornbeam forests |
| 9180 | * <i>Tilio-Acerion</i> forests of slopes, screes and ravines |
| 9190 | Old acidophilous oak woods with <i>Quercus robur</i> on sandy plains |
| 91B0 | Thermophilous <i>Fraxinus angustifolia</i> woods |
| 91D0 | *Bog woodland |
| 91E0 | *Alluvial forests with <i>Alnus glutinosa</i> and <i>Fraxinus excelsior</i> (<i>Alno-Padion</i> , <i>Alnion incanae</i> , <i>Salicion albae</i>) |
| 9230 | Galicio-Portuguese oak woods with <i>Quercus robur</i> and <i>Quercus pyrenaica</i> |
| 9240 | <i>Quercus faginea</i> and <i>Quercus canariensis</i> Iberian woods |
| 9260 | <i>Castanea sativa</i> woods |
| 92B0 | Riparian formations on intermittent Mediterranean water courses with <i>Rhododendron ponticum</i> , <i>Salix</i> and others |
| 9340 | <i>Quercus ilex</i> and <i>Quercus rotundifolia</i> forests |
| 9410 | Acidophilous <i>Picea</i> forests of the montane to alpine levels (<i>Vaccinio-Piceetea</i>) |

| Species name as reported by MS | Species name used for assessment | Group |
|------------------------------------|------------------------------------|------------|
| <i>Bombina bombina</i> | <i>Bombina bombina</i> | Amphibians |
| <i>Bombina variegata</i> | <i>Bombina variegata</i> | Amphibians |
| <i>Bufo calamita</i> | <i>Bufo calamita</i> | Amphibians |
| <i>Bufo viridis</i> | <i>Bufo viridis</i> | Amphibians |
| <i>Discoglossus pictus</i> | <i>Discoglossus pictus</i> | Amphibians |
| <i>Euproctus asper</i> | <i>Euproctus asper</i> | Amphibians |
| <i>Euproctus platycephalus</i> | <i>Euproctus platycephalus</i> | Amphibians |
| <i>Hyla arborea</i> | <i>Hyla arborea</i> | Amphibians |
| <i>Hyla meridionalis</i> | <i>Hyla meridionalis</i> | Amphibians |
| <i>Hyla sarda</i> | <i>Hyla sarda</i> | Amphibians |
| <i>Pelobates cultripipes</i> | <i>Pelobates cultripipes</i> | Amphibians |
| <i>Pelobates fuscus</i> | <i>Pelobates fuscus</i> | Amphibians |
| <i>Pelobates fuscus insubricus</i> | <i>Pelobates fuscus insubricus</i> | Amphibians |
| <i>Rana arvalis</i> | <i>Rana arvalis</i> | Amphibians |
| <i>Rana dalmatina</i> | <i>Rana dalmatina</i> | Amphibians |
| <i>Rana esculenta</i> | <i>Rana esculenta</i> | Amphibians |
| <i>Rana kl. esculenta</i> | <i>Rana esculenta</i> | Amphibians |
| <i>Rana lessonae</i> | <i>Rana lessonae</i> | Amphibians |
| <i>Rana ridibunda</i> | <i>Rana ridibunda</i> | Amphibians |
| <i>Rana temporaria</i> | <i>Rana temporaria</i> | Amphibians |
| <i>Triturus carnifex</i> | <i>Triturus carnifex</i> | Amphibians |
| <i>Triturus cristatus</i> | <i>Triturus cristatus</i> | Amphibians |
| <i>Triturus dobrogicus</i> | <i>Triturus dobrogicus</i> | Amphibians |
| <i>Aeshna viridis</i> | <i>Aeshna viridis</i> | Arthropods |
| <i>Astacus astacus</i> | <i>Astacus astacus</i> | Arthropods |
| <i>Austropotamobius pallipes</i> | <i>Austropotamobius pallipes</i> | Arthropods |
| <i>Callimorpha quadripunctaria</i> | <i>Callimorpha quadripunctaria</i> | Arthropods |
| <i>Carabus variolosus</i> | <i>Carabus variolosus</i> | Arthropods |
| <i>Cerambyx cerdo</i> | <i>Cerambyx cerdo</i> | Arthropods |

| Species name as reported by MS | Species name used for assessment | Group |
|-----------------------------------|------------------------------------|------------|
| <i>Coenagrion mercuriale</i> | <i>Coenagrion mercuriale</i> | Arthropods |
| <i>Coenagrion ornatum</i> | <i>Coenagrion ornatum</i> | Arthropods |
| <i>Colias myrmidone</i> | <i>Colias myrmidone</i> | Arthropods |
| <i>Cordulegaster heros</i> | <i>Cordulegaster heros</i> | Arthropods |
| <i>Cordulegaster trinacriae</i> | <i>Cordulegaster trinacriae</i> | Arthropods |
| <i>Eriogaster catax</i> | <i>Eriogaster catax</i> | Arthropods |
| <i>Euphydryas aurinia</i> | <i>Euphydryas aurinia</i> | Arthropods |
| <i>Euplagia quadripunctaria</i> | <i>Callimorpha quadripunctaria</i> | Arthropods |
| <i>Glaucopteryx arion</i> | <i>Maculinea arion</i> | Arthropods |
| <i>Glyptotendipes loricatella</i> | <i>Glyptotendipes loricatella</i> | Arthropods |
| <i>Gomphus flavipes</i> | <i>Stylurus flavipes</i> | Arthropods |
| <i>Leptotendipes morsei</i> | <i>Leptotendipes morsei</i> | Arthropods |
| <i>Leucorrhinia albifrons</i> | <i>Leucorrhinia albifrons</i> | Arthropods |
| <i>Leucorrhinia caudalis</i> | <i>Leucorrhinia caudalis</i> | Arthropods |
| <i>Leucorrhinia pectoralis</i> | <i>Leucorrhinia pectoralis</i> | Arthropods |
| <i>Lopinga achine</i> | <i>Lopinga achine</i> | Arthropods |
| <i>Lycaena dispar</i> | <i>Lycaena dispar</i> | Arthropods |
| <i>Maculinea arion</i> | <i>Maculinea arion</i> | Arthropods |
| <i>Ophiogomphus cecilia</i> | <i>Ophiogomphus cecilia</i> | Arthropods |
| <i>Oxygastra curtisii</i> | <i>Oxygastra curtisii</i> | Arthropods |
| <i>Parnassius apollo</i> | <i>Parnassius apollo</i> | Arthropods |
| <i>Parnassius mnemosyne</i> | <i>Parnassius mnemosyne</i> | Arthropods |
| <i>Proserpinus proserpina</i> | <i>Proserpinus proserpina</i> | Arthropods |
| <i>Proserpinus proserpinus</i> | <i>Proserpinus proserpina</i> | Arthropods |
| <i>Scyllarides latus</i> | <i>Scyllarides latus</i> | Arthropods |
| <i>Stylurus flavipes</i> | <i>Stylurus flavipes</i> | Arthropods |
| <i>Sympecma braueri</i> | <i>Sympecma braueri</i> | Arthropods |
| <i>Sympecma paedisca</i> | <i>Sympecma braueri</i> | Arthropods |
| <i>Coregonus albula</i> | <i>Coregonus albula</i> | Fish |

| Species name as reported by MS | Species name used for assessment | Group |
|-----------------------------------|-----------------------------------|---------|
| <i>Lampetra planeri</i> | <i>Lampetra planeri</i> | Fish |
| <i>Salmo salar</i> | <i>Salmo salar</i> | Fish |
| <i>Thymallus thymallus</i> | <i>Thymallus thymallus</i> | Fish |
| <i>Barbastella barbastellus</i> | <i>Barbastella barbastellus</i> | Mammals |
| <i>Capra ibex</i> | <i>Capra ibex</i> | Mammals |
| <i>Cricetus cricetus</i> | <i>Cricetus cricetus</i> | Mammals |
| <i>Dryomys nitedula</i> | <i>Dryomys nitedula</i> | Mammals |
| <i>Eptesicus nilsoni</i> | <i>Eptesicus nilssonii</i> | Mammals |
| <i>Eptesicus serotinus</i> | <i>Eptesicus serotinus</i> | Mammals |
| <i>Halichoerus grypus</i> | <i>Halichoerus grypus</i> | Mammals |
| <i>Lepus timidus</i> | <i>Lepus timidus</i> | Mammals |
| <i>Lutra lutra</i> | <i>Lutra lutra</i> | Mammals |
| <i>Microtus oeconomus mehelyi</i> | <i>Microtus oeconomus mehelyi</i> | Mammals |
| <i>Microtus tatricus</i> | <i>Microtus tatricus</i> | Mammals |
| <i>Muscardinus avellanarius</i> | <i>Muscardinus avellanarius</i> | Mammals |
| <i>Myotis brandtii</i> | <i>Myotis brandtii</i> | Mammals |
| <i>Myotis daubentonii</i> | <i>Myotis daubentonii</i> | Mammals |
| <i>Myotis emarginatus</i> | <i>Myotis emarginatus</i> | Mammals |
| <i>Myotis myotis</i> | <i>Myotis myotis</i> | Mammals |
| <i>Myotis mystacinus</i> | <i>Myotis mystacinus</i> | Mammals |
| <i>Myotis nattereri</i> | <i>Myotis nattereri</i> | Mammals |
| <i>Nyctalus leisleri</i> | <i>Nyctalus leisleri</i> | Mammals |
| <i>Phoca hispida bottnica</i> | <i>Phoca hispida bottnica</i> | Mammals |
| <i>Phoca vitulina</i> | <i>Phoca vitulina</i> | Mammals |
| <i>Phocoena phocoena</i> | <i>Phocoena phocoena</i> | Mammals |
| <i>Pipistrellus kuhli</i> | <i>Pipistrellus kuhlii</i> | Mammals |
| <i>Pipistrellus kuhlii</i> | <i>Pipistrellus kuhlii</i> | Mammals |
| <i>Pipistrellus savii</i> | <i>Pipistrellus savii</i> | Mammals |
| <i>Plecotus auritus</i> | <i>Plecotus auritus</i> | Mammals |
| <i>Plecotus austriacus</i> | <i>Plecotus austriacus</i> | Mammals |
| <i>Pteromys volans</i> | <i>Pteromys volans</i> | Mammals |
| <i>Rhinolophus</i> | <i>Rhinolophus</i> | Mammals |

| Species name as reported by MS | Species name used for assessment | Group |
|---|---|---------------------|
| <i>ferrumequinum</i> | <i>ferrumequinum</i> | |
| <i>Rhinolophus hipposideros</i> | <i>Rhinolophus hipposideros</i> | Mammals |
| <i>Rupicapra rupicapra tatrica</i> | <i>Rupicapra rupicapra tatrica</i> | Mammals |
| <i>Tursiops truncatus</i> | <i>Tursiops truncatus</i> | Mammals |
| <i>Chilostoma banatica</i> | <i>Chilostoma banaticum</i> | Molluscs |
| <i>Helix pomatia</i> | <i>Helix pomatia</i> | Molluscs |
| <i>Margaritifera margaritifera</i> | <i>Margaritifera margaritifera</i> | Molluscs |
| <i>Unio crassus</i> | <i>Unio crassus</i> | Molluscs |
| <i>Vertigo angustior</i> | <i>Vertigo angustior</i> | Molluscs |
| <i>Vertigo geyeri</i> | <i>Vertigo geyeri</i> | Molluscs |
| <i>Buxbaumia viridis</i> | <i>Buxbaumia viridis</i> | Non-vascular plants |
| <i>Cladonia spp. (subgenus Cladina)</i> | <i>Cladonia spp. (subgenus Cladina)</i> | Non-vascular plants |
| <i>Dicranum viride</i> | <i>Dicranum viride</i> | Non-vascular plants |
| <i>Hamatocaulis vernicosus</i> | <i>Drepanocladus vernicosus</i> | Non-vascular plants |
| <i>Meesia longiseta</i> | <i>Meesia longiseta</i> | Non-vascular plants |
| <i>Orthotrichum rogeri</i> | <i>Orthotrichum rogeri</i> | Non-vascular plants |
| <i>Riccia breidleri</i> | <i>Riccia breidleri</i> | Non-vascular plants |
| <i>Sphagnum majus</i> | <i>Sphagnum spp.</i> | Non-vascular plants |
| <i>Sphagnum quinquefarium</i> | <i>Sphagnum spp.</i> | Non-vascular plants |
| <i>Sphagnum spp</i> | <i>Sphagnum spp.</i> | Non-vascular plants |
| <i>Sphagnum subnitens</i> | <i>Sphagnum spp.</i> | Non-vascular plants |
| <i>Sphagnum subsecundum</i> | <i>Sphagnum spp.</i> | Non-vascular plants |
| <i>Sphagnum tenellum</i> | <i>Sphagnum spp.</i> | Non-vascular plants |
| <i>Sphagnum teres</i> | <i>Sphagnum spp.</i> | Non-vascular plants |

| Species name as reported by MS | Species name used for assessment | Group |
|--------------------------------|---|---------------------|
| <i>Sphagnum warnstorffii</i> | <i>Sphagnum spp.</i> | Non-vascular plants |
| <i>Corallium rubrum</i> | <i>Corallium rubrum</i> | Others |
| <i>Hirudo medicinalis</i> | <i>Hirudo medicinalis</i> | Others |
| <i>Caretta caretta</i> | <i>Caretta caretta</i> | Reptiles |
| <i>Chelonia mydas</i> | <i>Chelonia mydas</i> | Reptiles |
| <i>Coluber viridiflavus</i> | <i>Coluber viridiflavus</i> | Reptiles |
| <i>Coronella austriaca</i> | <i>Coronella austriaca</i> | Reptiles |
| <i>Elaphe longissima</i> | <i>Elaphe longissima</i> | Reptiles |
| <i>Lacerta agilis</i> | <i>Lacerta agilis</i> | Reptiles |
| <i>Lacerta bonnali</i> | <i>Lacerta bonnali</i> | Reptiles |
| <i>Podarcis muralis</i> | <i>Podarcis muralis</i> | Reptiles |
| <i>Testudo hermanni</i> | <i>Testudo hermanni</i> | Reptiles |
| <i>Vipera seoanei</i> | <i>Vipera seoanei</i> | Reptiles |
| <i>Vipera ursinii</i> | <i>Vipera ursinii</i> (except <i>Vipera ursinii rakosiensis</i>) | Reptiles |
| <i>Aldrovanda vesiculosa</i> | <i>Aldrovanda vesiculosa</i> | Vascular plants |
| <i>Angelica palustris</i> | <i>Angelica palustris</i> | Vascular plants |
| <i>Apium repens</i> | <i>Apium repens</i> | Vascular plants |

| Species name as reported by MS | Species name used for assessment | Group |
|--------------------------------|----------------------------------|-----------------|
| <i>Armeria helodes</i> | <i>Armeria helodes</i> | Vascular plants |
| <i>Arnica montana</i> | <i>Arnica montana</i> | Vascular plants |
| <i>Campanula bohemica</i> | <i>Campanula bohemica</i> | Vascular plants |
| <i>Eleocharis carniolica</i> | <i>Eleocharis carniolica</i> | Vascular plants |
| <i>Erucastrum palustre</i> | <i>Erucastrum palustre</i> | Vascular plants |
| <i>Lactuca watsoniana</i> | <i>Lactuca watsoniana</i> | Vascular plants |
| <i>Lindernia procumbens</i> | <i>Lindernia procumbens</i> | Vascular plants |
| <i>Lycopodiella inundata</i> | <i>Lycopodium spp.</i> | Vascular plants |
| <i>Lycopodium annotinum</i> | <i>Lycopodium spp.</i> | Vascular plants |
| <i>Lycopodium clavatum</i> | <i>Lycopodium spp.</i> | Vascular plants |
| <i>Marsilea quadrifolia</i> | <i>Marsilea quadrifolia</i> | Vascular plants |
| <i>Omphalodes littoralis</i> | <i>Omphalodes littoralis</i> | Vascular plants |
| <i>Pulsatilla patens</i> | <i>Pulsatilla patens</i> | Vascular plants |
| <i>Saxifraga hirculus</i> | <i>Saxifraga hirculus</i> | Vascular plants |
| <i>Spiranthes aestivalis</i> | <i>Spiranthes aestivalis</i> | Vascular plants |
| <i>Trichomanes speciosum</i> | <i>Trichomanes speciosum</i> | Vascular plants |