

Report and suggestions on the use of the references for pressures, threats and impacts

- Final draft -

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1. Introduction, need of revision

The references on pressures and threats have been subject to a number of questions and difficulties encountered during their use both in the reporting (Art. 17 Hab. Dir.) and during site proposals of pSCIs under Art. 4 of the Habitats Directive. Discussion on this topic was raised by several Member States in the Scientific Working Group at different occasions, last when the reporting form and the reporting guideline were discussed prior to adoption by the Habitats Committee. At that time it was proposed to review the reference list for future use, but based on the results and problems encountered during the national reports of the reporting period 2001-2006, delivered in 2007. An update of the list should both correct ambiguities in addressing the categories and adding so far missing threats and pressures for example in relation to climate change.

On the 25.10.2008 a first draft list was compiled, put on the CIRCA for discussion and presented on the last reporting group meeting on the 7th November 2008 in Brussels. Following this meeting in total six Member States commented on the first draft and made suggestions for modifications or asked for clarifications where to integrate categories they felt necessary for reporting (HU, IR, FI, SE, NL and PT). The list was then discussed in the WP 1 sub-group meeting in Paris on the 7th May 2009, additional comments integrated and finalized for approval by the reporting group. The hierarchical structure and the principal list was accepted and welcomed.

Relations to Ramsar

Pressures under the Ramsar-Konvention for are for the purposes of implementation of Article 3.2 defined as “change in ecological character is the human-induced adverse alteration of any ecosystem component, process, and/or ecosystem benefit/service.” in the Ramsar Handbook for the wise use of wetlands No. 15, 3rd edition 2007 “Addressing change in ecological character”, Ramsar Secretariat, Gland (CH.) http://www.ramsar.org/lib/lib_handbooks2006_e15.pdf referring to the Ramsar Resolutions 15 and 16. The components of “ecological character” listed there have been screened for possible changes and the actual list of threats and pressures covers them. This means that the list is potentially useful for Ramsar-reporting and filling in the RIS data form for Ramsar sites. Changes in ecosystem services do however not fall into the scope of this reference list and may not be fully covered.

Harmonisation with WP2 – reporting for birds and migratory species under the Habitats Directive

Migratory birds and a limited number of species on Annexes II, IV and V of the Habitats Directive (for example transfrontier populations of large carnivores, marine mammals, migrating fish species, marine turtles and some bat species) might experience serious threats and pressures not only within the common territory but also on e.g. stop over-sites and wintering grounds outside the Member State or even outside the EU territory. To be able to separate cause and effect, and to react properly, it is necessary to pin-point where these pressures act.

There are two major options to solve this issue in reporting threats & pressures:

1. Add two lines on the reference list "XO threats and pressures from outside the Member State" and "XE threats and pressures from outside the EU territory". Combined with the ranking high, medium, low a good indication for which species threats and pressures from outside MS play a major role will be given and allow to commission more detailed scientific studies informing political decisions if necessary. At the same time MS who have more detailed knowledge can explain the nature of threats and pressures in the non-obligatory text field (2.7.4. "other relevant information")

2. Adding another extra data field in the reporting format called "Major impact on" with three levels (drop-down list): 1) National (biogeographical) level (shown default), 2) EU-level, 3) Outside EU. Every single threat or pressure could then be used also if the source is outside the MS/ EU. As it can have major impact on FCS of the species, this would allow more detailed analysis in the report. In this case it might be necessary to add the two additional lines on the reference list for cases where the nature of the threat or the specific kind of pressure is unknown or cannot be specified.

Marine pressures and threats

Marine pressures and threats were updated following a detailed request of marine experts/colleagues of the Irish representative (02.06.2009). Most proposals could be integrated into the list as additions on a lower hierarchical level without modifying the basic structure.

Water-Framework Directive

Relations to the Water-Framework Directive have been investigated and the list of pressures of the WFD (Guidance Document No. 21 Guidance for the reporting under the WFD, Technical Report 2009-029, European Commission 2009, 68 pp.), chapter 7.3 "Reporting requirements for pressure, impacts...", p. 44 – 46 and Table 6b "Significant Pressures and Threats checklist") was screened and could be largely integrated into this list. The WFD list is very detailed and thus usually fitted into the lower hierarchy of the threats and pressures list for the Habitats Directive: the separation of surface and ground-water was adopted, the point source and diffuse pollutions fit into section H pollution, Water Abstractions belong to section J and could be fully integrated. Water flow regulations and river management or alterations of surface water were mainly represented in the existing list already (infrastructure, agriculture and fishery-related issues are already more detailed in the present list). "Artificial recharge of groundwater" and "saltwater intrusion to groundwater" have been integrated as new separate categories. Pressures relevant for the WFD have been indicated in the comments field.

Habitat fragmentation has been taken up in a new category; habitat loss is not needed as it is represented in quantitative area measures both in the SDF and in the reporting.

The two main uses of the reference for pressures and threats are:

- Natura 2000 Standard Data Form (SDF)
- Article 17 reporting

More details for each use below.

2. Use in the Natura 2000 Standard Data Form

Filling in the Natura 2000 Standard Data Form (SDF) for Natura 2000 sites according to Commission Decision 97/266/EC of 18 December 1996 concerning a site information format for proposed Natura 2000 sites (Official Journal n° L 107 - April 24th, 1997):

In the section 6.1 of the SDF (see explanatory notes cited below) all general impacts both on Natura 2000 sites and their surroundings have to be indicated for the site. The reference list is explicitly listed with its coding in Annex E of this decision, including 9 higher hierarchical categories and in total 169 entries. This list was included in the software of the ETC/BD and EU for data input of SDFs by Member States. It is important to note that this use is at site or local level and that it includes both positive and negative effects (with the same category having different effects depending on its intensity and the habitat or species in question). This means that not only threats and pressures are covered by the list, but also positive management and land-use ("impacts" in a broad sense).

„6.1. General impacts and proportion of the surface area of the site affected (Appendix E) (to be supplied where relevant)

Impacts relate to all human activities and natural process that may have an influence, either positive or negative, on the conservation and management of the site (listed in Appendix E). Considering the impacts and activities within the site:

- Enter the appropriate codes from Appendix E
- indicate the intensity of their influence on the site using the following categories:

A: high influence

B: medium influence

C: low influence

- give the percentage of the surface area of the site affected by them.
- indicate whether their influence is positive (+), neutral (o) or negative (-)

NATURA 2000 form: Explanatory Notes 23

Also describe the impacts and activities in the surroundings of the site. The surroundings is the area where the outside impacts and activities may affect the integrity of the site. It will depend among other things on local topography, the nature of the site and on the type of human activities. If there are relevant impacts or activities which are not included in this list, indicate them in the free-text field "vulnerability" in Section 4.3."

3. Use in the Article 17 reporting

Under the reporting obligations of Art. 17 Habitats Directive the same list of threats and pressures was used for the national reports, following the agreed reporting format of Doc. Hab. -04-03-03 rev3.doc with its Annexes A to F

(http://circa.europa.eu/Public/irc/env/monnat/library?l=/habitats_reporting/reporting_2001-2007/reporting_framework&vm=detailed&sb=Title)

as agreed by the Habitats Committee meeting on 20th April 2005, and finally commented and explained by a Guidance-document "Assessment, Monitoring and Reporting under Article 17 of the Habitats Directive: Explanatory Notes & Guidelines" (Final Draft, October 2006).

For Species (Annex B) and for Habitats (Annex D) the reporting requires data on "Main Threats" and "Pressures":

Main pressures

List main pressures impacting on the species and/or its habitat(s) in the past or at the moment (past/present impacts); Use codes from Appendix E to the Standard Data Forms to 2nd or 3rd level (these may need to be revised in the near future)

E.g. 160 General Forestry management,

167 Exploitation without replanting

Threats:

List threats affecting long term viability of the species and/or its habitat(s) (future/foreseeable impacts) Use codes from Appendix E to the Standard Data Forms to 2nd or 3rd level (these may need to be revised in the near future)"

For both categories the 1st level of Appendix E of the SDF was not allowed for data input and the need for future revision (after analysis of the reporting 2000-2006) was already pointed out, due to some proposals for modifications that were already put forward by some Member States.

4. Changes and principles used for analysis

Reporting under Art. 17 Habitats Directive should be comparable over the different reporting periods and that actual data should be consistent with future data as much as possible.

The following guidance was used to update the reference list:

- all categories which were frequently used were retained and redefined where necessary to clarify their meaning
- categories which were not or only exceptionally used were discarded, based on an analysis of the full Natura 2000 database
- the hierarchy of the list was redefined and a guidance worked out how to use it in order to allow for future data analysis and simplify data entry
- gaps were systematically filled e.g. threats relevant in relation to climate change
- comments made by Member States so far were integrated

Besides the existing Natura 2000-data set of the SDF and of the reporting (Art.17), the proposals of Salafsky et al. 2008 (IUCN-WCP classification of threats to biodiversity) were used for cross-checking.

5. Use of the reference list

Together with the new additions and changes this new version groups the habitats and pressures under 14 headings (including "X" for no pressures and threats) and has 74 categories at the 2nd hierarchical level for main data input purposes. Member States or users which need more precision can use 3rd level categories (189).

a) Application of the list

For both purposes the use of the list for the SDF and for Art. 17 reporting the discussions under WP 1 and under WP4 were convergent and clearly indicated the need of a prioritisation or ranking of the data entries.

Level 1 (code with a letter only) cannot be used for data entry, but only for a structured analysis of results in the national and composite report. This is no change to the existing system as headings were not used for data entry in the old version as well.

b) Setting priorities, Ranking

The relative importance of a threat, pressure, impact or activity both within SDF at site level and for reporting at species or habitat must be ranked in three categories:

h	High importance/ impact:	great direct or immediate influence and/or acting over large areas
m	Medium importance/ impact	Medium direct or immediate influence, mainly indirect influence and/or acting over moderate part of the area/ regionally only
l	Low importance/ impact	low direct or immediate influence, indirect influence and/or acting over small part of the area/ locally only

As the intention is not to report every possibly existing threat or pressure or existing activity the total number of data entries is strictly limited to a maximum of 20 (this will avoid very long lists of threats and pressures of possibly minor importance). However, the minimum obligatory number of data entries is one.

On the other hand, if there are no threats and pressures present and no activities are reported, the data entry is "X" for no pressures and threats/ no activities.

At the same time the highest rank is limited to a maximum of 5 data entries.

It is recommended to use the lowest number of possible data entries to adequately describe the situation. For SDF use the priority should be given to precise data entry at level 3 categories or if needed level 4 categories, while for Art 17 reporting is recommended for the rank "high importance" to use level 2 categories (for example J02 "human induced changes in hydraulic conditions").

c) Data quality

Data quality must be indicated (to be filled out only once for the whole data entry under this list in the SDF for a site or for one habitat/ species for reporting under article 17 of the Habitats Directive).

This qualifier uses 3 categories:

- Good data quality: data entries based exclusively or to a larger extent on real data from sites/ occurrences or other data sources
- Moderate data quality: data based mainly on expert judgements and other data
- Low data quality: data based only on expert judgements

Time span for Art 17 reporting

It is recommended that the time span for pressure is the reporting period.

For threat the recommended time span is 2-3 reporting periods. The threats should not cover theoretical threats.

d) Pollution qualifier (optional)

As pollution can have quite different effects according to the substances involved and have quite different sources, for example the question of nitrogen or phosphate input in (mostly P-limited) aquatic ecosystems or atmospheric nitrogen input in terrestrial oligotrophic habitats, an additional qualifier for the specific kind of pollutants is introduced. This qualifier can be applied to a number of different categories and subcategories present in the list, so it was not possible just to add a large number of subcategories which would make the list difficult to use.

This qualifier is optional, can be used for the whole pollution section referring to the main ecologically important component of the pollution, and may also be applied for other categories which have an indirect pollution effect:

For practical reasons this qualifier is kept at a minimum of necessary crucial factors:

N	Nitrogen input
P	Phosphor/Phosphate input
A	Acid input/ acidification
T	toxic inorganic chemicals
O	toxic organic chemicals
X	Mixed pollutions

Eutrophication was noted as one cross-cutting issue which might be of a high interest for data analysis. Direct nutrient input is coded under different threats and pressures as for example H03.02 air borne nitrogen input. However several other threats like lowering of the groundwater table have indirect effects resulting in eutrophication of the habitat. Therefore eutrophication is considered as an additional tool only for data analysis without separate data entry.

For further explanations or detailed definitions that may be necessary in future it is suggested to keep the field “explanations” in the reference and to update this if needed. As long as the reference list remains stable and is fully agreed, this will help to harmonize a common understanding.

6. Examples of the data entry:

6. 1 SDF, section 4.5 (new version), Data entry for a site

Site number: ###, name of site #####

Data quality:

moderate

Most important negative impacts (threats & pressures) on the site

Code	threat/pressure/activity (only for explanation, no data entry)	rank	In- side/outside	Pollution (optional)
		H	I	N
		H	I	
		m	I	
		L	O	

Most important positive effects (activities, management) on the site

Code	positive effect (only for explanation, no data entry)	rank	Inside/outside
		H	I
		H	I
		m	I
		L	O

Inside/ outside: source of the impact, activity is situated within the Natura 2000 site (I) or outside the site boundary (O).

6. 2. Reporting

National report article 17

Data entry for species:

Hyla arborea – European tree frog

Source: species protection plan

Code	threat/pressure/activity (only for explanation, no data entry)	rank	Pollution (optional)
A10	Restructuring agricultural land holding	High	
A10.01	Removal of hedges, copses or scrubs	High	
F03.02.01	Collection of animals	High	
J02.05	Modification of hydrographic functioning	High	
K02.01	Species composition change (succession)	High	N, P
A02.03	Grassland removal for arable land	Medium	
A03.01	Intensive mowing or intensification	Medium	
D01.02	Roads, motorways	Medium	
E01.02	Discontinuous urbanisation	Medium	
E01.03	Dispersed habitation	Medium	
E04	Agricultural structures, buildings in the landscape	Medium	
G01	Outdoor sports and leisure activities, recreational activities	Medium	
G05.05	Missing or wrongly directed conservation measures	Medium	
H04.02	Nitrogen input	Medium	N, A
I03.01	Genetic pollution (animals)	Medium	
J02.01.03	Infilling of ditches, ponds, pools, ...	Medium	
K02	Biocenotic evolution, succession	Medium	
K03.05	Antagonism arising from introduction of species	Medium	
A07	Use of biocides, hormones and chemicals	Low	
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Rationale behind filling in the data in the example:

Description of problem	Code	Reason for ranking
Land allocation: large scale intensive agricultural land (loss of habitat, habitat fragmentation)	A.10	High: This is the reason why grassland, shrubs, ponds are removed, why water levels are changed, why there are new (agricultural) buildings and why the amount of roads is increased.
grassland removal for arable land (loss of habitat, habitat fragmentation)	A.02.03	
intensive mowing or intensification (loss of habitat, habitat fragmentation)	A.03.01	
breeding habitat: removal of scrub (habitat fragmentation)	A.10.01	High: Direct habitat loss in both breeding and summer

summer habitat: land allocation: removal of structure rich fringes and wooded banks (habitat loss)	A.10.01	habitat and causing great risks of isolation, leading to extinction.
removal of pools (in land allocation) (loss of habitat)	J.02.01.03	
drying out of pools early in season as a result of infilling of ditches (breeding succes)	J.02.01.03	
drying out of pools early in season as a result of management of water levels (breeding succes)	J02.05	High: This also influences the ponds outside agricultural areas.
inproper managment (pools too deep --> fish, allowing succession to land)	G.05.05	
habitatfragmentation and isolation: roads	D.01.02	
habitatfragmentation and isolation: expanding of villages	E.01.02	
habitatfragmentation and isolation: building of houses in the country	E.01.03	
habitatfragmentation and isolation: building of agricultural buildings in the country	E.04	
habitatfragmentation and isolation: building of recreational buildings and infrastructure	G.01	
acidification of the water as a result of N and S deposition (quality of habitat)	H.02.03	
succension: growing trees increasing shade (quality of habitat)	K.02	
succession: water vegetation to land (loss of habitat, quality of habitat)	K.02.01	High: Is a result of eutrophication, which is a widespread problem
use of pool by ducks: (quality of habitat)	K.03.05	
introducing of fish (breeding succes)	K.03.05	
genetic pollution as a result of release of non-native related (sub)species	I.03.01	
removal of frogs for collections	F.03.02.01	High: The populations are small, so removal has a high impact on the population.
use of biocides (food availability)	A.07	Low: direct impacts are not yet known

National report article 17
Data entry for habitat:

6430 Hydrophilous tall herb fringe communities of plains and of the montane to alpine levels

Code	threat/pressure/activity (only for explanation, no data entry)	rank	Pollution (optional)
A10.01	Removal of hedges, copses or scrub	High	
H04.02	Nitrogen input	High	N
J02.05	Modification of hydrographic functioning	High	
J02.11.01	Sea defence or coast protection works	High	
A02.01	Agricultural intensification	Medium	
G05.05	Missing or wrongly directed conservation measures	Medium	
H01.05	Diffuse pollution to surface waters due to agricultural and forestry	Medium	N, P
J02.03.02	Canalisation	Medium	
J02.05.02	Modifying structures of inland water courses	Medium	
J02.05	Modification of hydrographic functioning	Medium	
K01	Abiotic (slow) natural processes	Low	

Rationale behind filling in the data in the example:

Description of problem	Code	Reason for ranking
Lack of management (neglection) --> encroachment --> trees and scrubs	G05.05	
Too intensive management --> low vegetation --> habitat loss	A02.01	
Intensive agricultural use: disappearance of unused terrains, shrubs and fringes.	A10.01	High: most important reason for loss of habitat in all regions.
Drying out as a result of lowering of water tables for agricultural purposes (mostly in peat area)	J02.05	
Drying out as a result of intensification of agriculture --> modifying and filling of ditches and channels (mostly in peat area)	J02.05.02	
Eutrophication as a result of N and P polluted water from nearby agricultural land. (fringe of woods vegetations)	H01.05	
Eutrophication as a result of N-deposition is a great risk for fringe	H04.02	High: most important in the sand areas (fringe habitats)

habitats

Desalination of the large brakish marshes in the peat areas as a result of inpoldering (historic: J02.01.02, but the impact process is still ongoing: K01)	K01	Low: cause lies mainly in the past (but: see J02.05)
Also: increase of desalination as a result of active input of fresh water for agricultural improvement.	J02.05	High: brakish type in NL is important within Europe because of rare vegetation types. The brakish type has declined a lot in the past, mostly in this area, which still may have high potential if the salinity is preserved.
Desalination as a result of the closing of see arms in the Delta areas, where now the main distribution remain of the brakish type.	J02.11.01	High: brakish type in NL is important within Europe because of rare vegetation types. The brakish type has declined a lot in the past and this is the most important remaining refuge, where it is also declining
Loss of tidal dynamics as a result of closing see arms in the Delta area. Inundation is necessary for despersion of seeds and nutrient supplies (brakish tall herb vegetations)	J02.11.01	
Loss of natural habitat as a result of canalisation of (small) rivers and brooks.	J02.03.02	

Use of Reference list and Ranking with two Mediterranean examples

6430 * Iberian gypsum vegetation (*Gypsophiletalia*)

Code	threat/pressure/activity (only for explanation, no data entry)	rank	Pollution (optional)
B01.01	Forest planting on open ground (native trees)	High	
A06.01	Annual crops for food production	High	
A06.02	Perennial non-timber crops	High	
C01.04.01	Open cast mining	High	
E01	Urbanised areas, human habitation	Medium	
E02	Industrial or commercial areas	Medium	
G01.03	Motorised vehicles	Low	
C03.03	Wind energy production	Low	
M01.03	Flooding and rising precipitations	Low	

Rationale behind filling in the data in the example:

Description of problem	Code	Reason for ranking
Decrease in quality (species composition, damage and loss of the biological crust of lichens and mosses, soil degradation) and/or extent due to forest planting mainly with <i>Pinus halepensis</i> and <i>Quercus ilex</i> subsp. <i>rotundifolia</i> .	B01.01	Forest planting related to hydrologic management and to the recovery of marginal agricultural lands are the most important factors currently affecting the habitat. The latter is done under the protection of legislation and helped by a subsidy policy. Affect all its distributional area, reducing both quality and extension.
Decrease in extent and/or fragmentation due to agricultural practices.	A06.01 A06.02	The enlargement of crops favored by a policy of land concentration and affecting marginal lands for agriculture is being detrimental for the extension of this habitat.
Decrease in extent and/or fragmentation due to open cast mining. Regeneration difficult for some stenocious species and for the biological crust of lichens and mosses.	C01.04.01	Direct impact currently affecting important areas with narrow endemics.
Decrease in extent and/or fragmentation due to urban and/or industrial development.	E01 E02	Direct and regional impact currently affecting the habitat (Madrid, Zaragoza, Alicante, Toledo).
Decrease in quality and/or extent due to recreational activities with motorised vehicles.	G01.03	Direct and local impact currently affecting the habitat.
Decrease in quality and/or extent due to new stands of wind energy production	C03.03	Direct and local impact currently affecting the habitat.
Changes in quality (species composition) and extent due to global change.	M01.03	The incidence of global change is expected to be high, since this habitat functions as an insular system and most of gypsophytes have limited dispersal ability. However, flooding and rising precipitations would likely affect to a small portion of the area.

Data quality: Good

***Sideritis serrata* Lag.**

Code	threat/pressure/activity (only for explanation, no data entry)	rank	Pollution (optional)
B01.01	Forest planting on open ground (native trees)	High	
A06.01.02	Non-intensive annual crops for food production	High	
A06.02.02	Non-intensive perennial non-timber crops	High	
C01.04.01	Open cast mining	Medium	
D01.01	Paths, tracks, cycling tracks	Low	
C03.03	Wind energy production	Low	
K05.02	reduced fecundity/ genetic depression in plants (incl. endogamy)	Low	

Rationale behind filling in the data in the example:

Description of problem	Code	Reason for ranking
Decrease in individuals and/or habitat loss and/or fragmentation due to forest planting with <i>Pinus halepensis</i> .	B01.01	Direct impact that has already reduced the habitat and population of the species.
Decrease in individuals and/or habitat loss and/or fragmentation due to enlargement of nearby annual crops	A06.01.02	
Decrease in individuals and/or habitat loss and/or fragmentation due to enlargement of nearby almond tree crops	A06.02.02	
Decrease in individuals and/or habitat loss and/or fragmentation due to new open cast mining	C01.04.01	Potential impact that could have a great influence on the only population of the species.
Decrease in individuals and/or habitat loss due to tracks	D01.01	Low direct influence.
Decrease in individuals and/or habitat loss and/or fragmentation due to new stands of wind energy production	C03.03	Potential impact that would be detrimental to the only population of the species.
Genetic depression by endogamy *, and genetic erosion by hybridization with <i>S. leucantha</i> subsp. <i>bourgaeana</i>	K05.02	Foreseeable risks given the reduced area of the population and the documented hybridization events.

Data quality: Good