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„Future Prospects"

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Expert Group on Reporting under the Nature Directives

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ETC/BD-WP 1.3.1.B Support on reporting

1. Introduction

The assessment of conservation status not only includes an element of "diagnosis" based on current condition, but also an important element of "prognosis". In its definition of favourable conservation status, Article 1 of Habitats Directive refers to future developments and prospects in almost all of its parameters.

Article 1 (e):
The conservation status of a natural habitat will be taken as "favourable" when:
— its natural range and areas it covers within that range are stable or increasing, and
— the specific structure and functions which are necessary for its **long-term maintenance** exist and are likely to continue to exist for the **foreseeable future**, and
— the conservation status of its typical species is favourable

Article 1 (i):
The conservation status will be taken as "favourable" when:
— population dynamics data on the species concerned indicate that it is maintaining itself on a **long-term basis** as a viable component of its natural habitats, and
— the natural range of the species is neither being reduced nor is likely to be reduced for the **foreseeable future**, and
— there is, and **will probably continue to be**, a sufficiently large habitat to maintain its populations on a long-term basis

The reference for future prospects is the viability of a habitat or species on the long-term which depends on the future trends of constitutional parameters. Influences which should be regarded in the respect of the foreseeable future and which will determine the future trends and prospects of habitats and species could be inter alia

- likely effects of climate change
- specific or general threats
- initiated or ongoing conservation measures
- obligatory or voluntary action plans
- legal frameworks
- programs and subsidies for sustainable use

- trends in certain policies

There is of course an issue to be resolved of 'what timespan is "foreseeable"'. This is addressed later in the paper.

2. Approach of the last report

Since the prognosis element forms an integral part of the conservation status assessment, future prospects have been included in the Article 17 reporting format and form one of the parameters for the assessment of conservation status. There is little guidance on future prospects in the Explanatory Notes & Guidelines for the assessment, monitoring and reporting under Article 17 of the Habitats Directive. The only guidance that is given is in the evaluation matrix and on page 41 of the Guidelines.

According to this matrix, future prospects address main pressures and threats and give an indication of how viable the species/habitat type will remain in the long-run.

Evaluation Matrix for species

	Favourable ('green')	Unfavourable - Inadequate ('amber')	Unfavourable - Bad ('red')	*Unknown (insufficient information to make an assessment)*
Future prospects (as regards to population, range and habitat availability)	Main pressures and threats to the species not significant; species will remain viable on the long-term	Any other combination	Severe influence of pressures and threats to the species; very bad prospects for its future, long-term viability at risk.	*No or insufficient reliable information available*

Evaluation Matrix for habitat types

	Favourable ('green')	Unfavourable - Inadequate ('amber')	Unfavourable - Bad ('red')	*Unknown (insufficient information to make an assessment)*
Future prospects (as regards range, area covered and specific structures and functions)	The habitats prospects for its future are excellent / good, no significant impact from threats expected; long-term viability assured.	Any other combination	The habitats prospects are bad, severe impact from threats expected; long-term viability not assured.	*No or insufficient reliable information available*

The assessment of future prospects for species in the Article 17 form (Annex B, section2.6) also includes an initial judgement regarding whether prospects for the population are good, poor or bad. This assessment considered mainly the prospects of the species population in relation to the known pressures and threats. This is not consistent with the reporting format of habitat types and has led to some confusion, since a second assessment for species was required for the prospects conclusion. The expectations that the two different scales for future prospect (1=good, 2=poor, 3=bad and FV, U1, U2) would automatically correspond might have caused data errors. It is not necessarily the case that good population prospects will end up in a FV conclusion. The initial judgement is an error in the Annex B and should be deleted.

Since the concept of future prospects was not discussed in detail in the Explanatory notes & Guidelines to the reporting format, the parameter was filled in very inconsistently throughout the EU Member States. In the last Article 17 report most MS only made some kind of expert judgement, however some MS introduced systematic approaches (but methods used differed between MS).

Example Austria: Since the IUCN-approach for assessing and categorizing the threat of species via their extinction rate in the future can be seen as inverse to the viability in the foreseeable future, future prospects have been correlated with the red lists. Existing red list categories for species and biotope types in Austria have been translated into the Article 17 categories subsequently:

FV: Least Concern

U1: Near Threatened, Vulnerable

U2: Endangered, Critically endangered, Regionally extinct.

Example UK: The UK took the decision to assess future prospects on the basis of two reporting rounds, i.e. 12 years. The future prospects assessment for habitat types were based on an assessment of the conservation measures already in place, the potential future threats to the habitat and an analysis of the possible future habitat condition based on the Common Standards Monitoring data.

Example Czech Republic: Expert judgements were used for invertebrates, mammals, amphibians and reptiles (based on monitoring data, if feasible). In the case of vascular plants, future prospects were set to FV if conservation measures are in place, or to U2 if the number of localities is less than 3 and no management is in place. For non-vascular plants, future prospects were set to FV if the number of localities are increasing and the area of habitats are stable or increasing, to either U2 if the number of localities are stable and area of habitats are decreasing or if the number of localities are decreasing.
Future prospects for habitats were assessed on the basis of the evaluation of the conservation status on the locality level from data collected through the Czech monitoring scheme. Future prospects were assessed with the threshold values:

FV: <10% of the occurrences have been assessed with C status (average or reduced conservation)

U1: >10 % C <25%

U2: >25% C

For rare or very small habitats future prospects were set as unknown.

Example Germany: Adapted to the different species and habitat groups Germany has made use of the following criteria for assessing the future prospects:

- Red lists
- Effectiveness of species action plans, agri-environmental measures, renaturation projects etc.
- Decrease of habitats or reduced accessibility of habitats (e.g. barriers)
- Fragmentation of habitats
- Comparison of historical and recent distribution maps
- Likely trends of threats
- Population size/Area of habitats
- Reproduction
- Age structure of population
- Isolation of population
- Change of land use
- Climate change
- Effectiveness of other policies (e.g. water framework directive, reduction of nitrogene emissions)

3. Comments by Member States (Questionnaire to the Member States in 2008)

Member States have commented on "future prospects" after completing their Article 17 report. These comments were compiled by the ETC/BD:

PT: Habitats' form does not include a field for "Future prospects", as the species form, when its evaluation is needed in general evaluation matrix (Annex E).

NL: 2.6 (species) future prospects: this field has no real addition, because it is almost the same as the conclusion and it gives no explanation for the conclusion. At the habitat webform it is also no separate text field. Why add it?

HU: In the case of some species future prospect is stable now, but it depends on just few factors (e.g. otter- fishponds), which can change easily. A change in the fish farm subsidies can dramatically alter farming activity and the current favourable prospects depend on one economic factor. Proposed solution: in these cases option should be offered as 'vulnerable' prospects (or some other words may be used for such special cases).

PL: The 3-grade scale for Future prospects is too narrow. Experts had only a choice between good, poor and bad. As a result they sometimes underestimated Future prospects, qualifying them among "poor" because it was impossible to assess them as „average". It would be fine to have possibility to use this additional grade. Another solution: grade 1 should mean "good or average", or "hopeful".

SI: The difference between future prospects (2.6) and FSC future prospects (2.8) is not clear and straightforward.

PL: Future prospects: It should be clearly stated whether Future prospects determined at first according to a three grade scale (1-3) are tantamount to Future prospects assessed as FV, U1, U2, XX. If "yes" why they are assessed twice in a different way? Should "1" correspond to FV, "2" to U1, and "3" to U2? And why in one case it is possible to define FP as "unknown" and in the other case

not? It happened that experts gave incoherent assessments; first they determine FP as e.g. 3 (bad prospects), and next as U1 (inadequate).

IE: the lack of a standardised approach to assessing Future Prospects. There is a danger that designation and the implementation of management plans is enough to assess this attribute as favourable. Evidence is required of the effectiveness of the management on any of the major pressures, i.e. the intensity of the pressures should be declining. There should also be a list of positive management actions, which would make the assessment of this attribute more transparent.

4. Approach for the next report

For the next Article 17 report the term and concept of "future prospects" should be sharpened and clarified and a consistent method for assessing the parameter should be developed in order to achieve comparable data and to avoid confusion.

4.1. Sharpening the term "future prospects"

According to the Explanatory Notes & Guidelines the assessment of future prospects has to consider, whether the species or habitat "will remain viable in the long-term". It seems necessary to specify the term "long-term" and "viable".

The assessment of future prospects has to focus on the likely development of the habitats and species in the *foreseeable* future. The time span which will be considered should be standardised in order to have a clear reference for the assessment and to give guidance for a consistent approach throughout the European Union.

Red Lists often assess the risk of extinction within the next 100 years; climate change scenarios usually range to 2050 or 2100. However, it seems to be advisable to focus on a certain amount of reporting periods when talking about future. The Explanatory Notes & Guidelines suggest some 3 or 4 reporting periods (i.e. ca. 20 years) to be considered as "long-term". Since threats and pressures affect the prospects of habitats and species with a specific time lag, the considered amount of reporting periods should not be too small. On the other hand the more we look into the future the less we can forecast the likeliness of threats and pressures and their effects. We therefore suggest to agree on 2 reporting periods (=12 years) when thinking about the long-term.

Species and habitats will remain viable, if minimum requirements for their survival will be guaranteed, meaning that there is sufficient space and resources. It seems most practical to make use the favourable reference values developed under the Article 17-reporting as a threshold for assessing the viability of habitats and species.

4.2. Evaluation method

In the last Article 17 report the evaluation of the conservation status of habitats and species was based on an assessment of the past trends of the conservation status parameters (range, population, structure and function, habitat for the species) and their actual status in relation to favourable reference values. This method can be applied to future prospects in analogy by extrapolating the trends into the foreseeable future and assessing the future status in relation to FRV (see figure 1).

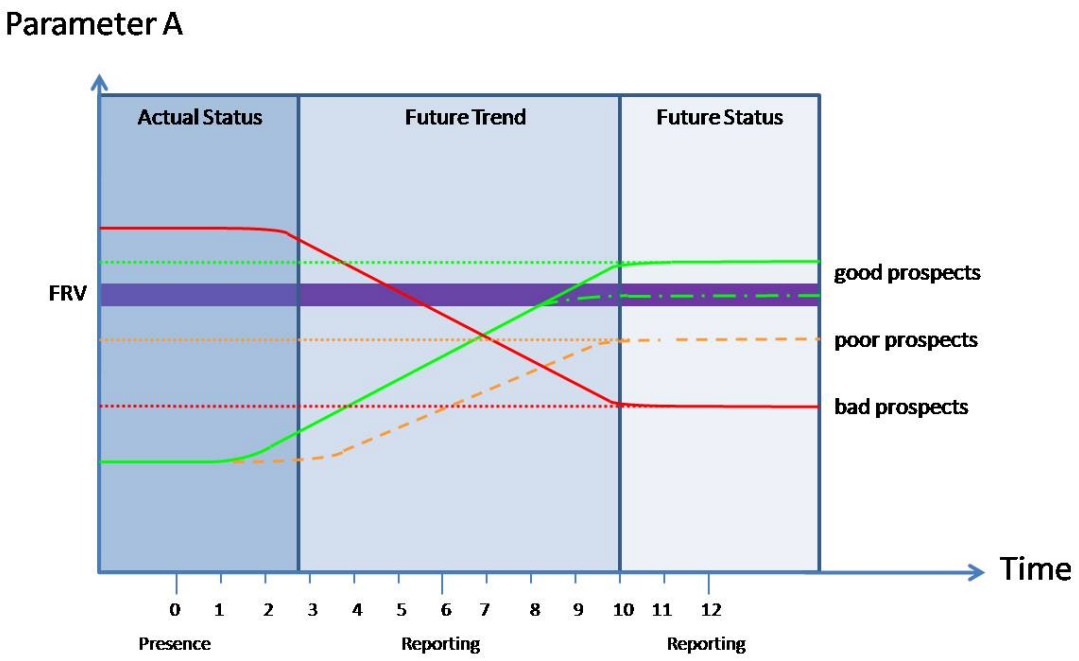

Figure 1: Assessment of the future prospects of one conservation status parameter (e.g. range, population, habitat of the species, area, structure and function) using the future trend and the future status in relation to the Favourable Reference Value.

Starting with the actual situation of a respective parameter regarding its favourable reference value, the predicted status in the long-term (e.g. in 12 years) should be estimated and the prospects of the parameter determined as

- good prospects
- poor prospects
- bad prospects

Future trend

Future trends of habitats and species are dependent on pressures which affect the habitats and species. Such pressures will have a negative influence on the conservation status parameters of the habitats and species and will therefore weaken their future prospects. On the other hand, action plans, conservation measures, protection regimes and other provisions can be of positive influence for the future prospects. In most cases positive and negative influences will simultaneously affect the habitat or species. The assessment of future trends therefore has to take into account whether positive and negative influences (e.g. pressures) will be in balance for all habitat or species occurrences or whether the one will exceed the other. For example the future trend is likely to be positive when ongoing, initiated or planned conservation measures will include almost the whole population of a Member State´s biogeographic region. On the other hand the future trend will be

negative when only a small proportion of a population/area of a habitat type will be included in conservation efforts but negative influences are likely to affect the whole occurrences. The fact that a habitat or species is highly covered by Natura 2000 or by other protected areas designations does not directly promote stable or positive future trends, but it needs to be seen in a balance between pressures and need of active management.

The estimation of the future trends could be standardised by suggesting common methods.

- Range: Climate change will be among the factors which will have the most significant effect on the range parameter in the future. Climate envelops at a biogeographic scale may elucidate future prospects for species and habitats responding to climate change. Threshold values need to be defined to unambiguously separate between positive or negative trends. Another important factor can be a change of the land use. In this case the range future trends shall be estimated with respect to the future trend of habitat of the species and the area of habitats.

- Population: Future trends on populations could be derived from actual data on population structure and reproduction and from data on existing or ongoing action plans if available.

- Habitat for the species: Land-use scenarios or established programs (e.g. agri-environmental schemes) could be the basis for the assessment of the future trends for this parameter.

- Area: the probability of the decrease of area and the regeneration potential of the habitat type should be considered by calculating the prospect of the area.

- Structure and function: a common proportion of the area for which negative trends in their structure and function can be detected or assumed should be agreed (e.g. bad prospects when more than 25% of the area will suffer from a deteriorated structure and function in the foreseeable future)

Although often the lack of precise data will not allow for the precise estimation of the future trends the above mentioned aspects can guide the evaluations based on the expert judgment.

Scaling: The scaling of future trends should only indicate the direction like already in place for the past trend within the reporting period:

0 = stable: loss and expansion will likely to be in balance

+ = increase: positive influences (e.g. from management measures) will presumably exceed negative influences from pressures

- = decrease: negative influences will presumably exceed positive influences

X = unknown

Future status

The future status of each parameter can be evaluated by calculation or estimation via expert judgements. The favourable reference values can be used as thresholds for the assessment of the

long-term viability of the habitat or species. Since it is hardly feasible to come to precise figures of the future status of the parameters, the future status should be assessed in relation to the Favourable Reference Values by using operators:

>: Above FRV

=: On FRV

<: Under FRV

X: Unknown

Since FRV do not exist for all parameters surrogates have to be chosen. For parameter "Habitat of the species" the figures of "suitable habitat for the species" could be used as threshold. For the parameter "Specific structures and functions" a percentage of the area in favourable condition should be set in the evaluation matrix (e.g. more than 75% of the area is favourable as regards its specific structures and functions) for the favourable status.

Evaluation matrix for Future prospects

Each parameter has to be assessed in respect of its foreseeable future trends and the predicted future status. Even the rate of decline of a parameter and the absolute deviation from FRV in the future might be most important it is suggested to use only the direction of the future trend and the relation of the future status to the FRV in the future in order not to stress the efforts MS have to undergo for the assessment of the future prospects.

actual status	**Future trend**	**Future status**	**prospects**
on/above FRV	+ (increasing)	> (above FRV)	good
on/above FRV	= (stable)	=/> (on/above FRV)	good
on FRV	- (decreasing)	</<< (under FRV)	poor[1] bad[1]
above FRV	- (decreasing)	>/=/</<< (above/on/under FRV)	good[2] poor[2] bad[2]
above FRV	- (decreasing)	unknown	poor[3] bad[4]
under FRV	+ (increasing)	</=/> (under/on/above FRV)	good[5] poor[6] bad[6]
under FRV	+ (increasing)	unknown	poor[7] bad[8]

[1] Depending whether or not the future status will be below the threshold for unfavourable bad.
[2] Depending on whether the future status will be on/above, under or even below the threshold for bad of the FRV
[3] If future trend is assessed to be moderately decreasing by expert judgement
[4] If future trend is assessed to be heavily decreasing by expert judgement
[5] If the future status will excess the FRV
[6] Depending whether or not the future status will be below the threshold for unfavourable bad

under FRV	= (stable)	</<< (under FRV)	poor[1]	bad[1]
under FRV	- (decreasing)	</<< (under FRV)/unknown	poor[1]	bad[1]
unknown	+ (increasing)/ - (decreasing)/ = (stable)/ X (unknown)	X (unknown)	unknown	
under FRV on/above FRV	X (unknown)	X (unknown)	unknown	

[7] If actual status is already above the threshold for unfavourable poor or if future trend is assessed to be strongly increasing by expert judgement

[8] If actual status is below the threshold for unfavourable poor and the future trend is assessed to be moderately increasing by expert judgement

Overall conclusion

Applying the above described method, the prospects of each conservation status parameter should be assessed and filled in the subsequent table:

Assessment table for future prospects of species

Parameter	**Future Trend**	**Future Status**	**Prospects**
Range			
Population			
Habitat			
Future Prospects			

Assessment table for future prospects of habitat types

Parameter	**Future Trend**	**Future Status**	**Prospects**
Range			
Area			
Structure & function			
Future Prospects			

The prospects of each parameter will be aggregated according to the subsequent rules:

	FV	**U1**	**U2**	***Unknown***
Future prospects	All CS-parameter have good prospects OR prospects of one CS-parameter unknown, the other good prospects	Other combination	One or more CS-parameter bad prospects	Two or more X and no parameter with bad prospects

4.3. Applicability of the proposed method for the 2013 reporting

Although the EC encourages to use the full methodology and fill in the whole matrix, the EC is aware that this will be a juge challenge for the MS. In the best case data are available for all elements of the evaluation matrix. At least the methodology guides the Member States to realize a good and well-founded assessment.

Filling in the whole matrix is necessary to conclude to favourable future prospects (one unknown is allowed). For unfavourable inadequate it must be proven that none of the parameters is unfavourable bad. But in case of unfavourable bad, we strongly recommend to focus on some elements of the evaluation matrix for which data are available to prove this bad status (better than only expert judgement).

5. Examples

If monitoring of nitrogen deposition proves that critical loads for oligotrophic habitat types are strongly exceeded and this will remain for the upcoming reporting periods the future prospects are not favourable.

Example 1: Ligularia sibirica in the alpine region of Austria

Range:
Actual Range: 35 km^2
FVR: 35km^2
Actual status: on FRV
Future trend: stable
Future status: on FRV
Future Prospects: good

Population:
Actual population: app. 1.000 Individuals
FRP: 800 Individuals
Actual status: above FRV
Future trend: stable
Future status: above FRV
FP: good

Habitat for the species:
Actual habitat: 5 ha
Suitable habitat (favourable habitat): 5 ha
Actual status: on FRV
Future trend: stable
Future status: on FRV
FP: good

Conclusion: FV[9]

Parameter	**Future Trend**	**Future Status**	**Prospects**
Range	Stable	On	Good
Population	Stable	Above	Good
Habitat	Stable	Above	Good
Future Prospects			FV

Example 2: 8340 Permanent Glaciers in the alpine region of Austria

Range:
Actual Range: 4755 km^2
FVR: more than 4755 km^2
Actual status: under FRV
Future trend: decreasing
Future status: under FRV
FP: bad

Area
Actual habitat area: 455 km^2
FRA: 565 km^2
Actual status: under FRV
Future trend: decreasing
Future status: under FRV
FP: bad

Structure and function
Actual status: unknown
Future trend: decreasing
Future status: unknown
FP: unknown

Parameter	**Future Trend**	**Future Status**	**Prospects**
Range	decreasing	under	bad
Area	decreasing	under	bad
Structure & function	decreasing	unknown	Unknown
Future Prospects			U2

[9] Future prospects in the Austrian 2007-report have been set U2 since the actual Red-List-status of this species is EN (endangered) and this was translated into "unfavourable bad".

Example 3: 6410 – Molinia meadows on calc./peaty/clavey-silt-ladean soils (cont. Region of Austria)

Range:
Actual Range: 10.360 km^2
FVR: = 10.360 km^2
Actual status: on FRV
Future trend: stable
Future status: on FRV
Prospects: good

Area
Actual habitat area: 15 km^2
FRA: >> 15 km^2
Actual status: << FRV
Future trend: stable
Future status: << FRV
Prospects: bad

Structure and function
Actual status: unknown
Future trend: unknown
Future status: unknown
Prospects: unknown

Parameter	Future Trend	Future Status	Prospects
Range	stable	on FRV	good
Area	stable	<< FRV	bad
Structure & Function	unknown	unknown	unknown
Future Prospects			U2

Contributions to the draft discussion paper:
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