Council Directive 92/43/EEC on the conservation of natural habitats and of wild fauna and flora

and

Directive 2009/147/EC of the European Parliament and of the Council of 30 November 2009 on the conservation of wild birds

DRAFT PRIORITISED ACTION FRAMEWORK (PAF) FOR NATURA 2000 IN SWEDEN

Sweden

(2013-04-30)

A. Introductory overview of Natura 2000 network for territory

A.1 Short introduction to the habitat types of Annex I and species of Annex II of the Habitats Directive and Annex I and migratory bird species for which Natura 2000 sites are designated

Sweden hosts 87 habitat types of Annex I and 107 species of Annex II under the Habitats Directive. Among those habitats and species, Sweden has 24 priority habitat types and 6 priority species under the terms of the Habitats Directive (See Annex I and II of this report for more detailed information).

Sources of information: National Natura 2000 data base
Other possible sources: Article 17 HD summary reports; 2010 BAP national summary reports; National web sites; Important Bird Areas 2000 publication or national IBAs

A.2 Number and area of Natura 2000 sites

The highest coverage of Natura 2000 sites is found in the alpine region in northern Sweden. In Mid- and Southern Sweden the network has a low cover, although the sites are well dispersed.

Sweden has a high number of sites, but the frequency of small or very small sites is also high. This is especially true in the boreal and continental parts of SE. In the northern boreal region and the alpine region, some sites on the other hand have a very large area.
In most of Sweden the average size of the sites is small, but mires and lakes can cover larger areas. The high frequency of small sites can make the Swedish network vulnerable to changes in the "matrix" outside the network.

There is a substantial overlap between the SPA sites and the pSCI/SCI/SAC sites. The total coverage of the network is 13.8%.

Sites of Community Importance (SCIs)	<table><tr><th>Total SCI sites</th><th>Total SCI Area (km²)</th><th>Terrestrial SCI Area (km²)</th><th>% of National Area</th><th>Marine SCI area (km²)</th></tr><tr><td>3.984</td><td>64.425</td><td>56.917</td><td>13,7%</td><td>7.508</td></tr></table> *(from Natura 2000 barometer)* Most of these sites have now been designated as SACs, see below. The SCI area has been reduced accordingly.
Reference to Commission Decisions on SCIs	**Atlantic Region Commission Decision:** 2011/63/EU of 10 January 2011 adopting, pursuant to Council Directive 92/43/EEC, a fourth updated list of sites of Community importance for the Atlantic biogeographical region (notified under document number C(2010) 9666) 2010/43/EU of 22 December 2009 adopting, pursuant to Council Directive 92/43/EEC, a third updated list of sites of Community importance for the Atlantic biogeographical region (notified

	under document number C(2009) 10405) 2009/96/EC of 12 December 2008 adopting, pursuant to Council Directive 92/43/EEC, a second updated list of sites of Community importance for the Atlantic biogeographical region (notified under document number C(2008) 8119) 2008/23/EC of 12 November 2007 adopting, pursuant to Council Directive 92/43/EEC, a first updated list of sites of Community importance for the Atlantic biogeographical region (notified under document number C(2007) 5396) 2004/813/EC of 7 December 2004 adopting, pursuant to Council Directive 92/43/EEC, the list of sites of Community importance for the Atlantic biogeographical region (notified under document number C(2004) 4032) **Alpine:** 2011/62/EU of 10 January 2011 adopting, pursuant to Council Directive 92/43/EEC, a fourth updated list of sites of Community importance for the **Alpine biogeographical region** (notified under document number C(2010) 9663) 2010/42/EU of 22 December 2009 adopting, pursuant to Council Directive 92/43/EEC, a third updated list of sites of Community importance for the **Alpine biogeographical region** (notified under document number C(2009) 10415) 2009/91/EC of 12 December 2008 adopting, pursuant to Council Directive 92/43/EEC, a second updated list of sites of Community importance for the **Alpine biogeographical region** (notified under document number C(2008) 7973 2008/218/EC of 25 January 2008 adopting, pursuant to Council Directive 92/43/EEC, a first updated list of sites of Community importance for the **Alpine biogeographical region** (notified under document number C(2008) 271) 2004/69/EC: Commission Decision of 22 December 2003 adopting, pursuant to Council Directive 92/43/EEC, the list of sites of Community importance for the **Alpine biogeographical region** (notified under document number C(2003) 4957) **Boreal:** 2011/84/EU of 10 January 2011 adopting, pursuant to Council Directive 92/43/EEC, a fourth updated list of sites of Community importance for the **Boreal biogeographical region** (notified under document number C(2010) 9667) 2010/46/EU of 22 December 2009 adopting, pursuant to Council Directive 92/43/EEC, a third updated list of sites of Community importance for the **Boreal biogeographical region** (notified under document number C(2009) 10424) 2009/94/EC of 12 December 2008 adopting, pursuant to Council Directive 92/43/EEC, a second updated list of sites of Community importance for the **Boreal biogeographical region** (notified under document number C(2008) 2008/24/EC of 12 November 2007 adopting, pursuant to Council Directive 92/43/EEC, a first updated list of sites of Community importance for the **Boreal biogeographical region** (notified under document number C(2007) 5402) 2005/101/EC of 13 January 2005 adopting, pursuant to Council Directive 92/43/EEC, the list of sites of Community importance for the **Boreal biogeographical region** (notified under document number C(2004) 5462)

Continental:

2011/64/EU of 10 January 2011 adopting, pursuant to Council Directive 92/43/EEC, a fourth updated list of sites of Community importance for the **Continental biogeographical region** (notified under document number C(2010) 9669)

2010/44/EU of 22 December 2009 adopting, pursuant to Council Directive 92/43/EEC, a third updated list of sites of Community importance for the **Continental biogeographical region** (notified under document number C(2009) 10422)

2009/93/EC Commission Decision of 12 December 2008 adopting, pursuant to Council Directive 92/43/EEC, a second updated list of sites of Community importance for the **Continental biogeographical region** (notified under document number C(2008) 8039)

2008/25/EC of 13 November 2007 adopting, pursuant to Council Directive 92/43/EEC, a first updated list of sites of Community importance for the **Continental biogeographical region** (notified under document number C(2007) 5403)

2004/798/EC of 7 December 2004 adopting, pursuant to Council Directive 92/43/EEC, the list of sites of Community importance for the **Continental biogeographical region** (notified under document number C(2004) 4031)

Link to Decisions at
http://ec.europa.eu/environment/nature/natura2000/sites_hab/biogeog_regions/index_en.htm

Special Areas of Conservation (SACs)

3864 of the Swedish Natura 2000 sites have been declared as SACs. 142 sites situated in the Alpine region were designated in 2009, and 3722 sites were designated in 2011 in the Alpine, Boreal and Continental regions. The majority of the Swedish sites are now classified as SACs. The next designation of SACs is planned in 2013.

Total SAC sites	Total SAC Area (km²)	Terrestrial SAC Area (km²)	% of National Area	Marine SAC area (km²)
3864	62.590	56 508	13,3 %	6.082

(from calculation made by SEPA, based on national data from 2011)

Special Protection Areas (SPAs)

Total SPA sites	Total SPA Area (km²)	Terrestrial SPA Area (km²)	% of National Area	Marine SPA area (km²)
531	29.853	25.837	6,2%	4.016

(from Natura 2000 barometer)

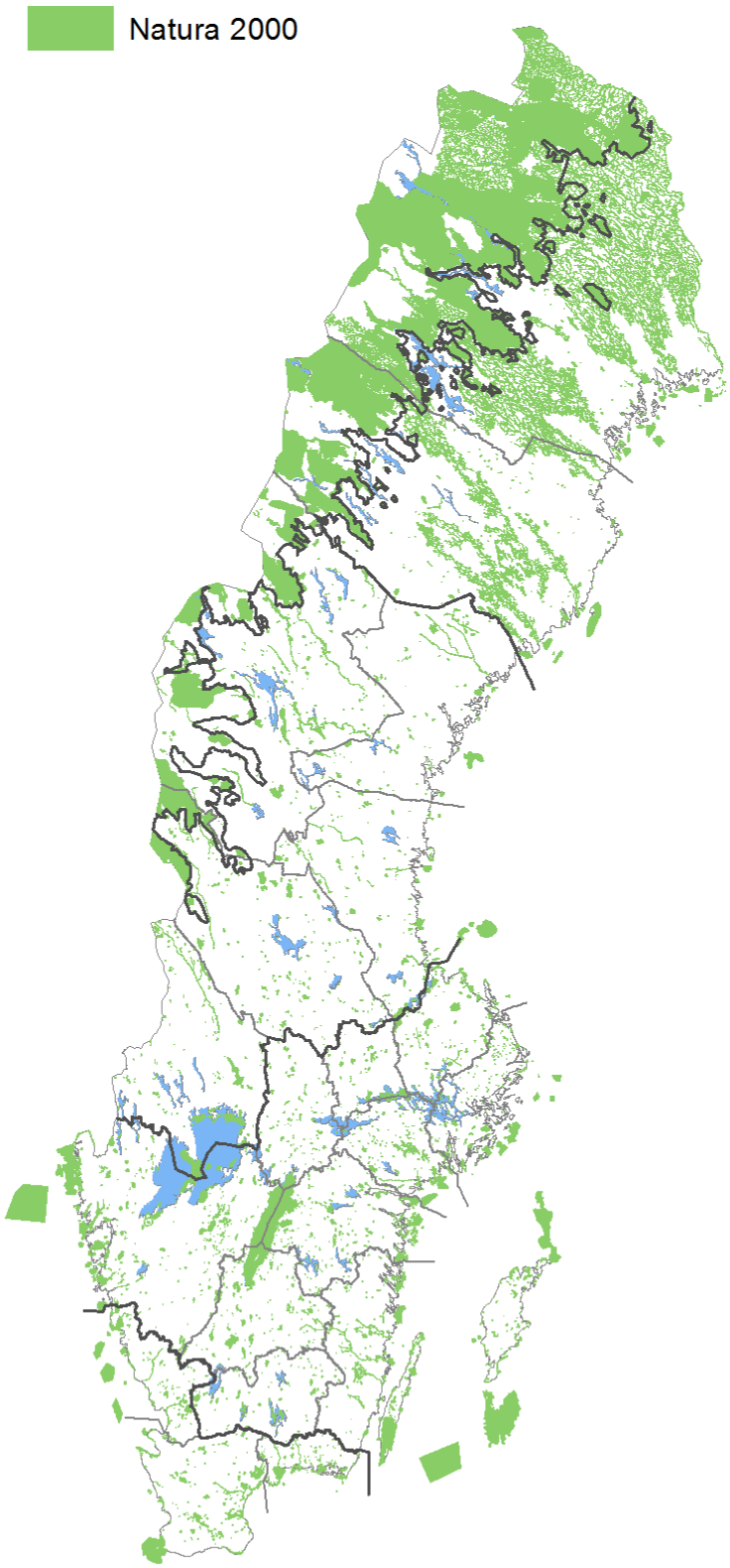
Total Natura 2000

Total Natura 2000 sites	Total Natura 2000 Area (km²)	Terrestrial Natura 2000 Area (km²)	% of National Area	Marine Natura 2000 area (km²)
4.074	64.978	57.124	13,8%	7.854

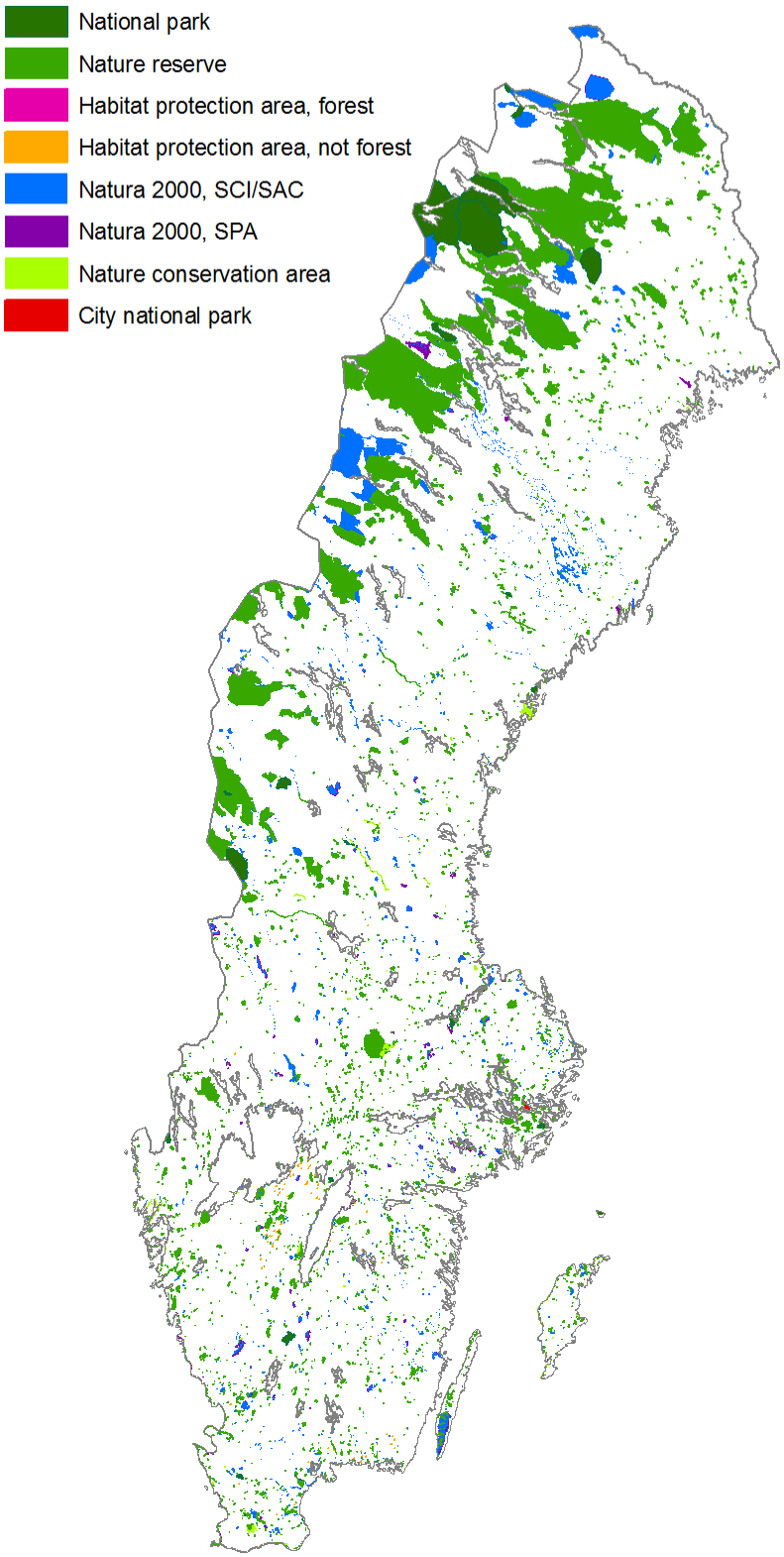
(from spatial information in Natura 2000 database)

A.3 Maps

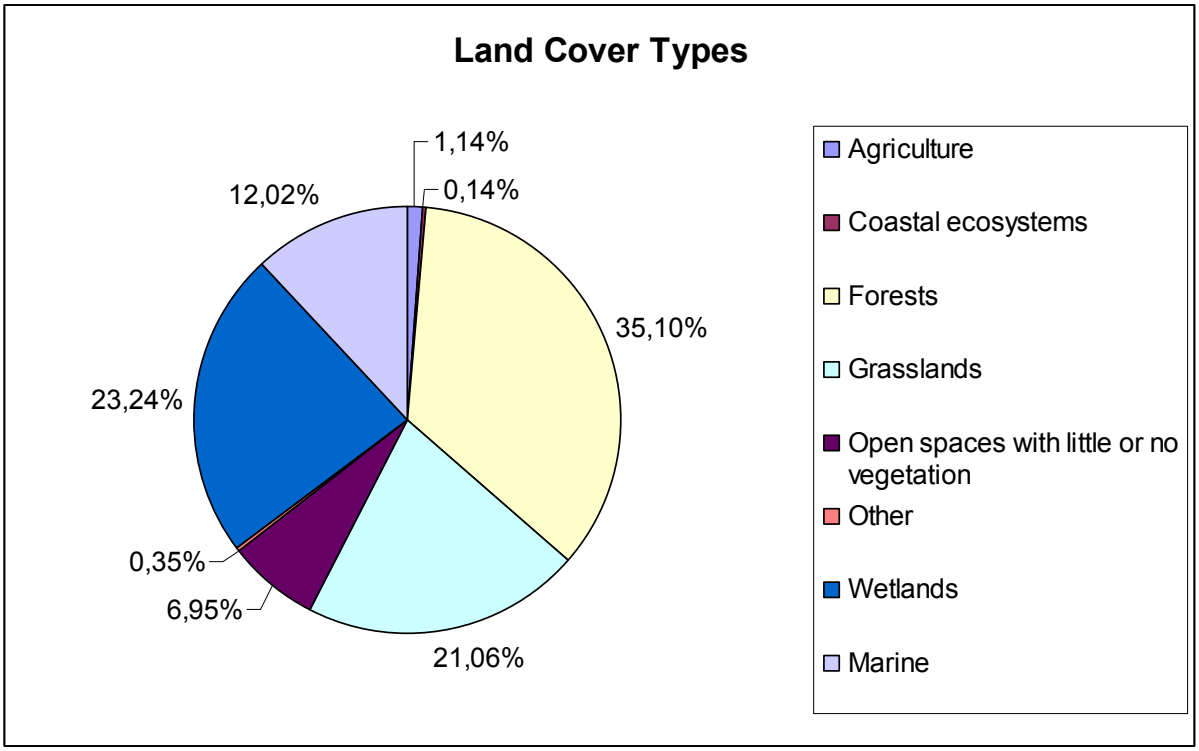
Map of the Natura 2000 network in Sweden



Map of terrestrial protected areas in Sweden



A.4 Main land use covers categories for Natura 2000 sites



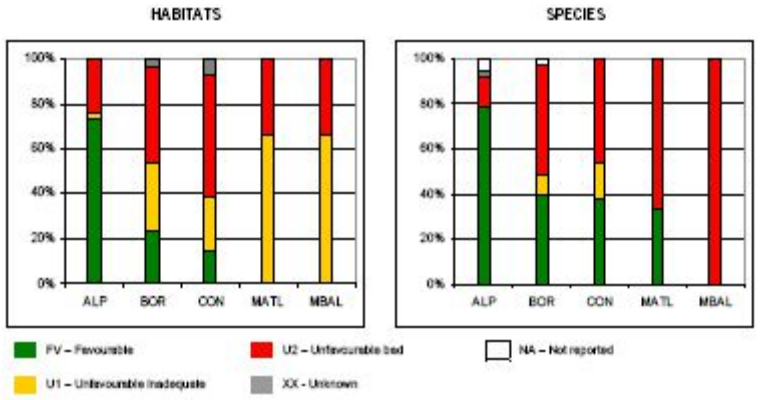
Source of Information: National Natura 2000 data base

B. Status of the Habitats and Species

B.1 Latest assessment of conservation status of species and habitat types for territory

B.1.a Habitat and species of Habitats Directive

Overall assessment of conservation status by biogeographical region (%)



Region / Conclusion	HABITATS					SPECIES				
	FV	U1	U2	XX	NA	FV	U1	U2	XX	NA
Alpine	73	3	24			79		14	2	6
Boreal	23	31	42	4		39	9	49		3
Continental	15	24	55	7		38	16	46		
Marine Atlantic		67	33			33		67		
Marine Baltic		67	33					100		
Member State	30	24	42	4		46	9	42	0.4	3

Note: The highest values are highlighted.

FV – Favourable; U1 – Unfavourable inadequate; U2 – Unfavourable bad; XX - Unknown; NA – Not reported

Conservation status for each parameter (%)

Region / Conclusion	HABITATS					SPECIES				
	FV	U1	U2	XX	NA	FV	U1	U2	XX	NA
Range	91	3	6			73	3	21	0	3
Area / Population	54	8	38			51	5	39	2	3
Structure / Habitat	32	32	30	6		59	29	12	0	
Future Prospects	29	38	28	5		51	34	9	3	3

Interpretation of the data (based on excerpt of the summary from the Swedish Species Information Centre's report "Arter & naturtyper i habitatdirektivet - tillståndet i Sverige 2007 "). It is important to remember that the art 17 assessment was done for the entire landscape. The situation is often different in the Natura 2000 sites.

"*Following the Habitats Directive assessments have been made for each species and each habitat in each of the biogeographical regions… … in which they occur. Some marine species have, however, been assessed in the marine Atlantic and Baltic regions, respectively."*
"The assessment has revealed large differences in conservation status between our species and habitats, a variation mainly caused by differences in population size, range and an evaluation of future prospects, including foreseeable threats. In order to turn negative trends, thereby attaining and maintaining a Favourable Conservation Status for species and habitats, it is necessary to decrease the over-all negative human environmental impact, to expand the number and area of protected sites, and to actively restore and maintain certain threatened habitats.

Habitats currently enjoying a favourable conservation status are mainly found within the northern mountain range, and in rocky areas all over the country, where levels of exploitation are low, and land use is less intense. This applies to e.g. Baltic islands and islets, alpine grasslands and heaths as well as screes and caves.
Other habitats with a favourable conservation status are dystrophic lakes (nationwide) and calcareous fens with Cladium mariscus (Boreal and Continental regions). Several other lacustrine, riverine and wetland habitats only reach a favourable conservation status in the Alpine region, where they cover large areas, are widely distributed, and often occur within protected areas.

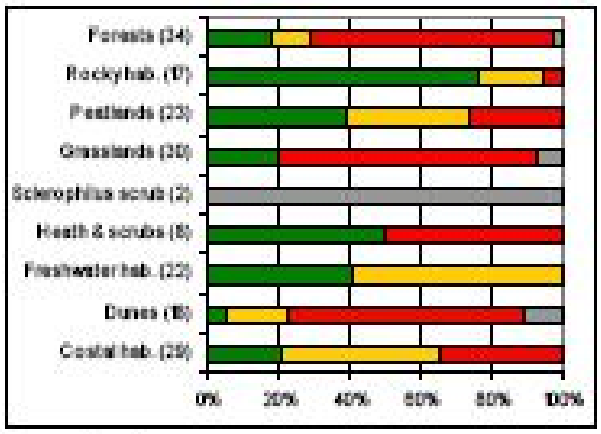
In other parts of Sweden river damming, wetland drainage, sewage effluents and excessive use of fertilisers leakage of nutrients have caused severely disturbed hydrological conditions and eutrophication. As a result, many habitats are currently in an unfavourable conservation status. In recent years, strengthened legislation regulating all kinds of drainage has, however, contributed to an improvement of the situation. Similar patterns apply also to the species. The differences in conservation status between organism groups are, however, large. The conservation status of species and populations is, in general, more favourable in the northern part of the country. This is also true of species associated with montane and rocky habitats. The conservation status of vascular plants and freshwater insects is, on average, better than that of other groups, but also some mammal and fish species maintain a favourable status. Enduring work to decrease acidification, and to restore natural watersheds, together with construction of new ponds and wetlands, is beginning to yield improved conditions for many aquatic organisms. In addition, all frog and toad species currently in an unfavourable conservation status are subjected to Species Action Plans.
Many species are, however, threatened and fail to reach a favourable conservation status. This is often due to decreasing range and excessive loss of habitat, in conjunction with small population sizes. The situation is especially serious for listed butterflies, woodland insects and marine mammals. Commercial fisheries on Atlantic salmon, Vendace, and River lamprey affect these species adversely, as does the presence of dams and other obstacles to migration. Butterflies and some other insects that thrive in traditionally managed, semi-natural grasslands suffer from the abandonment of traditional agricultural practises as well as the transformation of grasslands into woodland. Several species of bryophytes, amphibians, and molluscs are at risk. Prescribed burning of woodland in central and northern Sweden has, however, improved the situation for several species associated with fire and burnt wood.

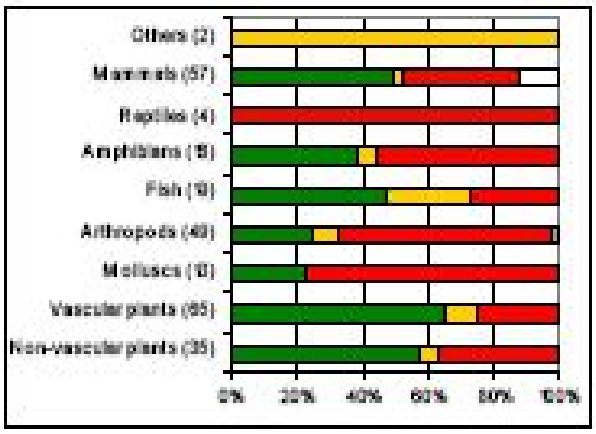
Marine habitats, forests and grassland habitats are generally heavily affected, and as a result neither Range nor Structures and functions reach satisfactory levels. Problems are often associated with inappropriate land use and human exploitation of land and water resources. The situation for several marine habitats is regarded as unfavourable, with negative future prospects, due to excessive nutrient levels and commercial fisheries (mainly bottom trawling). Forest habitats are adversely affected by clear-cutting and other forest practices. Modern forestry management results in severe deficits of coarse woody debris and old trees, and natural disturbances such as fire and flooding are scarce. Valuable grassland habitats suffer from lack of management and are consequently becoming increasingly over-grown with young trees and bushes. Abandonment of agricultural land, fertilisation through deposition of air-borne nitrogen, and an evermore intense use of remaining areas constitute major problems. A small but positive exception concerns calcareous grasslands and alvar on the island of Öland, where a LIFE-funded restoration project has been highly successful."

B.1.b Bird species of Birds Directive

Data about the situation for birds will be provided in the article 12 reporting in 2013.

B.2 Overall assessment of conservation status by Habitat category / species group





(yy) = number of occurrences

The interpretations below are based on the Swedish Species Information Centre's report "Arter & naturtyper i habitatdirektivet - tillståndet i Sverige 2007 ", made about the art. 17 reporting in 2007.

Marine and coastal (1110-1650, +species)
Most habitats have a poor or bad status, if their quality and outlook for the future are considered. Exceptions from this are 1230, 1610, 1620, and 1640 which are considered to have a favorable conservation status since the direct threats are considered small today and in the foreseeable future. The reasons that many habitats in the marine and coastal environment do not qualify for favorable conservation are many, including eutrophication and overexploitation.

The overall situation of seals and porpoises is considered poor*. Populations are at low levels or declining and the state of their habitat is unsatisfactory. The prospects are therefore considered relatively dark. For the seals there are however positive signs since the stocks are slowly recovering, partly due to reduced problems related to environmental toxins. Distribution areas are judged to be satisfactory, with the exception of ringed seals and harbor seals in the Baltic Sea. An important reason for the plight of marine mammals, in addition to the environmental toxins, is the by-catch in fisheries. The situation for *Artemisia campestris ssp botnica* and *Primula nutans* is considered stable. For *Hippuris tetraphylla* the situation is unfavorable because of the small population and poor prospects, caused by the ongoing land upheaval.

*Although the final data for the article 17 report 2013 are not available yet, the situation for Gray seal and Harbor seal (Skagerrak och Kattegatt) seems favorable. The situation for Ringed seal, it is still unsatisfactory but has improved."

Dunes (2110-2330, +species):
The state of the dunes has deteriorated sharply throughout the 20th century. The coastal dunes in southern Sweden have largely been planted with sand-binding vegetation and few areas with moving dunes remain. Overgrowth is ongoing and accelerated by abandoned grazing, by the absence of fire, and by nitrogen deposition and spread of the highly invasive *Rosa rugosa*.

In some dune areas, the bird fauna is disturbed by large numbers of bathing people, and in popular areas the recreation activities can cause negative erosion. For some rare species this has probably been a contributing factor to their regression. In most areas, the problem is quite the reverse, where too little soil disturbance has led to encroachment and shrinking areas of open sand. The clearance of beaches can also be a problem, particularly if the collected material is dumped in the white dunes. There is also a risk that the eutrophication of the sea will affect the dunes negatively, if it leads to increased amounts of algae that accumulate along the coast. This will lead to increased nutrient levels, which can stimulate the overgrowth.
The conservation status of the dunes has generally been considered poor. The situation is worst in the Continental region. In the Boreal region, the state is not good either, although the situation in the county of Norrbotten is much brighter and relatively large areas of intact dune systems exist. On the islands Gotland, Gotska sandön and Öland the state of the dunes is considerably worse with problems similar to those in the continental region. The inland dunes are even more dependent than the coastal dunes on disturbance through grazing, trampling or fire. In many areas they are encroached by vegetation, and it is common that they have been forest planted. This has meant that many insects associated with open habitats with bare sand have decreased. The same applies to *Lacerta agilis* that relies on open, sun-warmed, sandy areas. Due to the fragmented distribution and small population size, it has been assessed as having a poor conservation status in the whole country.

Lakes and watercourses (3110-3260, +species):
The habitats have a good distribution and sufficient areas in the country. The habitat quality and future prospects are however worse in some cases. For the rivers, the situation is best in the Alpine region where two types are considered to have favorable conservation status. In other parts of the country, the situation is unsatisfactory. Many species have suffered population losses due to deteriorating habitat and water quality, resulting from fragmentation, clearance of watercourses, settlements and land use changes. The demand for hydropower and the effects of climate change make the future uncertain. Restoration is a positive measure in large as well as small rivers, but it is only in the Continental region that the current efforts are consedered sufficient for reversing the negative trend. The overall status for the watercourses in the Continental region are however still negative.

Mire lakes (3160) are considerad to have a favorable status. The habitat occurs in the forest and mire landscape all over Sweden. Since the habitat is common and there is a general regulatory framework that prevents negative influence of drainage, the prospects are good, and the need for action is limited. For the habitats 3110 and 3130 the conditions are worse. Acidification and detrimental impacts on water quality has affected the incidence and prevalence of typical species. In addition, there is a risk that the conditions will deteriorate since a growing "brownification" (increased watercolor) can disadvantage species that depend

on clear water. The state of naturally nutrient-rich lakes (3150) and calcareous lakes (3140) is judged to be stable but unsatisfactory. General measures aiming at the reduction of the nutrient load, along with the restoration and maintenance efforts contribute to a stable situation.

Several of the species linked to freshwater, have been prioritised in the previous conservation work. The otter population is growing both in numbers and distribution, and although the population is still small, the trend is positive. For the crayfish, *Astacus astacus*, the prospects are, however, very dark. It is acutetely threatened, and every new outbreak of crayfish plague reduces both the distribution and the population size. *Unio crassus* and *Margaritefera margaritifera* both have poor conservation status primarily due to reproductive failure in many rivers. The prospects for the thick-shelled river mussel have however brightened somewhat, partly due to inventories leading to increased knowledge. Several fish species are negatively affected by migratory barriers, other physical impacts on their habitats, and intensive fishing. This is most evident for the migratory and economically interesting species salmon, river lamprey and grayling. Conservation efforts have however contributed to increased population levels and brightening future prospects. *Coregonus albula* is on the other hand expected to have a negative trend due to the continued impact from fishing. There is a large, general lack of knowledge regarding freshwater invertebrates, but the situation is expected to be broadly favorable to the dragonflies and beetles included in the directive. Regarding the plants, the situation is bad for the red-listed species *Persicaria foliosa*, *Najas flexatilis* and *Alisma wahlenbergii*. They grow in shallow waters in the zone close to the shores where the impacts of regulation, development and land use are greatest.

Semi-natural grasslands (4010-6530 except alpine grasslands, 8240, 9070, + species)
Most of the management-dependent grassland habitats have declined sharply and become fragmented as the traditional farming practices and resulting mosiac landscape have been replaced by modern agriculture and forestry, with large units and sharp boundaries between different land uses. The majority of the semi-natural habitats, and a large proportion of the species associated with them, have a bad conservation status. The main reason is that the habitat types currently have too small and fragmented occurences, and that the remaining areas in many cases have a low quality due to eg abandoned management, nitrogen deposition or poorly adapted management. This has in turn led to the species decline. The situation is similar in all biogeographical regions, although there are some differences. The problem of land abandonment is greatest in the Alpine and Boreal regions while nitrogen deposition from air pollution causes most problems in the Continental region.

The only habitats with favorable conservation status are tall herb meadows (6430) in the Alpine region and grasslands on limestone bedrock (6110, 6280, 8240) in the Continental region. In this region the three latter habitat types only occur in connection with the Great Alvar on Oland, where recent restoration work has made the conservation situation relatively satisfying.
The meadow habitats (6510, 6520, 6530) are particularly threatened since the traditional mowing of natural grasslands has declined dramatically throughout the country during the 20th century. Now only small fragments remain of these once common habitats. The decline is particularly troubling since a great diversity of species is associated with these environments. Many insect populations have been hit hard by the change in the agricultural landscape. The butterflies are particularly vulnerable and many species have declined sharply in recent decades, eg *Maculinea arion*, *Lycaena helle* and *Parnassius mnemosyne*. Experiences from

the Swedish work with Species Action Plans have shown that *Parnassius mnemosyne* responds positively to targeted conservation measures. Lack of deciduous veteran trees and the overgrowth of meadows and pastures, including wooded pastures, threatens many insects and other invertebrates associated with hollow trees and dead wood, such as hermit beetle and *Antrenochernes stellae.* For these two species the on-going mapping of veteran trees and recent management actions in areas with old oaks have made the forecast look somewhat brighter. A greater proportion of the plants have a favorable conservation status. This is partly because they can persist long even in less favorable environments. They are not as sensitive to fragmentation, and do not react as quickly as the animals to the fragmentation and isolation of populations. Therefore they are not equally affected by the lost landscape mosaic.

Wetlands (7110-7320, + species)
Despite the loss of large wetland areas through drainage and ditching, most of the wetland habitats are considered to have a sufficient occurence for enabling a favorable conservation status. The quality and the state of them are however shifting, and there is a generel need for improvement, since there is a negative impact on many of the remaining wetlands.
Several of the species that depend on wetlands decrease, which probably is a reflection of deteriorating habitat quality. For the Palsar mires (7320) a habitat that only occurs in the Alpine region, the state is bad and the outlook negative. The warmer climate has meant that the permanently frozen peat structures that are part of ther natural state, have collapsed in e g the county of Västerbotten. The distribution area has thus been reduced significantly and no improvement is in sight. The other wetlands in the Alpine region are considered to have favorable conservation status.

I the rest of Sweden, the long-term influence from agriculture, forestry and air pollution have caused overgrowth and disturbed hydrological conditions, and the quality of the wetlands has been significantly diminished. 7210 is the only wetland type that is considered to have a favorable status, and an increasing area. In some cases, this increase is related to loss of rich fens (7230). Rich fens often host high biodiversity and are important habitats for threatened species. Many of the rich fens, especially in southern Sweden, are depending on traditional management, and the lack of management is, in additonal to the insufficient occurence, a reason for the unsatisfactory situation. Both factors have also led to a shrinking habitat for several species like vertigo snails and *Liparis loeselii.* It is hoped that efforts according to the Species Action Plan for rich fens will improve the situation.

The knowledge about 7160 is insufficient. Lack of consideration in forestry is a substantial risk for further damage and unintended impact on the often small habitat patches. Overgrowth and encroachment of open bogs is the most significant cause for deterioration in bogs (7110) and other open bogs and fens (7140). The background reasons are disturbed hydrology, nitrogen deposition and a longer growing season due to a milder climate.
The condition of the wetlands has received attention in recent decades and measures are made to protect, manage and restore wetlands. Stricter provisions regarding drainage have been of great significance. Thanks to the widespread prevalence, there are still large areas of relatively undisturbed wetlands worth preserving.

Several of of the wetland species in the Habitats Directive are red-listed in Sweden and some are covered by Species Action Plans. The positive results from implemented measures have led to good prospects for most frog species, although the populations and areas of distribution are still insufficient. The re-construction of wetlands and ponds have increased the living space and facilitated the migration of the frogs. Tree frog and fire-bellied toad are especially

successful examples. *Meesia longiseta* grows on open quagmires along the shores of lakes and watercourses. The moss has been lost in southern Sweden, probably due to eutrophication. Large-scale measures to reduce nutrient loading will be required if the status of this species is to be improved.

Rocks and substrates (8110-8310, + species)
The majority of the habitats are considered to have a favorable conservation status. There are hardly any negative impacts on these habitats, they are typically stable and change very slowly. The only exception is 8230 where the status is considered insufficient. The situation is worst in the Boreal region where the quality and prospects are considered unsatisfactory and the area decreases. In the Continental region, the situation is bad because of deficiencies in the quality and since the prospects are bleak.
A future threat may be overgrowth because of climate change and reduced grazing pressure. In 8110 and 8120, stabilization of soil can have a negative effect on the typical plants. A high visitor pressure in caves may influence bats negatively.

Most of the species that have their main residence in these habitats are considered to have favorable conservation conditions thanks to the stability in the environment. One exception is *Agriades aquilo*. The state of the species' habitat is considered favorable, but both range and population sizes are too small. The prospects are still judged to be cautiously optimistic since the species can occur in fairly large numbers locally, and no threats are known.
The majority of the species associated with rocks and substrates live in rare but stable environments. Since many of them are naturally rare, they are particularly sensitive to disturbances. Large-scale factors such as air pollution and climate change, causing increased temperature and wind, lead to a greater risk of dehydration which may have a major impact on several of the species and habitat types. Exploitation and changes in management, such as reduced grazing, can have a major impact on locally occuring species and rare habitats.

Mountains (4050, 4080, 6150, 6170, 7240, 8340, + species)
The status of most of the mountainous species and habitats is assessed as good or very good. Absence of negative impacts, in combination with large, continuous natural areas, which often are protected, are important reasons for the favorable situation. The exploitation threat is low due to formal nature protection, and the size of the protected areas makes the effect of external impact small. The only habitat considered to have an unfavorable status is glaciers. The poor status is due to a steady decrease in acreage due to the rising temperature that makes the glaciers melt away at an accelerating rate. However, there are also threats to the other habitat types, although they are considered to lie further into the future. Overgrowth due to changes in management or reduced grazing pressure and climate change may have a negative effect on alpine grasslands and changes in hydrology may lead to decreased occurrences of 7240.

The decline of the arctic fox began with the intensive hunting in the early 20th century, after which it has never recovered. The population has been greatly reduced, the distribution area is small and fragmented, and the future looks dark. Competition from red foxes is a problem and the food supply, in the form of small rodents, has been poor since the early 1980's. 2011 was however a very favorable year for the fox, because it was a lemming year. For butterflies, the climate change may be a problem if it leads to increased summer precipitation, since they are dependent on a sunny and dry local climate. For all plants in the mountains, the situation has been assessed as favorable. Populations are stable since a long time, and are likely to stay

stable in the near future. Since several of the species are naturally rare, their status can change rapidly. The main threat is the changing climate, but a change in grazing pressure can also have a big impact.

Forest (9010-91F0 except 9070, + species)
In almost all cases the range of the forest types is considered favorable, but the species' ranges have declined in several cases. The situation of the invertebrates and mosses is particularly serious. For many species, this can be explained by loss of habitat, and fragmentation of certain forest types. Deficiencies in the forest quality is another explanation, the lack of dead wood and old trees, and the absence of fire and floods are some key reasons for this. The intensification of forestry makes the prospects seem dark for some of our coniferous and mixed forests, especially for nutritious spruce forest (9050) and taiga (9010), and the species that are associated to them. The main reason is the felling of forests with high conservation values, but clearing and thinning are also affecting the forest structure negatively. Other threats that may play a larger role in the future, are forest fertilization and the spread of alien species. Due to the increased consideration of humid forest types in recent decades, the state of the wet woodland types 9080, 91E0 and 91D0 have inproved. In southern Sweden, intensive land use and extensive drainage and ditching have however already largely eradicated these habitats.

The nemoral forest types are largely dominated by different broadleaved tree species. The area of broadleaved woodland has not changed in any obvious way in the last century, but a major decline is likely to have occurred earlier. This, combined with the lack of old trees and deadwood, competition with spruce and nitrogen deposition, means that the situation is unfavorable for the broadleaved deciduous forests. Reduced deposition of sulfur and the ambitions to protect and restore broadleaved forests and streams with adjacent forest gives some hope for some forest types. Exploitation is an imminent threat for many broadleaved forests due to their proximity to populated areas.

The mountain hare has been pushed back by the snow-free winters and clear cutting practices, which lead to increased predation and competition with the introduced European hare, whose range is expanding. Several of the mosses have such a limited occurence that they suffer a high risk of disappearing unless the places where they occur are protected. *Euphydryas maturna, Pulsatilla vulgaris ssp gotlandica* and *Pulsatilla patens*, are disadvantaged by the lack of small-scale disturbance and by the forests becoming denser.

Due to the historically higher population pressure in southern Sweden, the situation is in many cases more difficult in the Continental region than in the Boreal. The situation in the south has been made worse by the high deposition of nitrogen and sulfur. In the Alpine region, the status and prospects are generelly brighter.

Bats
The bats are mainly influenced by changes in agriculture and forestry, but to some extent also by other activities such as the renovation of old buildings. These measures can be both positive and negative. Creation of wetlands, and shrub and tree clearing in overgrown pastures have positive effects, while spruce plantation on the infields and brush and tree clearing along the edges of forests and beaches have negative effects.

For seven of the bat species covered by the Habitats Directive the conservation status is assessed as favorable. For the remaining five species, the status is bad for the population size, and for *Myotis daubentonii* also in terms of geographical range. The population size for these five species is currently considered to be at 10-60% of the desired level.

B.3 Overview of pressures and threats to species and habitats

Category of pressure / threat	HABITATS		SPECIES	
	Actual pressures	Future threats	Actual pressures	Future threats
Agriculture, Forestry	75	74	59	58
Fishing, hunting and collecting	11	11	20	15
Mining and extraction of materials	23	20	8	7
Urbanisation, industrialisation and similar activities	37	34	24	22
Transportation and communication	31	30	10	10
Leisure and tourism (other than above)	29	28	11	12
Pollution and other human impacts/activities	73	72	42	42
Human induced changes in wetlands and marine environments	45	39	45	44
Natural processes (biotic and abiotic)	73	75	31	33

The following texts describe the situation at landscape level. The problems and threats are different in protected areas, but we do not have any summarised data for the situation in them.

Marine and coastal (1110-1650, +species)
Many of the marine and coastal habitats have a general need for measures to avoid further deterioration. Measures should first and foremost focus on reducing eutrophication and toxic emissions, among the many environmental problems concerning the marine environment. It is also important with more environmental considerations in relation to exploitation of the coastal environment, to increase the amount of protected areas, and to take the climate issue very seriously. Commercial fishing has a major impact on many species and their habitats. Besides different types of fishing regulations, continued development of selective fishing gear and fishing methods that do not destroy the bottoms is required. In addition to national conservation programs, it is necessary with international cooperation, like marine conventions, in order for the state of the Swedish marine and coastal environment to improve.

Principal threats to red-listed species of Swedens marine environment	*Number of species strongly affected*
Fisheries	ca 35
Eutrophication	15-20
Oil and toxic pollutants	ca 10
Sedimentation	ca 10
Overgrowth	ca 10
Oxygen depletion	ca 5
Alien species	ca 5
Warmer climate	ca 5

Dunes (2110-2330, +species):
Increased amounts of open dunes and open and moving sand are required if the situation is to be improved. This can be achieved relatively easily by clearance of shrubs and trees, controlled burning, and in some cases reintroduced grazing. In wooded dunes the mosaic often needs to be enhanced by the creation of more gaps in the tree and shrub layer, and larger areas of open sand. The proportion of old trees is often too low and the amount of dead wood too small, and fire and grazing can be appropriate management measures even in wooded dunes. Restoration measures are currently being tested in the County of Halland, and they will also be an important part of the SandLIFE project. The work will provide important knowledge about how future management should be designed and how the larger-scale restoration of dune areas can be implemented. With sufficient resources, well-designed restoration methods and appropriate recurring management it should be possible to relatively quickly improve the state of Sweden's dune habitats.

Lakes and watercourses (3110-3260, +species):
In order to improve the situation greater consideration in forestry, agriculture, and in connection with development adjacent to lakes and streams is required. Preservation and restoration of lakes and streams must continue, as well as the work with measures to achieve good ecological status. Fish conservation measures and actions proposed in the framework of the Species Action Plans are also important to carry to implement.
There are important benefits that can be attained by an improved co-ordination with the implementation measures related to the Water Framework Directive.

Principal threats to red-listed species of fresh waters	*Number of species strongly affected*
Overgrowth	65-95
Eutrophication	ca 60
Filling of ponds	55-60
Drainage and ditch clearance	40-50
Regulation of rivers/lakes	30-40
Embankment, channelisation	ca 20
Water abstraction	ca 20
Acidification	ca 10
Alien species	ca 5
Warmer climate	ca 5

Semi-natural grasslands (4010-6530 except alpine grasslands, 8240, 9070, + species)
There is a need for larger and more coherent areas of high quality grassland, if the state of semi-naturual grassland habitats and associated species are to be improved. Increased amounts of flowers are necessary, and a significantly increase in the amounts of mown, unfertilized meadows could be a solution. The re-creation of a mosaic landscape with more and wider buffer zones, and less sharp boundaries between different land use forms, especially between forest and pasture, is crucial for the long-term survival of many species. The achievement of the mentioned improvements in the agricultural landscape requires that different sectors of society work together, especially the agricultural and forestry sector. The CAP regulation and national implementation program will be of fundamental importance for which results that can be achieved. Since the payments currently are the strongest steering mechanism for grassland conservation, a design of the national programme for 2014-2020 that favours biodiversity and conservation of habitats and species as far as possible, is crucial.

Principal threats to red-listed species of the farmed landscape	*Number of species strongly affected*
Scrub/woodland encroachment	800-1000
Cessation of grazing	500-600
Inappropriate grazing, especially high grazing pressure	350-400
Increased nutrient levels in farm soils (chiefly semi-natual pastures and meadows)	ca 300
Forest planting	ca 300
Removal of old, large tress and deadwood	50-200
Use of presticides	ca 100
Early mowing	ca 100
Cessation of mowing	ca 100
Drainage and ditch clearance	ca 100
Changed crop rotations and seeds	ca 50
Inapproproate clearance of shrubs/thickets	ca 50
Development of land	ca 50

Wetlands (7110-7320, + species)
In order to improve the wetland conditions, it is necessary to reduce the overall impact of nitrogen deposition and climate change, while the hydrology of affected wetlands must be restored. In addition, measures are needed to restore and improve the state of management-favored wetlands, eg by mowing or extensive grazing. The measures can also benefit species like *Euphydryas aurinia*. Significant current efforts to conserve wetlands are site protection, restoration and recreation of wetlands and the implementation of targeted Species Action Plans.

Principal threats to red-listed species of the Mire landscape	*Number of species strongly affected*
Drainage and ditch clearance	ca 90
Scrub/woodland encroachment	ca 70
Eutrophication	ca 25
Peat extraction	ca 20
Regulation of rivers/lakes	ca 15

Rocks and substrates (8110-8310, + species)
It is important to follow the development of both habitats as species regularly, in order to enable early detection of adverse changes, and to take steps to ensure favorable conservation status in the future. This is especially true for rare habitats and species, where each site and each population is of great importance. Dry rock meadows (8230) is a habitat that that requires extra attention as it often occurs in small patches that can be overgrown quickly if management ceases.

Mountains (4050, 4080, 6150, 6170, 7240, 8340, + species)
Among the species associated to the mountains, it is mainly the arctic fox, but maybe also some butterflies, which need action to ensure survival in the long term. The threats to the different butterfly species need to be identified before the necessary actions, that can improve the situation, can be taken.

For the improvement of the status of the glaciers, measures are needed at the global level. The only thing that can prevent their melting is lowered air temperature, especially in winter. Alpine marshes (7240) normally cover relatively small areas, and are sensitive to overgrowth. For them it is important to design a monitoring system where negative changes can be detected.

Principal threats to red-listed species of mountains	*Number of species strongly affected*
Warmer climate	30-40
Scrub/woodland encroachment	ca 20
Grazing by reindeer	ca 10
Illegal hunting	ca 5

Forests (9010-91F0 except 9070, + species)

Formal protection is currently the most important measure to prevent further loss of the forest habitat types, but restoration and re-creation are important in the long run. Additionally, an enhanced general consideration of biodiversity values in connection with harvesting, is important for the species' ability to survive. Some species, on the other hand, are dependent of natural disturbances like forest fires. The lack of disturbance factors like forest fires, insect outbreaks, varied water levels and grazing, together with increased nitrogen availabilty has made the forest habitats denser and darker. The work with prescribed forest fires has improved the situation for *Stephanpachus* beetles and *Aradus angularis*. Forest fires still only affect small areas and the volume needs to be increased in order to benefit all the species that depend on this disturbance regime. The restoration of natural water fluctuations in regulated rivers is an important measure to improve the status of near-shore forests. The maintenance and promotion of other moist forest types requires restrictions on drainage, ditch cleaning and groundwater abstraction.

Principal threats to red-listed species of the forest landscape	*Number of species strongly affected*
Felling	1500-1600
Removal of deadwood	ca 700
Shrub encroachment/denser tree growth	600-700
Off-road driving, Road building, site preparation	ca 200
Drainage and ditch clearance	ca 200
Forest fertilization	ca 50
Acidification	ca 50

Bats

The improvement of the situation for the bats primarily requires measures that make the populations denser, eg an increase in the amount of colonies of *Barbastella barbastellus, Myotis mystacinus, M. nattereri* and *M. dasycneme* within their present ranges. For *M. dasycneme* re-estblishment outside the current range is also required. The first three species can achieve denser populations with the help of habitat improvement measures like restoration of traditional agricultural landscapes, increses in the amounts of deciduous trees, preservation and recreation of wetlands and wet forest types, creation of woodland borders with a high amount of deciduous trees, and conservation of old hollow trees. *M. dasycneme* is probably favored by similar measures, although the ecology of the sepcies is not as well known. For *Vespertilio murinus*, which is considered to have a too small population for the situation to be regarded as adequate, we courrently lack knowledge about which conservation measures that could improve the population level.

Source of Information: The Swedish Species Information Centre's report "Arter & naturtyper i habitatdirektivet - tillståndet i Sverige 2007 ", made about the art 17 reporting in 2007. The tables with principal threats to redlisted species in different landscapes are based on the SEPA report "Biodiversity in Sweden - Monitor 22". SEPA has added some minor points.

C. Legal and administrative provisions for the protection and management of the Natura 2000 sites

C.1 Relevant legal provisions

The most important parts of the Swedish legislation covering Natura 2000 sites are included in the 7th chapter of the Swedish Environmental code, §§ 27-29. These rules regulate the permit procedures/requirement for appropriate assessments for all actions and activites, within or outside the sites, that can have a substantial influence on the conditions in Natura 2000 sites. The requirements for Environmental Impact Assessments are also described in the code, in chapter 6, §1. SEPA has produced a handbook with guidance about how these rules are to be interpreted, and regering the implementation of the permit procedures.

It is obligatory to produce descriptions of the conservation objectives, and of the designated habitats and species in Natura 2000 sites, according to the Government Ordinance about Site Protection, a part of the Swedish Environmental Legislation, supporting the Swedish Environmental Code with detailed provisions. §17 covers the requirement for the County Administrative Boards (, CABs, regional authorities) to produce such descriptions, and briefly describes their content. Concerning the interpretation of this paragraph, SEPA has given formal advice, which stipulates that these descriptions are to be formulated in special conservation plans (bevarandeplaner) for each site. The CABs adopt the plans, but they are not legally binding. SEPA has also developed more detailed guidance about how the plans should be produced and about their content.

The Swedish Environmental Code specifies that Natura 2000 areas "*shall be given priority in future protection measures*" and there is a requirement, in the Government Ordinance mentioned above, for authorities to give priority to conservation work in the areas, and for them to (within their fields of responsibility and power) carry out the actions that are necessary or suitable with regard to the conservation interests that motivated the designation. The authorities are required to ensure that a favourable conservation status is maintained or restored for the species and habitats concerned.

For sites where the present land use regime isn't compatible with preservation of habitats and species in good condition, it can be necessary to buy the land use rights from landowners. This is often the case in forested areas, since forestry is not considered possible to carry out in the wooded habitats without deteriorating them. The compensation payments to landowners are normally regulated through formal protection of the areas as nature reserves or by an equal protection regime. The regulations concerning this are mostly found in the 7th chapter of the Swedish Environmental Code.
The fact that plans are not legally binding, means that management actions that are suggested in them, have to be consistent with other national protection documents, such as the legal acts concerning protection of nature reserves, to be legal to perform. If the documents aren´t consistent, the actions can not be performed until the national protection act for the nature reserve has been updated. For sites that have no other formal protection, management actions depends on e g the willingness of farmers to undertake grazing or mowing, and to apply for funding for this. If they apply for funding from the RDP (which they do in most cases) the agreement concerning their environmental scheme regulates the management of the semi-natural grasslands on a site. The CABs can also write special contracts with stakeholders, regulating management measures.
Source of information: SEPA

C.2 Progress and perspectives in management planning for the sites

Progress in establishing conservation objectives	For all Natura 2000 sites with conservation plans (bevarandeplaner) conservation objectives have been formulated for the designated habitats and species. For the more than 3000 sites where the designations have been updated in 2012, the objectives need to be reviewed. Conservation objectives can also be found in protection documents for national protection forms such as Nature reserve protection acts and management plans. In cases where these acts and plan are not updated in relation to the Natura 2000 designation, the objectives can be conflicting. The Swedish SAC designations do not contain conservation objectives or priorities, instead these are found in the conservation plans.
% of sites with plans completed	97% (3953 sites)
% of sites with plans in preparation	1 % (28 sites)
% of sites with no plans	2 % (90 sites)
Link to web sites with plans & any guidelines	The Swedish guidelines about issues related to Natura 2000 are found in the "Natura 2000 handbook", which is available as a pdf at http://www.naturvardsverket.se/Documents/publikationer/620-0131-0.pdf. The handbook covers designation of sites, preparation of management plans, and impact assessments. Monitoring of protected areas is described in http://www.naturvardsverket.se/Documents/publikationer/978-91-620-6379-5.pdf National interpretations of the habitat definitions, and guidelines about habitats and species can be found at SEPAs website. The interpretations and guidelines are written in Swedish. Habitat interpretations: Marine and coastal: http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/natura-2000/naturtyper/kust-och-hav/hav_och_kusttolkninga_2011.pdf Dunes : http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/natura-2000/naturtyper/dyner/dyntolkningar_2011.pdf Lakes and rivers : http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/natura-2000/naturtyper/sotvatten/sotvattentolkningar_2011.pdf Grasslands : http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/natura-2000/naturtyper/grasmarker/grasmarkstolkningar_2011.pdf Wetlands : http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/natura-2000/naturtyper/myrar/myrtolkningar_2011.pdf Rock, cave, glacier : http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/natura-2000/naturtyper/berg-och-substratmarker/berg_och_substrattolkningar_2011.pdf Forest : http://www.naturvardsverket.se/upload/stod-i-miljoarbetet/vagledning/natura-2000/naturtyper/skog/skogstolkningar_2011.pdf Guidelines for habitats can be downloaded at: Marine and coastal: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-2000-Kust-och-hav/ Dunes: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-2000-Dyner/ Lakes and rivers: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-2000-Sotvatten/ Grasslands: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-

	2000-Grasmarker/ Wetlands: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-2000-Myrar/ Rock, cave, glacier: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-2000-Berg-och-substratmarker/ Forest: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-2000-Skog/ Guidelines for species: Can be downloaded at: Vertebrates: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-2000-Ryggradsdjur/ Evertebrates: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-2000-Ryggradslosa-djur/ Vascular plants: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-2000-Karlvaxter/ Mosses: http://www.naturvardsverket.se/Stod-i-miljoarbetet/Vagledningar-A-O/Natura-2000-Mossor/ Management plans for sites can be found on the websites of the 21 different CABs. The plans are written in Swedish. Natura 2000 management plans in the County of Stockholm http://www.lansstyrelsen.se/stockholm/Sv/djur-och-natur/skyddad-natur/natura-2000/bevarandeplaner-for-natura-2000-omraden/Pages/default.aspx Natura 2000 management plans in the County of Uppsala http://www.lansstyrelsen.se/UPPSALA/SV/DJUR-OCH-NATUR/SKYDDAD-NATUR/NATURA-2000/LANETS-NATURA-2000-OMRADEN/Pages/default.aspx Natura 2000 management plans in the County of Södermanland http://www.lansstyrelsen.se/sodermanland/Sv/djur-och-natur/skyddad-natur/natura-2000/Pages/Bevarandeplaner.aspx Natura 2000 management plans in the County of Östergötland http://www.lansstyrelsen.se/ostergotland/Sv/djur-och-natur/skyddad-natur/natura-2000/bevarandeplaner-kommunvis/Pages/bevarandeplaner.aspx Natura 2000 management plans in the County of Jönköping http://www.lansstyrelsen.se/jonkoping/Sv/djur-och-natur/skyddad-natur/natura-2000/Pages/bevarandeplaner.aspx Natura 2000 management plans in the County of Kronoberg http://www4.g.lst.se/nat2000/default.asp Natura 2000 management plans in the County of Kalmar http://www.lansstyrelsen.se/kalmar/sv/djur-och-natur/skyddad-natur/natura2000/Pages/bevarandeplaner.aspx Natura 2000 management plans in the County of Gotland http://www.lansstyrelsen.se/gotland/sv/djur-och-natur/skyddad-natur/natura-2000/natura-2000-pa-gotland/Pages/index.aspx Natura 2000 management plans in the County of Blekinge http://www.lansstyrelsen.se/blekinge/Sv/djur-och-natur/skyddad-natur/natura2000/Pages/Bevarandeplaner.aspx Natura 2000 management plans in the County of Skåne http://www.lansstyrelsen.se/skane/Sv/djur-och-natur/skyddad-natur/natura-2000/Pages/index.aspx Natura 2000 management plans in the County of Halland

	http://www.lansstyrelsen.se/halland/Sv/djur-och-natur/skyddad-natur/natura-2000/Pages/Faststallda_bevarandeplaner.aspx Natura 2000 management plans in the County of Västra Götaland http://www.lansstyrelsen.se/vastragotaland/Sv/djur-och-natur/skyddad-natur/natura-2000/Pages/bevarandeplaner.aspx Natura 2000 management plans in the County of Värmland http://www.lansstyrelsen.se/varmland/Sv/djur-och-natur/skyddad-natur/natura2000/bevarandeplaner/Pages/index.aspx Natura 2000 management plans in the County of Örebro http://www.lansstyrelsen.se/orebro/Sv/djur-och-natur/skyddad-natur/natura-2000/Pages/Bevarandeplaner.aspx Natura 2000 management plans in the County of Västmanland http://www.lansstyrelsen.se/VASTMANLAND/SV/DJUR-OCH-NATUR/SKYDDAD-NATUR/NATURA-2000/LISTA-OVER-BEVARANDEPLANER/Pages/natura2000-omraden.aspx Natura 2000 management plans in the County of Dalarna http://www.lansstyrelsen.se/dalarna/Sv/djur-och-natur/skyddad-natur/natura2000/bevarandeplaner/Pages/default.aspx Natura 2000 management plans in the County of Gävleborg http://www.lansstyrelsen.se/gavleborg/Sv/djur-och-natur/skyddad-natur/natura2000/Pages/index.aspx Natura 2000 management plans in the County of Västernorrland http://www.lansstyrelsen.se/vasternorrland/Sv/djur-och-natur/skyddad-natur/natura-2000-omraden/bevarandeplaner/Pages/default.aspx Natura 2000 management plans in the County of Jämtland http://www.lansstyrelsen.se/jamtland/Sv/djur-och-natur/skyddad-natur/natura-2000/Pages/bevarandeplaner.aspx Natura 2000 management plans in the County of Västerbotten http://www.lansstyrelsen.se/vasterbotten/Sv/djur-och-natur/skyddad-natur/natura_2000/Pages/alla-bevarandeplaner.aspx Natura 2000 management plans in the County of Norrbotten http://www.lansstyrelsen.se/norrbotten/Sv/djur-och-natur/skyddad-natur/natura-2000/Pages/default.aspx
More background information on plans and comment on other instruments/approaches for management planning, information on and plans for particular sectors (e.g. forestry etc.)	Species Action Plans/programmes have been prepared for several species covered by the Birds and Habitats directives. Some of the programmes cover a group of species or a habitat/disturbance regime. A list of published programs related to species of EU interest is provided below. The programs have a summary in English and are avaliable via SEPAs webpage Biotope programs: Veteran trees Rich Fens (including *Liparis loeselii* and *Vertigo Geyeri*) Steppe-like dry meadows (covering variants of 6210 and 6510) Pine forest on lime-rich soils (a variant of 9010) Species programs: *Phocoena phocoena* *Alopex lagopus* *Lutra lutra*

	Anser erythropus *Circus pygarus* *Falco rusticolus* *Falco peregrinus* *Dendrocopos leucotos* *Crex crex* *Anthus campestris* *Miliaria calandra* *Sterna caspia* *Calidris alpina schinzii* *Haliaeetus albicilla* *Aquila chrysaetos* *Gallinago media* *Bufo viridis* *Bombina bombina* *Pelobates fuscus* *Triturus cristatus* *Margaritifera margaritifera* *Unio crassus* *Maculinea arion* *Euphydryas aurinia* *Melitaea britomartis* *Lopinga achine* *Parnassius mnemosyne* *Ceruchus chrysomelinus* *Cerambyx cerdo* *Plagionotus detritus* *Papaver laestadianum* *Cinna latifolia* *Botrychium simplex* *Arctophila fulva* *Persicaria foliosa* *Trisetum subalpestre* *Najas flexilis* *Alisma wahlenbergii* Several more annex 2 and 4 species are covered in multiple species programs. More SAPs are planned, covering 6120, hermit beetle, wader birds etc.

Sources of information: SEPA and CAB webpages. SEPAs main webpage is found at www.naturvardsverket.se

C.3 Relevant government and non-governmental plans

Any particular initiatives for the conservation and recovery of individual habitat types or species or groups of them or for strengthening the coherence of the Natura 2000 network should be noted

National strategy for the formal protection of forests (in Swedish, with english summary)
http://www.naturvardsverket.se/Documents/publikationer/1/620-1243-6.pdf

National guidelines for management of forests and wooded land in protected areas (the guidelines are expected to be finalized during the spring 2013)

Mire protection plan for Sweden (in Swedish, with english summary) http://www.naturvardsverket.se/Documents/publikationer/620-5667-0.pdf

National programme of action for remediation of streams (in Swedish, with english summary) http://www.naturvardsverket.se/Documents/publikationer/620-5746-4.pdf

Protect-Preserve-Present, A programme for better use and management of protected areas 2005-2015 (in English) http://www.naturvardsverket.se/Documents/publikationer/620-5483-X.pdf

Update of the programme Protect-Preserve-Present for the period 2011-2015 (only available in Swedish) http://www.naturvardsverket.se/Documents/publikationer6400/978-91-620-6462-4.pdf

The majority of the County Administrative Boards have also produced regional "Protect-Preserve-Present" programmes in 2011-12. The programmes can be provided by the CABs.

Sources of information: SEPA. SEPAs main webpage is found at www.naturvardsverket.se

D Current experience with use of EU financial instruments

D1 European Agricultural Fund for Rural Development (EAFRD)

Provide a summary of allocations under Axis 2 of Rural Development Programmes, as well as other national financing. Where estimates are available they should be provided

Fund	Provision	(m€)	Level of Use*
EAFRD	Direct payments (213 Natura 2000 payments + 224 Forest Natura 2000 payments)	0	Sweden has not applied payments under the articles 213 or 224
	214 agri-environment	90	In 2010, the management of 62 130 ha of grasslands in Natura 2000 was financed with the payments for managemtn of pastures and meadows, which approximately equals 15 m€. If the same amount is estimated to have been paid the other years, the total cost until 2012 is 90 m€ (including national contribution). In addition to this, some other EAFRD payments have probably contributed to the management of Natura 2000, but these numbers have not been specified
	225 forest-environment payment	0,08	The Swedish Forest Agency has reported that funding for forest actions has been granted for 112,7 ha, in 21 sites, which approximately amounts to 80 000 € support in total.
	EAGF funding has also been used for funding management of pastures and meadows in Sweden	28,8	The payment level for management of pastures and medows was approximately 4,8 m€ in 2010, If the same amount is estimated to have been paid the other years, the total cost until 2012 is 28,8 m€
Other (national) payment schemes for Territory			Environmental investments (art 216) have probably been used to some extent inte the Natura 2000 aeas, but the extent or payment levels have not been specified
Summary of key Natura 2000 related measures being undertaken under fund: A nationwide survey of all semi-natural meadows and grasslands was carried out in 2002-2004 by the Swedish Board of Agriculture (SBA). During the survey, management-dependent habitats according to annex 1 in the habitats directive were also registered. The total area according to the final report from the survey, was 122 763 ha. An analysis made by the SBA			

in 201 shows that the overlap between the areas with payments, and the registered habitats, varies. From 54% for meadow habitats (6510, 6520) to 86% for calcareous grasslands and alvar (6110, 6210, 6280). Calcareous grasslands, coastal pastures, wet meadows, alvar pastures are habitat ypes that benefit from the environmental payments to large degree, whereas they contribute less to the preservation of mown meadows, juniperus grasslands and wooded pastures. If the environmental apyments are to contribute to a alrger extent in the future to these habititas, they have to be developed and adapeted to the management need of not only of grassland with "genrelal" managamtn requirements, but also to the ones with special characteristics, and specific management needs (and associated costs).

The numbers for 214 payments in the table above are based on the level 2010, when 62 100 ha had support. In 2008 the level of use was higher, 66 500 ha. This shows a decrease by 4 000 ha or 6% in two years.
The County of Kalmar, with the great grassland areas on stora Alvaret on Öland, is the region in Sweden which receives environmental payments for the largets grassland areas in Natura 2000 sites, around 30 000 ha. 68% of these areas consist of alvar pastures.

For the environmental payments, the Swedish regulation "Förordning (2007:481) om stöd för landsbygdsutvecklingsåtgärder ", §6 in chaper 2 stipulates that aid from EAFRD can´t be granted for measures in protected areas, if payment for the measures is provided from the governmental support for conservation of natural or cultural values. The Swedish Board of Agriculture, which has the overarching responsibility for in the payments for agricultural areas, has interpred this rule beased on whether such payments are made for the specific measures concerned. The Swedish Forest Agency, which is the authority in charge of the forest payments, has focused their interpretation on the possibility that the measures have a theoretical chance of being funded by the governmental support for management of protected areas, regardless of whether the funding is funding is used for the measures or not. The authorities responsible for the management of the protected areas can thus not apply for funding of actions in forests and the CAP payments potential contribution to the management of forests in Natura 2000 sites has very limited, in spite of the obvius need for actions in may areas. No data are available that show if the payments have contributed to the preservation of annex 1 habitats outside protected areas.

Key lessons learnt and obstacles encountered:
In Sweden, the current requirements for pastures to be dominated by herbs/grass in order to fulfill the grassland defintions in the direct payments, has made many valauable pastures with biodiversity connected to trees (like 9070, or 6530) ineligible for funding. In some cases this has led to incentives for farmers to do clearances in their pastures that have been harmful to biodiversity. It has also reduced the farmers trust for the CAP payments.

It is important how the national regulations for the funds are written/implemented. In the case of the forest environmental payments, the usage of the payments in Natura 2000 sites have been blocked, in spite of the clear need for management actions promoting biological diversity in the sites. For agricultural areas, authorities are only allowed to apply for funding if their net cost for management is lower than the payment levels. This effectively blocks the use of CAP funding as a complement to national funds, for the management of habitat types like meadows, where the CAP payment level is clearly insufficient for covering the management cost.

D.2 European Fisheries Fund (EFF)

Provide a summary of allocations under Axis 1-4 of EFF used for Natura 2000 management, (as well as other relevant national financing)

Fund	Provision	(m€)	Level of Use*
EFF	Axis 1		MI
	Axis 2		MI
	Axis 3		MI
	Axis 4		MI
Other (national) payment schemes for Territory			
Summary of key Natura 2000 related measures being undertaken under fund: It has not been possible to get data that shows the extent of use of the fund within Natura 2000 areas. In total, 4.15 m€ have been paid under this measure (including national financing). This figure covers all project, regardless of wheter they concern Natura 2000 areas or not.			
Key lessons learnt and obstacles encountered: The level of use has been low in spite of strong needs for measures in Natura 2000 sites.			

D.3 Structural Funds and the Cohesion Fund

Provide a summary of allocations under Axis 1-4 of EFF used for Natura 2000 management, (as well as other relevant national financing)

Fund	Provision	(m€)	Level of Use*
ERDF	Total		
	Category 51+55+56	10,64	10,64 m€ is granted, 2,55m€ have been paid until 2012.
	Category 51		NU
European Social Fund (ESF)			
Summary of key Natura 2000 related measures being undertaken under fund: The projects activities in relation to Natura 2000 areas primarily concern information efforts. Visit/information points have, or will be arranged within or near Natura 2000 sites. A smaller part (around 1/5) of the budget concerns facilitation measures for visitors.. These measures can consist of infrastructure improvements, renovation of service building etc.			
Key lessons learnt and obstacles encountered: The major part of the budget is related to projekct that have started recently, it it thus hard to draw conclusions from the results.			

D.4 LIFE+

Provide a summary of allocations under LIFE+ for Natura 2000 management

Fund	Provision	(m€)	Level of Use*
LIFE+	Nature and Biodiversity	33,8[1]	VS
Summary of key Natura 2000 related measures being undertaken under fund: Projects focusing on conservation measures in Natura 2000 sites: MIA 2008-14, total budget 8 053 801 € Ad(d)mire 2010-15, total budget 6 813 474 € Grasslands in middlemost Sweden 2009-14, total budget 3 384 551 € Vindel River LIFE 2009-14, total budget 2 675 513 € GRACE 2010-16, total budget 8 500 688 € ReMiBar 2011-16, total budget 8 169 141 € UC4LIFE 2012-16, total budget 4 927 119 € SandLIFE 2012-18, total budget 7 850 305 € Reclaim 2013-17, total budget 2 910 555 € Projects focusing on surveillance/monitoring methods for habitats and species of the Habitats directive SAMBAH 2009-14, total budget 4244 013 € MOTH 2009-14, total budget 4 792 873 € Projects focusing on Invasive Alien Species (not primarily addressing the objectives of the Birds or the Habitats directive) MirDiNec 2010-13, 5 318 278 €			
Key lessons learnt and obstacles encountered: The possibility for LIFE funding has been of great importance for larger restoration works in protected areas. During former LIFE periods, there has also been projects focusing on land purchase. but the experieces is that the formal time frames of LIFE projests is hard to combine with the sometimes unpredictable negotiations with landowners regarding the purchases, and the associated need for time. Many actors in the conservation society has highlighted the need for similar projects outside the protected areas, but this has not been possible under the current LIFE regulation. Project owners have also experienced that it is very valuable to work in the projects form, since it gives a clear focus on what is to be achieved. The importance of simplification of the applications procedures as well as the administrative requriements regarding project implementation has also been stressed by project owners.			

[1] Calculated on 50% from the LIFE+ program. The total budget for the projects is 67,6 m€

D.5 Other funding sources

Fund		Level of Use*
7th Framework Programme for Research (FP7)		MI or NU. No data has been assembled
Public Private financing schemes		MI or NU. No data has been assembled
Use of innovative financing		MI or NU. No data has been assembled
Summary of key Natura 2000 related measures being undertaken under fund: No data has been assembled, but these funding sources are estimated to have been of minor importance.		
Key lessons learnt and obstacles encountered: Not estimated.		

**** Where estimates are available they should be provided. Otherwise indicate as VS Very significant; MU Moderate Use; MI Minor use; NU No use. To be completed by Member States.***

Source of Information: Data provided from national agencies responsible for different fund. Svedish Board of agriculture (CAP agriculture and Fisheries fund), Swedish forest Agency (CAP forestry), Swedish Agency for Economic and Regional Growth (Structural and Cohesion funds), SEPA (LIFE+)

E Current estimate of financial needs for management of Natura 2000 for the territory

The aim is to summarise the results of the 2008 questionnaire

Management Actions	Guidance note number	Key Activities	Total cost (€)
ONE OFF COSTS			
Finalisation of Sites	1	Scientific studies, administration, consultation etc	44.157.500
Management Planning	2	Preparing management plans, establishing management bodies, consultation etc	0
Investment costs	3	Land purchase	500.000.000
	4	one-off (ie not regular annual) payment of compensation for development rights.	0
	5	Infrastructure needed for the improvement / restoration of habitat or species	10.000.000
	6	Infrastructure for public access,interpretation works, observatories and kiosks, etc (contributing to conservation)	33.000.000
	3-6	***Subtotal: Investment***	543.000.000
	1-6	***Subtotal: One-off costs***	587.157.500

RECURRENT COSTS		Key Activities	Total annual cost (€)
Management planning	7	Running costs of management bodies	1.500.000
	8	Review of management plans	1.800.000
	9	Public communication	3.260.000
	7 to 9	***Subtotal: management planning***	6.560.000

Management actions	Agricultural	Forests	Other terrestrial	Inland waters	Wetlands	Coastal	Marine	TOTAL
	10.000.000	3.000.000	1.000.000	10.000.000	1.000.000	1.000.000	see coastal	26.000.000

Conservation management measures– maintenance and improvement of **species'** favourable conservation status	see total	see tot	2 500 000 (predators)		see tot	see tot	see tot	7.500.000
Implementation of management schemes and agreements with owners and managers of land or water for following certain prescriptions	35.000.000	0	0	0	0	0	0	0
Provision of services; compensation for rights foregone and loss of income; developing acceptability 'liaison' with neighbours	0	0	6.050.000	0	100.000	0	0	6.150.000
Monitoring	1.670.000	1.294.000	252.000	504.000	1.176.000	386.000	1.220.000	6.502.000
Maintenance of facilities for public access to and use of the sites,interpretation works, observatories and kiosks etc.	see tot	see tot	see tot	see tot	see tot	see tot	see tot	18.500.000
Risk management (fire prevention and control, flooding etc)	0	10.000	0	0	0	0	0	10.000
Surveillance of the sites	see tot	see tot	see tot	see tot	see tot	se tot	se tot	1.200.000
Subtotal: Habitat management and Monitoring	46.670.000	4.304.000	9.802.000	10.504.000	2.276.000	1.386.000	1.220.000	73.662.000

F STRATEGIC CONSERVATION OBJECTIVES AND PRIORITIES FOR NATURA 2000 FOR THE TERRITORY FOR PERIOD 2014-2020

F.1 Summary of strategy and priorities for period (and expected outcomes), with particular focus on priority habitat types and species but also in relation to measurable progress on nature sub-target under EU 2020 biodiversity strategy (Habitats and Birds Directives) and ensuring good functioning of Natura 2000 network (SACs + SPAs)

The objectives and priorities presented in this section, show the main actions and measures that are desirable or necessary to perform on a landscape level, as well as in Natura 2000 areas, to achieve progress towards the overarching target of Favorable Conservation Status. In relation to available resurces, further prioritasition will be necessary. All actions and measures also have to be based on local conditions. In Natura 2000 sites, the measures need to be based on avilable knowledge about the ecological requirements of the designated habitats and species of the sites, and on site conservation objectives.

Overarching principles (these are often applicable in the general landscape as well, not only in protected areas)

1: *Maintain* biodiversity values where they exist (not allow damage or deterioration, protection if necessary, recurring management of seminatirual habitats)

- protection of forest habitats, and other habitats if there is a pressure/threat
- appropriate assessments
- continued management of semi-natural grasslands, wooded pastures and meadows, and wetlands dependant on traditional management

2 *Restore* habitats. There are particularly strong needs for:

- Prescribed burnings in woodland/forest habitats typically characterized by natural fires
- Hydrological restoration of wetlands (class 1)
- Restoration and re-introduction of managament in semi-natural grasslands, wooded pastures and wetlands dependant on traditional management
- Hydrological restoration of wet forest habitats
- Restoration of degraded dunes and sand habitats
- Restoration of watercourses, including restoration of hydrological regimes
- Restoration of marine reefs and sandbanks.
- Improvement measures for species as:
  - Species associated to veteran trees (Os*modema eremita, Lucanus cervus, Cerambyx cerdo, ,Anthrenochernes stellae),*
  - Species living in sandy habitats (*Lacerta agilis, Dianthus arenarius ssp arenarius*),
  - Species depending on forest fires (*Stephanopachys linearis, Boros schneideri*)
  - Species associated to Populus tremula (*Agathidium pulchellum, Cucujus cinnaberinus, Xyletinus tremulicola)*
  - Butterflies (*Parnassius Mnemosyne, P. Apollo, Lycaena helle, Euphydryas aurinia, E. maturna, Coenonympha hero,Maculinea arion)*,
  - Species living in natural watercourses (*Margaritefera margaritefera, , Unio crassus, Salmo salar, Lampetra fluviatilis)*
  - *Bufo viridis*
  - Wader birds (*Philomachus pugnax, Galinago media,* and also *Limosa limosa, Charadrius alexandrinus, Calidris alpina schinzii*),

Dendrocopus leucotus, Anser erythropus, Falco rusticolus, Circus pygargus, Crex crex, Anthus campestris, Sterna caspia

The list of species also includes som species from annex 4 of the Habits directive, since they have important conservation needs. For the same reason, there are three species mentioned among the waders that are not in annex 1 of the birds directive.

3 *Reduction or avoidance of negative activities*:
- measures to avoid by-catches in fisheries (harms eg marine mammals)
- avoidance of trawling in sensitive areas
- actions to combat invasive alien species
- avoidance of the establishment of windmills in the proximity of Natura 2000 sites with sensitive fauna.

4 *Improve connectivity*:
- maintenance of managed semi-natural grasslands in ecologically functional landscapes
- a landscape perspective on forest conservation measures
- Re-creation of broadleved forest in areas where these habitat types are fragmented
- biodiversity-friendly management of grassland in infrastructre biotopes (along roads, powerlines etc)
- Considerations for biodiversity needs in the management of the used landscape.

5 *Investments*
- Animal shelters/stables (new shelters are crucial for future managament of many areas with semi-natural grasslands)
- infrastructure for improved access to islands and inaccessible areas
- Purchase of water use righs (in order to be able to restore hydrological regimes)

6 Actions related to the effects of climate change, increased nitrogen deposition and other general, negative influences.
- measures related o these problem can be relevant in all habitat types, it may also be necessary to modify other measures in relation to these general threats

The measures can also be categorised as one-off costs, cost which have to be performed with intervals, and recurring costs.

One-off costs:
Land purchase, compensation payments
Restoration of watercourses and wetlands
Purchase of water use rights
Investments
Restoration of grasslands (if the managament afterwards is sufficient)
Formal regulations, like the regulation of fisheries i specific areas

Measures performed with intervals
Prescribed forest fires
Land lease contracts, or temporary protection contracts
Restoration of dunes
Actions combating invasive alien species (pinus contorta etc)

Recurring costs:
Managament of semi-natural grasslands and other habitats depending on traditional management
Actions combating invasive alien species (American mink, raccoon dog etc)
Measures for reducing by-cathes in fisheries
Advice and information to farmers, foresters, other stakeholders

Priorities
The priorites are presented per landscape type. Under each landscape type, there are also specific priorites mentioned for the Natura 2000 areas. The general priorites per landscape type are based on the Swedish Species Information Centre's report "Arter & naturtyper i habitatdirektivet - tillståndet i Sverige 2007 ", made about the art 17 reporting in 2007, and SEPAs report 6500:2012 "Steg på vägen" – which presents an assessment in relation to the Swedsh environmental objectives. In addition to that, they have been updated with priority suggestions presented by the Swedish Species Information Centre in 2012.

The suggested priorities for the Natura 2000 areas are made by SEPA, and based on several information sources, like the priority suggestions from SSIC mentioned above, and SEPAs draft guidance about management of forests and wooded land in protected areas.

The list of priorites has been written with the ambition that it should show general needs. In relation to available resurces, further prioritisation will be necessary. All actions and measures also have to be based on local conditions. In Natura 2000 sites, the measures need to be based on avialable knowledge about the ecological requirements of the designated habitats and species of the sites, their importance on the site, and on site conservation objectives.

Potential financing sources are presented within brackets. The suggestions are based on SEPAs considerations.

The Swedish Agency for Marine and Water Management is the national authority for Aquatic habitats and and species, responsible for the administration of national public funds for aquatic environments. SEPA is the national authority responsible for the administration of national public funds for protection and management of terrestrial protected areas.

Sea and coast (1330 and 1630 are covered under semi-natural grasslands)
- measures to avoid or reduce environmental damage caused by toxins and eutrophication (national public sources, LIFE environment)
- measures to avoid exploitation of coastal areas (national regulations ,national public sources, ESF)
- Site protection (national public sources)
- Regulation of fisheries (national public sources, national regulations)
- development of fishing equipment that reduces by-catches and harmful effects on habitats on the sea-floor (national public sources, EFF)
- Restoration of reefs, sand-banks, lagoons, estuaries (national public sources, EFF, LIFE)
- Collection of accumulated litter on shores (national public and private sources, ERDF ?)

Priorities in Natura 2000 and protected areas
- Fishery regulations if needed
- Restictions on fishing with methods that damage habitats
- Use of selective fishing equipment
- restoration of reefs and sand-banks, especially eel-grass meadows

Dunes
- Restoration of dunes in in order to increase the areas of open dunes and open or moving sand (LIFE, EAFRD, national public sources)
- Restoration of wooded dune habitats, in order to increase their heterogeniety and create more open patches and larger areas with open sand (LIFE, EAFRD, national public sources)
- Actions to increase the amounts of deadwood and old trees in the wooded dunes ((LIFE, EAFRD, national public sources)

Priorities in Natura 2000 and protected areas
- Restoration of dunes in the continental region that have been overgrown or planted, is prioritised, especielly on sites where the actions can benefit threatened species
- During the the period 2013-2015, no national priority will be given to measures outside the SANDLife project. Regional priorities may occur, and such efforts should be directed towards areas with favorable conditions for a long-term preservation of open sand and dune habitats.

Lakes and watercourses
- Remediation of migrataty barriers/restoration of migration routes (EFF, ESF, ERDF,national public and private sources)
- Environmental considerations in forestry (CAP, national sources), agriculture (CAP, national sources) and in realtion to exploitation works in the proximity of lakes or watercourses (national and regional planning, national public and private sources). Conservation and restoration of lakes and watercourses, (EFF, national public and private sources)
- Measures to achieve good ecological status (EFF, LIFE environment)
- Conservation measures for fish according to Species action programs (EFF, national public sources)
- Restoration/re-creation of natural migratory barriers, and removal of fish from lakes that don´t have a natural fish population (EFF, national public and private sources)
- Increased surveillance of habitats and species (national public sources)
- Formal protection

Priorities in Natura 2000 and protected areas
- Priority is given to restoration of watercourses according to SEPAs report 5746:2007 *National programme of action for remediation of streams*
- No priority is given to actions in the alpine region.

Semi-natural grasslands
- Continued/improved management of meadows and pastures (CAP, LIFE, National public and private sources).
- Restoration of meadows and pastures (CAP, LIFE, National public and private sources).
- Re-creation of unfertilised meadows (CAP, LIFE, National public and private sources).

- Restoration or re-creation of lanscape mosaics, with softer borders between different lad use forms, particularly forest and agricualtural land (CAP, LIFE, National public and private sources).
- Improved co-operation beteen agriculture and foresty concerning biodiversity conservation

Priorities in Natura 2000 and protected areas
- Recurring management of all managed meadows and pastures, including wooded pastures
- Restoration of meadows (6510, 6520, 6530) in the whole county, including transformation of suitable pastures (with meadow-like species composition) to meadow management
- Restoration of 6230 and 6270. in the whole country
- Restoration of coastal grasslands and wet meadows (1330, 1630, 6410) in the whole country, if they have a rich flora or are situated important bird areas
- Restoration of heathland (4010, 4030) in south-western Sweden
- Restoration of calcareous semi-natural grassland (6210, 6110, 6280) are nationally prioritised on the Swedish mainland. On the Islands Öland and Gotland, restoration is a national priority if the concerned areas are important for thretened species or have a rich orchid flora. In other cases calcareous grasslands on Öland and Gotland may be a regional priority
- Restoration of flooded meadows (6450) in the boreal region, if they contain values depending on human management, and conditons are suitable for continued long-term management.
- Restoration of 6120 where it occurs or is possible to re-create

Areas of importance for threatened species/species covered by Species action plans should be given particaluar priority in the restoration work. In general, sites or areas with good potential for long-term management and maintained habitat quality (situated in the vicinity of already managed areas, or in regions with a high proportion of managed semi-natural grasslands) should also be given priority

Wetlands (management-dependent wet grasslands are described under semi-natural grasslands)
- Reductions of the general impacts of climate change and nitrogen depositions
- Restoration of the hydrology in wetlands (LIFE, national public sources).
- Continued/improved management of rich fens (CAP, LIFE, National public and private sources).
- Restoration of rich fens (CAP, LIFE, National public and private sources).
- Formal protection, priority is given for objects in the *Mire protection plan* (national public sources, LIFE)
- prevention of damage from ditching and road-building (national public sources, information via EAFRD)
- Re-creation of wetlands (EAFRD, LIFE, national public sources)
- measures to reduce the negative impacts of off-road driving
- Formal protection

Priorities in Natura 2000 and protected areas
- Restoration of wetlands clearly damaged/degraded by ditching drainage, or overgrowth
- Restoration and management of rich fens, if they have values depending on recurring management
- Restoration of overgrown areas around important bird lakes (see also semi-natural grasslands)

Areas of importance for threatened species/species covered by Species action plans should be given particular priority.

Rocks and substrates
- Development and implementation of a national monitoring program for habitats and species (national public sources)

Priorities in Natura 2000 and protected areas
No particular priorites besides monitoring

Mountains (grasslands depending on tradtional management, except reindeer grazing, are described under semi-natural grasslands)
- Development and implementation of a national monitoring program for habitats and species (national public sources)
- Regulation of hunting, and prevention of illegal hunting (national public sources)
- Measures for supporting the arctic fox population and other threatened species.
- Measures to reduce the negative impacts of off-road driving

Priorities in Natura 2000 and protected areas
- measures for improved visitor accessibility and safety

Forests
- Formal and voluntary protection of forest habitats to avoid loss and deterioration (national public and private sources)
- Restoration and re-creation of forest habitats (national public and private sources, EAFRD, LIFE)
- improved consideration during harvesting and in the commercial forestry (advice funded by national public sources or EAFRD)
- Prescribed forest fires (national and private sources, EAFRD, LIFE)
- Restoration of natural water regimes influencing wet forests along rivers and lakes (LIFE, national public sources)
- Temporary protective fencing around important areas for deciduous regrowth/successions
- The regulations concerning ditching, and advice about negative effects of ditch clearance and road building, are important for other wet forest habitats (EAFRD, national sources, national regulations).
- Grazing or re-introduction of grazing in forests with management-dependent values (EAFRD)
- Re-creation of forest borders with a high proportion of deciduous trees, conservation of veteran trees (EAFRD)

Priorities in Natura 2000 and protected areas
(the prioritized management measures are based on SEPAs draft guidelines for the management of forests and wooded land in protected areas)

Protection:
- Formal protection in cases where the protection level is insufficient

Management:
The following, main management regimes are recommended:
- Maintenance and re-introduction of fire as a natural disturbance regime in bireal and boreonemoral forests (in order to achieve this, the preparation an implementation of regional plans is suggested, as well as competence building for managers). This measure is most relevenat for 9010 and 9060
- Maintenance and restoration of hydrological regimes, and restoration of drained areas (suggested actions to achieve this are mapping and prioritisation of the most important flooed forests, as well as a guidance document for the work. With this, the CABs, with the support of national authorites, can start the work to restore the natural hydrology of the prioritized objects). This measure is most relevant for 9080, 91D0, 91E0, 91F0 and 9010.
- Maintenance and re-introduction of traditional managamnt, particularly in meadow and pasture habits in the nemoral and orenemoral region (suggested measures are the preparation of regional prioritisation plans, restoration of the most important objects, and continued management of all areas that are currently managed). This measure is mainly relevant for 9070. The restoration of oak habitats in important areas for oak-dependant species has the highest priority on national level. See also priorities under grasslands.
- Spontaneous development/non-intervention management is regarded as the most important managament regime in all objects where the forests is to develop through natural dynamics. This management regime is relevant for all habitat types except 9070.

In addition to the general management regimes above, the following measures can be prioritized in certain woodland objects in protected areas
- Restriction/reduction of spruce growth in broadleaved forests, 9020, 9110, 9130, 9180, 9190 (this measure has high priority in the nemoral region, and is important in order to stop an unnaturally high level of spruce in natural broadleaved forests)
- Restriction/reduction of spruce in other decidous forest (suggested as a species conservation measure, in borel deciduous forest generated after forest fires, or to avoid an unnaturally high spruce content in boreonemoral or nemoral deciduous forests)
- Restriction/reduction of spruce growth in pine forests (this can be an additional measure substituting fire, particularly if it is neccesary for pine-living insects in areas with a documented importance for them),
- Removal of non-native tree species (contorta pine etc)
- Restoration of low-quality habitats, particularly habitats with an insufficient area, such as 9010 and 9130. This can also be an important meaure for improved connectivity between core areas.

The Species action plans for woodland species are an important source of knowledge for regional priorities, and shoud be taken into consideration when management actions are developed.

F.2 Strategic objectives and priorities in relation to investments in Natura 2000 linked to green tourism and jobs, to support climate change mitigation and adaptation or other ecosystem benefits, for research, education, training, awareness and promotion of co-operation (including cross-border) linked to Natura 2000 management

Priority is given to measures for accessibility in national parks and nature reserves with a particular interst for the general public. See measures suggested in the national plan "Protect-Preserve-Present".

Examples of important investments for green tourism are acces points on islands, entrance points in national parks and other much visited objects and small-scale investments for tourism/visitors(information signs, improvement of paths, bird observation platforms etc). In the alpine region, recurring maintenance of security huts along winter paths and small scale bridges over water courses are prioritised.

The possibities for commercial activities for companies working with nature tourism are currently relatively restricted in protected areas. If they can be improved, without conflict with the conservation objectives of the sites, the protected areas can contribute more to local development and green jobs.

The accessibility of many protected areas is currently limited for several groups in society. Measures for improved accessibility can make the sites available for e g persons with reduced mobility or other disabilities.

No specified priority measures have been identified for actions related to ecosystem services or climate change.

G Description of key measures to achieve priorities

G.1.a General Priority Measures for Natura 2000

Type of activity	Description of measure	Target species/habitats/sites	Potential Financing sources*
ONE OFF COSTS			
Finalisation of Sites	Scientific studies, administration, consultation etc	all	National public sources
Management Planning	Preparing management plans, establishing management bodies, consultation etc	all	National public sources, LIFE, EAFRD
Investment costs	Land purchase and compensation payments	Forests, regulated rivers, (other threatened sites with high conservation values)	National public sources, LIFE
	one-off (ie not regular annual) payment of compensation for development rights.	all	National public sources
	Infrastructure needed for the improvement / restoration of habitat or species	all	National public sources, LIFE
	Infrastructure for public access,interpretation works, observatories and kiosks, etc (contributing to conservation)	all	National public sources, CAP, ERDF, EAFRD
RECURRENT COSTS			
Management planning	Running costs of management bodies	all	National public sources
	Review of management plans	all	National public sources, LIFE, EAFRD
	Public communication	all	National public sources, LIFE, ERDF
	Competence building for managers	mainly staff at the CABs, but it may be relevent for other stakeholders as well	EAFRD, national public sources, LIFE
Management actions	Conservation management measures– maintenance and improvement of **species'** favourable conservation status	species	EAFRD, National public sources, LIFE
	recurring management measures– maintenance and improvement of **habitat'** favourable conservation status	grasslands, wetlands, wooded pastures	LIFE, EAFRD, EFF, National public sources, Private initiatives
	restoration	rivers, grasslands, wetlands,	LIFE, EAFRD, EFF, National public

		wooded pastures, dunes	sources, Private initiatives
	Implementation of management schemes and agreements with owners and managers of land or water for following certain prescriptions	grasslands, wetlands, wooded pastures, fishery	EAFRD, National public sources EFF
	Provision of services; compensation for rights foregone and loss of income; developing acceptability 'liaison' with neighbours	all	National public sources, LIFE, EFF
	Monitoring	all	National public sources
	Maintenance of facilities for public access to and use of the sites,interpretation works, observatories and kiosks etc.	archipelago/islands, entrance points for national parks and other much visited sites	EAFRD, LIFE, ERDF, ESF, National public sources, Private initiatives
	Risk management (fire prevention and control, flooding etc)		National public sources
	Surveillance of the sites	all	National public sources

**Funding sources: EAFRD; ERDF, EFF; ESF, LIFE, National public, Private sources*

G.1.b.a Priority Measures for Natura 2000 agricultural habitats and species

Type of activity	Description of measure	Target species/habitats/sites	Potential Financing sources*
Investment costs	Land purchase and compensation payments	according to national prioritisation	National public sources, LIFE
	Investments in buildings, roads etc. that are important for conservation purposes (e g to comply with demands for animal concerns)	All managed grassland types	EAFRD according to art 18 EAFRD (action 5.2.3 in SJV/SKS report 2012:15) National public sources, LIFE, ERDF
Management planning	Review of management plans	All	National public sources, LIFE, EAFRD according to art 21-1a (action 5.2.7 in SJV/SKS report 2012:15)
	Competence building for managers	all	National public sources, LIFE, EAFRD according to art 15, 16 (action 5.2.2 in SJV/SKS report 2012:15)
Management actions	Conservation management measures– maintenance and improvement of **species'** favourable conservation status	species	EAFRD according to art 18 and 29, National public sources, LIFE, EAFRD according to art 31 (if used in Sweden)
	Conservation management measures– maintenance and improvement of **species'** favourable conservation status	compensation to managers for management measures adapted to certain species 5221 "diversity fields" alt 1 5223 Thretened field weeds 5226 Threatened domestic breeds	EAFRD according to art 29 (action 5.2.21, 5.2.23, 5.2.26 in SJV/SKS report 2012:15)
	recurring management measures– maintenance and improvement of **habitat'** favourable conservation status	grasslands, wooded pastures	EAFRD according to art 18 and 29, LIFE, National public sources, Private initiatives, EAFRD according to art 31 (if used in Sweden)
	Implementation of management schemes and agreements with owners and managers of land or water for following certain prescriptions	compensation to managers for recurring management of pastures and meadows	CAP direct payments, EAFRD acc to art 29 (action 5.2.8-5.211 in SJV/SKS report 2012:15)
	Implementation of management schemes and agreements with owners and managers of land or water for following certain prescriptions	compensation to managers for additonal management measures in pastures and meadows 5213 "managament of cultural values" alt1 5216 "summer farm pastures" 5217 "Special managament of meadows – additional measure" 5218 "burning of grassland – additional measure" 5219 "inaccessible places – additional measure 5220 "management of wooded borders – additional measure" 5225 "Managament and clearance of wetlands and ponds"	EAFRD acc to art 29 (action 5.2.13, 5.2.16, 5.2.17, 5,2.18, 5.2.19, 5.2.20, 5.2.25 in SJV/SKS report 2012:15)
	restoration	grasslands, wooded pastures, dunes	EAFRD according to art 18 and 29, LIFE, National public sources, Private initiatives
			EAFRD acc to art 18 and 29 (action 5.2.4 and 5.2.12 in SJV/SKS report 2012:15)
Other			EAFRD art 32-33 inaccessible sites

**Funding sources: EAFRD; ERDF, EFF; ESF, LIFE, National public, Private sources*

G.1.b.b Priority Measures for Natura 2000 forest habitats and species

Type of activity	Description of measure	Target species/habitats/sites	Potential Financing sources*
Investment costs	Land purchase and compensation payments	all	National public sources, LIFE
	Infrastructure needed for the improvement / restoration of habitat or species	all	National public sources, LIFE
		Miljöinvestering enligt faktiska kostnader – biologisk mångfald	EAFRD according to art 18 (action 5.2.4 in SJV/SKS report 2012:15)
Management actions	Review of management plans	All	National public sources, LIFE, EAFRD according to art 21-1a (action 5.2.7 in SJV/SKS report 2012:15)
	Competence building for managers	all	National public sources, LIFE, EAFRD according to art 15, 16 (action 5.2.2 in SJV/SKS report 2012:15)
Management actions	Conservation management measures– maintenance and improvement of **species'** favourable conservation status	species	National public sources, LIFE, EAFRD
	EAFRD Forest management for biodiversity	- creation of small wetlands in forest, max 2 ha - clearance around veteran trees/trees with high conservation value - new pollard trees - restoration pollarding - creation of deadwood - creation of small biotopes - change of road culverts - clearance around cultural remnants - clearance around stonewalls - recreation of parkwaysconstruction of traditional wooden fences in agricultural areas or fences for reindeer	EAFRD according to art 18 (action 5.2.4 in SJV/SKS report 2012:15)
	recurring management measures– maintenance and improvement of **habitat'** favourable conservation status		LIFE, EAFRD, National public sources, Private initiatives
	restoration	Prescribed burnings (mostly 9010)	LIFE, National public sources, Private initiatives, EAFRD
		Restoration of forest with damaged hydrology (mostly 9010, 9080, 91E0, 91D0, 91F0)	LIFE, National public sources, Private initiatives, EAFRD
		Reintroduction of grazing, clearing of trees to restore mosaic structure of wooded pastures (9070)	LIFE, National public sources, Private initiatives, EAFRD
		Reintroduction of grazing and other restoration efforts (other deciduous forest habitats)	LIFE, National public sources, Private initiatives, EAFRD
	Implementation of management schemes and agreements with owners and managers of land or water for following certain prescriptions		EAFRD, National public sources
	Provision of services; compensation for rights foregone and loss of income; developing acceptability 'liaison' with neighbours	all	National public sources, LIFE (NVA)

**Funding sources: EAFRD; ERDF, EFF; ESF, LIFE, National public, Private sources*

G.1.c Priority Measures for Natura 2000 marine and coastal habitats and species

	Description of measure	Target species/habitats/sites	Potential Financing sources*
Finalisation of Sites	Scientific studies, administration, consultation etc	all	National public sources
Investment costs	Land purchase	(according to national prioritisation)	National public sources, LIFE
	Infrastructure needed for the improvement / restoration of habitat or species	animal shelters	National public sources, LIFE
Management planning	Preparing management plans, establishing management bodies, consultation etc , review of management plans	All	National public sources, LIFE, EFF?
Management actions	Conservation management measures– maintenance and improvement of **species'** favourable conservation status	Several	EFF, National public sources, LIFE
	recurring management measures– maintenance and improvement of **habitat'** favourable conservation status		LIFE, EFF, National public sources, Private initiatives
	Management of IAS	Several	LIFE, EFF, National public sources, Private initiatives
	Management/reduction of pollution, fertilizers etc	Several	National public sources, Private initiatives
	Management/reduction of pollution, fertilizers etc	Several	EAFRD (action 5.2.2, 5.2.5, 5.2.24, 5.2.28, 5.2.29, 5.2.30, 5.2.31, 5.2.32, 5.2.33, 5.2.34, 5.2.35, 5.2.36, 5.2.37, 5.2.41)
	Managemnt of litter/waste accumulated on shores	Several	ERDF, ESF, National public sources, private initiatives
	restoration	eel-grass meadows, Reproductive areas for predator fish species	LIFE, EFF, National public sources, Private initiatives
	restoration	Restoration of dunes	LIFE, EFF, National public sources, Private initiatives
	Implementation of management schemes and agreements with owners and managers of water for following certain prescriptions	adaptation of fishing measures to avoid disturbance of threatened species (harbour porpoise etc)	National public sources, EFF
	Provision of services; compensation for rights foregone and loss of income; developing acceptability 'liaison' with neighbours		National public sources, LIFE, EFF
	Monitoring	all	National public sources
	Surveillance of the sites	all	National public sources

**Funding sources: EAFRD; ERDF, EFF; ESF, LIFE, National public, Private sources*

G.1.d Priority Measures for Natura 2000 wetlands habitats and species (including peatlands)

Type of activity	Description of measure	Target species/habitats/sites	Potential Financing sources*
Investment costs	Land purchase	Wetlands included in the national mire protection plan	National public sources, LIFE
	Infrastructure needed for the improvement / restoration of habitat or species		National public sources, LIFE, ERDF
Management planning	Review of management plans	All	National public sources, LIFE
Management actions	Conservation management measures– maintenance and improvement of **species'** favourable conservation status	species	EFF, National public sources, LIFE
	recurring management measures– maintenance and improvement of **habitat'** favourable conservation status	Wetlands depending on mowing, grazing	EAFRD according to art 18 and 29, LIFE, National public sources, Private initiatives, EAFRD according to art 31 (if used in Sweden)
	restoration	Wetlands affected by drainage	LIFE, National public sources, Private initiatives
	Provision of services; compensation for rights foregone and loss of income; developing acceptability 'liaison' with neighbours	Not specified	National public sources, LIFE, EFF
	Monitoring	all	National public sources
	Risk management (fire prevention and control, flooding etc)	Not specified	National public sources
	Surveillance of the sites	all	National public sources

**Funding sources: EAFRD; ERDF, EFF; ESF, LIFE, National public, Private sources*

G.2 Other priority measures

G.2.a Priority Measures for securing ecosystem benefits of Natura 2000, especially in relation to climate change mitigation and adaptation

Type of activity	Description of measure	Target species/habitats/sites	Potential Financing sources*
Risk management (fire prevention and control, flooding etc)	Control of wild forest fires	forests	National public sources
Restoration	Restoration of rivers	rivers	EFF, LIFE, ERDF, national public sources

**Funding sources: EAFRD; ERDF, EFF; ESF, LIFE, National public, Private sources*

G.2.b Priority Measures for promoting sustainable tourism and employment in relation to Natura 2000

	Description of measure	Target species/habitats/sites	Potential Financing sources*
Investment costs	Infrastructure for public access,interpretation works, observatories and kiosks, etc (contributing to conservation)	all	National public sources, CAP, ERDF, EAFRD, LIFE
	non productive investments linked to the achievement of agri- and forestenvironment commitments, biodiversity conservation status of species and habitat as well as enhancing the public amenity value of a Natura 2000 area or other high nature value area	investments for improved accessibility	EAFRD art 18 c, d (action 5.2.3 in SJV/SKS report 2012:15)
		environmental investments according to actual costs	EAFRD art 18 c, d (action 5.2.4 in SJV/ SKS report 2012:15)
	investments in non-agricultural activities	all	EAFRD art 20 b (action 5.2.6 in SJV/ SKS report 2012:15)
	investments in the creation, improvement or expansion of all types of small scale infrastructure	all	EAFRD art 21b (action 5.2.7 in SJV/ SKS report 2012:15)
	investments in the setting-up, improvement or expansion of local basic services for the rural population, including leisure and culture	all	EAFRD art 21d (action 5.2.7 in SJV/ SKS report 2012:15)
	investments by public bodies in recreational infrastructure, tourist information and sign-posting of touristic sites;	all	EAFRD art 21e (action 5.2.7 in SJV/ SKS report 2012:15)
	National Park entrance points and entrance points of other nature sites of high visitor interest	all	National public sources, ERDF
Management actions	Public communication	all	National public sources, LIFE, ERDF
	Maintenance of facilities for public access to and use of the sites,	all	EAFRD, LIFE, ERDF, ESF, National public sources, Private initiatives
	clerances of footpaths etc	all	EAFRD art 18 (action 5.2.4 in SJV/ SKS report 2012:15)
	Information signs, guides	all	EAFRD, LIFE, ERDF, ESF, National public sources, Private initiatives
	Interpretation works	all	EAFRD, LIFE, ERDF, ESF, National public sources, Private initiatives
	observatories and kiosks etc.	all	EAFRD, LIFE, ERDF, ESF, National public sources, Private initiatives

**Funding sources: EAFRD; ERDF, EFF; ESF, LIFE, National public, Private sources*

G.2.c Priority Measures to promote innovative approaches in relation to Natura 2000

Type of activity	Description of measure	Target species/habitats/sites	Potential Financing sources*
No activities identified			

**Funding sources: EAFRD; ERDF, EFF; ESF, LIFE, National public, Private sources*

Section H: Monitoring, evaluation and updating of PAFs

The PAF is planned to be evaluated and revised in 2014.