

Effectiveness of the current EU Nature Conservation Financing in Germany, and Requirements for the next Funding Period post 2020

Position Paper produced by the LANA Expert Group on "EU Nature Conservation Financing / GAP 2020"

(1st September 2016)

English translation

1. Occasion

At the 112th ordinary meeting of the Federal/Länder Working Group on Nature Conservation, Landscape Management and Recreation (LANA), held on 24/25 September 2015 in Münster, it was resolved that the Expert Group on "EU Nature Conservation Financing / GAP 2020" (Expertengruppe "EU-Naturschutzfinanzierung/GAP 2020") would prepare a position paper on experience gained with, and the effectiveness of, nature conservation financing during the last and the current funding periods, as well as on the requirements and priorities applying to EU financing of nature conservation measures for the period as of 2020. In addition, at its 19th meeting on 18/19 February 2016, the LANA Standing Committee on "Basic Issues and Natura 2000" ("Ständiger LANA-Ausschuss 'Grundsatzfragen und Natura 2000'") determined that it would be feasible and useful to estimate Germany's funding requirements for implementation of EU nature conservation directives at its fall 2016 meeting. It commissioned the aforementioned expert group to prepare a proposal for such an estimate. The following position paper discusses both of these topics which are closely related in content.

2. The current state of biodiversity calls for action

The following assessments and requirements pertaining to the implementation of biodiversity and nature conservation objectives are in place at the national and European levels:

- **The Council Conclusions on the Mid-term Review of the EU Biodiversity Strategy**, which were adopted on 16 December 2015 by all the Member States, note an estimation of the economic benefits of the Natura 2000 network at EUR 200 to 300 billion per annum. In addition, they call on the European Commission
 - ⇒ to work on biodiversity-proofing the EU budget, and
 - ⇒ to analyse the effectiveness of an integrated approach for biodiversity financing.

- The results announced to date of the **Fitness Check of the Natura 2000 directives**¹ make it likely that shortcomings in implementation of the directives are closely related to a shortage of financing.
- The Commission's report on **Integration of Natura 2000 and biodiversity in EU financing (European Agricultural Fund for Rural Development (EAFRD), European Regional Development Fund (ERDF), European Maritime and Fisheries Fund (EMFF), European Social Fund (ESF), Cohesion Fund (CF))**² confirms that aspects pertaining to Natura 2000 and biodiversity have been inadequately integrated within these funds.
- The German national reports of 2013 on the **EU Birds and Habitats directives** confirm a considerable need for action, since a favourable conservation status has been achieved for only about 25% of the species concerned and for only 28% of the habitat types involved. The largest deficits are found in connection with a) bird species that depend on sustainable forms of agricultural cultivation and b) with grassland habitats, which have been decreasing as a result of an ongoing trend toward further intensification of agriculture, and of discontinuation of agricultural uses.
- The **Federal Government's 2014 Indicator Report on the National Strategy on Biodiversity** found 11 of 13 indicators tied to a measurable target are still far, or very far, from their targets. This especially applies to those indicators oriented to "normal landscapes," i.e. to those areas outside of protected areas that for the most part are used agriculturally.
- According to the **Federal Environment Ministry's (BMUB's) "Nature Conservation Campaign 2020,"** the objectives for the National Strategy on Biodiversity 2020 can be achieved only if additional efforts are made. The Common Agricultural Policy (CAP) plays a special role in this regard. The Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety (BMUB) urges a discontinuation of agricultural subsidies after 2020 and the payment of farmers for concrete services provided in the interest of nature conservation. The current integrated approach, so the BMUB, should be replaced with a new programme of financing for nature conservation.
- At its 85th meeting, held on 13 Nov. 2015, the **Conference of [Federal and Länder] Ministers of the Environment (Umweltministerkonferenz – UMK)** concluded that "the EU's financial support for intensive efforts with regard to implementation of Natura 2000 needs to be considerably improved." In addi-

¹ Evaluation Study, Fitness Check Conference, 20 November 2015

² Integration Of Natura 2000 and Biodiversity Into EU Funding (EAFRD, ERDF, CF, EMFF, ESF) Analysis of a selection of Operational Programmes approved for 2014-2020

tion, the UMK called attention to the resolution taken at the 84th UMK meeting, of 22 May 2015, highlighting the numerous difficulties encumbering funding of nature conservation measures, via the relevant EU Funds, and stating that the integration strategy needs to be reviewed.

In all of the aforementioned documents and resolutions, lacking **financial resources** and **inadequate consideration of nature conservation concerns** in EU policies, especially in European agricultural policy, are considered as the primary reasons for the enormous deficits in implementation of biodiversity objectives.

3. Financial requirements relative to implementation of the EU nature conservation directives

In Germany, the financial requirements pertaining to implementation of the EU Birds and Habitats directives were determined for the first time in 2004. In the 2013 Prioritised Action Framework for Natura 2000 (PAF), those requirements were updated, taking account of the costs for the Federal Government (especially for N2000 implementation in the exclusive economic zone). Since those costs were calculated, the following has occurred:

- **Additional sites have been proposed for designation, amounting to a considerable total additional area**, resulting in a considerable increase of the total area of the Natura 2000 network
- The costs for relevant measures (for example, for hectare-based payments in contractual nature conservation and costs for land purchases) have increased significantly as a result of **general increases in prices** and of disproportionately high **increases in leasing and land prices**.
- **A number of political developments have occurred** which could not have been foreseen in 2004, and which have created a need for additional and/or more-expensive nature conservation measures (e.g. amendments of the Renewable Energy Sources Act (EEG), involving intensification of agricultural uses; increases in firewood (wood-fuel) prices, leading to higher costs for financial compensation for protection of biotope trees, dead wood and wilderness areas).
- As a result of **judicial rulings**, especially rulings of the European Court of Justice, **provisions under species protection legislation** have acquired considerably greater importance. This has led to additional costs for measures outside of Natura 2000 sites and for species listed in Annex IV of the Habitats Directive.
- Populations of a number of animal species have increased considerably – especially as a result of successful implementation of Natura 2000. Therefore, a range of **prevention measures and compensatory payments** have become necessary that could not have been predicted in 2004. Moreover, experience with such species in particular has shown that the process of ensuring acceptance for Natura 2000 necessarily includes personnel-intensive communica-

tion with affected parties, as well as public relations measures oriented to specific target groups. Both types of efforts generate additional costs.

- The **requirements applying to the EU Funds** have been considerably tightened and have grown in complexity (e.g. in the areas of programming, checking of measures, monitoring and evaluation, selection criteria, payments calculation and reporting). The EU state aid rules, which have imposed considerably more-complex requirements pertaining to nature conservation measures since 2004, are another factor in this regard. This development has led to higher personnel requirements for implementation of funding measures.
- Most of the required management planning has been carried out to date. Thus **detailed planning is now in place** for relevant measures **for the first time** and initial reliable experience with relevant implementation has been gained. In 2003, valid financial estimates were hardly feasible, simply due to a lack of relevant concrete planning and experience.

Although the above-listed changes differ in terms of their detailed financial impacts, it is clear that the relevant costs have increased considerably over the requirements of EUR 627 million per annum that were estimated at the time.

For this reason, the financial requirements for implementation of the EU nature conservation directives – i.e. for Natura 2000, for measures outside of the protected-area network, for species conservation, for monitoring, for public relations, etc. – have been redefined, for all cost categories, including one-time and ongoing costs, costs for restoration and care/management, costs for specific measures and personnel costs. Wherever possible, such redetermination has been based on data available on a nationwide basis – especially data from the 2013 German national report pursuant to the Habitats Directive (and especially its figures for area sizes of habitat types to be served by measures). Other required data were obtained by requesting the Länder for specific information and by conferring with members of the LANA Expert Group on "EU Nature Conservation Financing / GAP 2020."

This work has identified overall financial requirements of **EUR 1.416 billion per annum**. These break down as follows:

	Regular measures (in millions of EUR per annum)	Investment measures (in millions of EUR per annum)	Total (in millions of EUR per annum)
Grassland, heaths, dunes	528	200	728
Forests			74
Watercourses and standing waters	10	36	46
Species conservation	74		98
Establishment of new landscape elements		30	30
Cropland extensification	204		204
Overhead costs			236
Total			1,416

The methods used for this estimate are described in detail in [Annex 1](#) (page 15). In this connection, the following should especially be noted:

- The estimate did not take account of how payments are made, or of which sources are used to finance costs.
- The estimate was made based on the current political and legal framework (for example, payments from the 1st pillar of the CAP, existing EEG-related funding, the current market prices for agricultural products, etc.). Any other approach would have entailed overly speculative assumptions. Consequently, the financial requirements could change – even considerably – if the applicable framework should change (for example, if the 1st pillar is eliminated).
- As a result of methodological difficulties, lacking data and overly large differences between the applicable situations of the Länder, some requirements were not determined and thus could not be taken into account (for example, requirements applying to marine areas). Nonetheless, it is assumed that the estimate took account of the main costs for implementing Natura 2000.
- The estimate also does not include requirements that, although tied to implementation of the EU Water Framework Directive, would have positive impacts on Natura 2000, such as backward relocations of dikes and conservation-oriented floodplain development. Only those nature conservation measures that must be considered above and beyond obligations tied to the Water Framework Directive were included.
- With regard to the main requirements – for ongoing management of open-land habitats (grassland, heath and dunes, accounting for EUR 528 million per annum, or about 1/3 of the total costs) – it must be noted that the cost basis applied, EUR 400 / hectare, differs in many cases from the amounts which the Länder apply (for example, for reimbursements in contractual nature conservation programmes). This is due to large differences in management practice, as a result of differences in natural and geographic factors (for example, scythe mowing in mountain regions, as opposed to mechanised mowing in flat-land areas); to large differences in the necessary management intensities (for example, less than once per year for dunes, but several times per year for meadows); and to the aforementioned great differences in financing strategies (for example, some cases involve crediting of the lump-sum Natura 2000 compensatory payments that are commonly provided in some Länder). Following intensive Länder-level discussions, it has been concluded that the basic rate applied, EUR 400 / hectare, is the best-suited nationwide average. That value cannot be applied, conversely, in assessing the rates used in the individual Länder, however.
- The overhead costs include all important planning, evaluation and personnel costs, as well as the costs for public relations, communication and public-participation processes.

The determined financial requirements have to be correlated with the related benefits and value achieved in conserving biodiversity, which normally depends on sustainable agricultural practices. At the EU level, the financial requirements solely for the Natura 2000 network of protected areas are given as EUR 5.8 billion per annum, while the economic benefits are placed at EUR 200-300 billion per annum³. A similar cost-benefit picture is likely to apply for Germany. This is substantiated by studies of the "ecosystem services" achieved via restoration of alluvial plains, grassland conservation and renaturation of peatlands, with such services including prevention of flood damage, improved natural purification of drinking water, enhanced recreational opportunities and reduction of greenhouse-gas emissions. Other examples of economically beneficial ecosystem services, which are realised in connection with the achievement of objectives of the EU nature conservation directives, include decreases in nitrogen surpluses, reduction of soil erosion, conservation of pollination resources and control of harmful organisms. Still other positive impacts comprise commercial benefits such as protected areas' role in value creation (via tourism, for example).

4. Current European financing instruments: descriptions and assessment relating to Germany

While in its Article 8 the Habitats Directive state **the participation of the EU in financing Natura 2000** (thereby contrasting in this regard with other EU provisions in the area of environmental protection and nature conservation, such as the Invasive Species Regulation and the Water Framework Directive), it does not specify how such participation is to take place. The relevant current financing is based on an integrated approach whereby the EU does not have a separate financial instrument for nature conservation, with the result that existing funds for other EU policy areas have to be used. The directive does not specifically require the use of this financing framework, however.

The **EU's Multiannual Financial Framework (MFF)** provides for expenditures totaling EUR 1,082 billion over the years 2014 – 2020. The CAP is the largest budget item in the total MFF funding, accounting for about EUR 408.3 billion. Of that amount, EUR 312.7 billion are earmarked for area subsidies (direct payments within the 1st pillar), and EUR 95.6 billion are assigned for rural development (2nd pillar).

The EU Commission is required to submit a proposal for the financing of EU as of 2021 (Multiannual Financial Framework for 2021-2027) by the end of 2017. That proposal will provide a first indication of the financing levels and thematic orientations being planned for the EU's financing instruments (Structural Fund, CAP, LIFE, etc.).

The following approaches relative to EU funding of nature conservation measures are important:

³ The economic benefits of the Natura 2000 network. European Commission 2013

4.1 The 1st pillar of the Common Agricultural Policy (CAP)

In the **agricultural support under the 1st pillar of the "Common Agricultural Policy (CAP),"** farmers receive "direct payments" that are tied especially to the sizes of the areas they cultivate. This funding area, currently accounting for about EUR 45 billion per annum EU-wide, is the largest individual budget item in the MFF (amounting to 29% of the EU's total expenditures). The political justification for this funding, the primary purpose of which is to secure farmers' incomes, is disputed. For this reason, a system of "**greening**" was introduced, as of 2014, for the 2014-2020 funding period. It provides for 30 % of direct payments to be tied to the following environmental services to be provided by farmers:

- maintaining permanent grassland,
- dedicating (currently) 5 % of arable land to "ecological focus areas" ("ecologically beneficial elements"), and
- diversifying crops.

On the basis of pertinent experience to date, and from a standpoint of nature conservation, **implementation of the greening system in Germany** must be evaluated unfavourably:

- The ecological focus areas have minimal favourable environmental impacts and the majority of the preferred greening measures generate even smaller biodiversity benefits. The primary reason for this is the fulfilment of greening requirements mainly via customary agricultural procedures, such as planting of catch crops, ground-cover crops and nitrogen-fixing plants, even allowing some continued use of herbicides. As a result, their contributions to the improvement of biodiversity are greatly in dispute⁴. In 2015, such crops were cultivated on 80% of all greening areas.
- A total of 20% of the ecological focus areas consist primarily of fallow land and landscape elements which were present before the greening system entered into force and which are not improved by greening measures.
- Because the provisions for the greening system are not usefully differentiated, the system is hardly able to promote properly targeted implementation of nature conservation objectives.
- The greening system yields low ecological benefits, while providing overpayments for the greening services it generates. From an economic standpoint, the greening system can be criticised both for its lacking ecological effectiveness and low economic efficiency. This latter aspect is seen especially in the considerably lower operational costs for greening measures compared to the correlated greening payments⁵.

⁴ The benefits of catch crops and pulses, and crop rotation, such as loosening of soil structures and nitrogen fixing in the soil, tend to involve optimisation of agricultural production rather than improvement of biodiversity; Thünen Working Paper 20, 2014

⁵ LAKNER, S.; HOLST, C., Betriebliche Umsetzung der Greening-Auflagen: die ökonomischen Bestimmungsgründe, Natur u. Landschaft 90(2015) 271 ff.

To date, the **greening system has brought only minimal nature conservation benefits**. Its impacts in this regard are completely out of proportion with the relevant direct payments provided and with the related administrative burdens for farmers and competent administrations.

Another deficit of the 1st pillar is that some of the naturally valuable areas managed by farmers do not meet the requirements for areas eligible for subsidies, resulting in no direct payments for in those areas (this category includes, for example, sparse habitats with abundant rocks or woods or very wet habitats which are particularly valuable, in terms of nature conservation criteria, due to their moisture).

The efforts made in this funding period to **provide remuneration for public goods/services**, such as nature conservation services, via the first pillar must thus be considered a **failure**.

4.2 The European Structural & Investment Funds (ESIF)

At present, the following EU funds are the most important sources of financing for nature conservation:

- EAFRD, the European Agricultural Fund for Rural Development (2nd pillar of the CAP),
- ERDF, the European Regional Development Fund,
- EMFF, the European Maritime and Fisheries Fund,
- ESF, the European Social Fund,
- CF, the Cohesion Fund (not relevant for Germany).

4.2.1 EAFRD

Currently, the EAFRD accounts for the largest share of nature conservation financing. According to estimates of BirdLife International, the funding available for nature conservation in the EAFRD will decrease in 16 of 28 EU countries during the current funding period 2014-2020. One reason for this is the repeated reduction of EAFRD funding (i.e. following a reduction for the 2007-2013 period) to an EU-wide level of EUR 95.6 billion, although the pertinent catalogue of measures eligible for support has been expanded.

- In Germany, **EAFRD funding** for the 2014-2020 period has been slightly increased by shifting 4.5 % (EU law allows for up to 15%) of the funding (about EUR 229 million per annum) from the first pillar into the second. Thus, the EAFRD funding (= second pillar) available in Germany amounts to EUR 1.35 billion / year on average for the years 2014 through 2020, while a total of EUR 4.85 billion per annum are available in the first pillar.
- However, the Commission has significantly tightened the **requirements pertaining to monitoring and verifiability**. This benefits simple measures which, while easy to check, are non-specific ("broad brush") in orientation (so-called "light green" agri-environment measures). By contrast, high-quality na-

ture conservation measures, which lend themselves much less readily to any standardisation and which have to be tailored to the needs of specific animals and plants, have been made more complicated and, in many cases, can no longer be financed with EU funding.

- Furthermore, for the new EAFRD funding period the EU has again increased the **administrative burden** – a few specific simplifications notwithstanding, such as the allowance of lump-sum payments – and further complicated the handling and management of measures. For example, the requirements pertaining to project-selection criteria for investment measures have been tightened. In connection with practical implementation in nature conservation, this creates many problems and has considerably lengthened the applicable processing periods.
- In contrast to the approach taken for other thematic areas (such as forest-related measures), nature conservation measures under the **EAFRD have not been combined within a single category**. Instead, they have been combined with funding measures in other areas and thus extensively fragmented. Programming and practical implementation in this area have thus been considerably complicated. Yet another effect of the changes is that, ultimately, it has become more difficult to evaluate nature conservation measures' share of the EAFRD. Nonetheless, the Commission claims that 43 % of the EAFRD funding at the EU level is being used for ecosystems. As a result of the above-described fragmentation of the available pertinent data that figure cannot be substantiated, nor can it be harmonised with the applicable reality. Clearly, it must be assumed that the figure includes funding for measures which are obviously not relevant to nature conservation, such as the compensation for disadvantaged areas.
- Many EAFRD measures, such as those pertaining to the natural heritage (Art. 20, code no 7.6) (for example, projects for promoting environmental awareness, or conservation, restoration and improvement measures) can be carried out only in rural areas – i.e. in areas with low population densities. However, the boundaries of Natura 2000 sites are not oriented to population density.
- In comparison to the status in the funding period 2007-2013, the Commission has made it more difficult to **acquire land for nature conservation purposes**; such acquisitions are now possible only in connection with biotope-shaping measures.
- Furthermore, **no incentive component**, designed to ensure that ambitious, effective agri-environment measures generate income, has been provided in the current funding period. This is hampering acceptance for contractual nature conservation measures which often necessitate expensive conversions of cultivation and management. The payments provided to compensate for income losses tied to nature conservation measures are too low to ensure the continuation of management forms which generate little income (such as sheep farming).

As a result of the problems described above, some Länder have opted to draw no EAFRD support whatsoever, or to refrain from using EAFRD funding to finance measures that are ambitious and/or support the implementation of Natura 2000. This, in turn, has meant that even the numbers of EAFRD-funded nature conservation measures are decreasing.

4.2.2 ERDF

Nature conservation funding already accounted for a very small share of ERDF funding in the last funding period. EU-wide, it ranged from 0% to a maximum of 2% of ERDF funding⁶. In the current funding period, this share will be even smaller, primarily because the EU has focused the fund's resources on just a small number of areas. This is illustrated in the usage of ERDF funding for nature conservation purposes in only four German Länder. In operational programmes of the Länder in the 2014-2020 period, about 4% of nearly EUR 11 billion in ERDF funding are earmarked for the environmental sector. Of this amount, only EUR 145 million (1.3%) are being spent directly on nature conservation. And only EUR 11 million (0.1%) have been assigned for Natura 2000. ERDF will thus continue to play an ever-smaller role in nature conservation financing and it will become completely irrelevant with regard to implementation of Natura 2000.

4.2.3 EMFF

The situation in the area of the fisheries fund has improved. The options for funding nature conservation have been expanded, and eight (formerly, only three) Länder are now using this fund to finance nature conservation measures. On the other hand, the overall volume of the EMFF is very small (EU-wide, only EUR 6.4 billion; the German share is EUR 220 million), and its usefulness in nature conservation is limited, because its eligibility conditions are oriented especially to fisheries.

4.2.4 ESF

In the current funding period, nature conservation measures no longer play any formal role in the ESF. The only dedicated nature conservation measure carried out in Germany in the last funding period, via the ESF, involved funding a system of area managers for ecologically valuable areas in Bavaria. In the funding period beginning in 2014, EU financing for that measure was discontinued, due to requirements imposed by EU legislation.

4.2.5 Interim conclusion

The integrated approach leads to the following problems in nature conservation:

- The programme foci and financial requirements for nature conservation have to be defined and established as part of the **complex and costly pro-**

⁶ Special Report of the European Court of Auditors, No 12/2014: Is the European Regional Development Fund (ERDF) effective in funding projects that directly promote biodiversity under the EU biodiversity strategy to 2020?

gramme planning in various other policy areas. Nature conservation interests thus have petitioner status in dealings with the policy areas responsible for the relevant programmes (agricultural, economic and social affairs), and those policy areas tend to give their own concerns higher priority.

- The **provisions of the Funds Regulations** are designed for funding areas with other aims. They are inadequately compatible with requirements pertaining to nature conservation. This orientation generates considerable administrative overhead and unnecessary difficulties for nature conservation measures.
- Unlike the agencies responsible for the various funds (in the areas of agricultural, economic and social affairs), nature conservation administrations have to implement the highly complex regulations of multiple, different funds simultaneously.

4.3 The LIFE programme

The LIFE Programme for the Environment and Climate Change is the EU's only instrument for direct financing of nature conservation, environmental protection and climate action. In addition, it is the only EU financing instrument to have a fixed, reserved share for nature conservation measures. That share amounts to EUR 1.2 billion of the LIFE programme's total budget of EUR 3.4 billion, or to about 0.1 % of the EU's total budget. Unlike the EU's integrated funding instruments, LIFE is project-based rather than programme-based, and funding under LIFE is allocated directly by the EU Commission. As a result, it cannot generate funding volumes comparable to those obtained from the integrated EU funding instruments administered by the Member States. LIFE's role is thus limited to individual "lighthouse" projects of great strategic importance for implementation of Natura 2000. Such projects are carried out in selected areas, and thus the programme cannot have widespread impacts.

Since LIFE is aimed at nature conservation objectives, its funding options are oriented to nature conservation purposes. LIFE is open to all applicants, and the administrative overhead for implementation under LIFE is smaller than that for implementation under the integrated funds.

5. Conclusion: Nature conservation is not adequately addressed in EU funding policy

- As a result of its design, the **greening** in the 1st pillar of the CAP is providing only minimal positive ecological impacts. The first pillar of the Common Agricultural Policy is thus not contributing in any effective way to the funding of nature conservation.
- In 2004, the Commission introduced an **integrated strategy** for financing of Natura 2000, providing for financing via funds with funding spectrums not oriented to nature conservation. Twelve years after its inception – i.e. also in the new EU funding period – that strategy is still not contributing adequately to the

funding of action toward EU nature conservation objectives, especially efforts to implement Natura 2000. In some cases, the fund regulations even represent steps backward in this regard.

- **LIFE** is an excellent instrument for "lighthouse" projects. With its small financial size, it can make only a relatively small contribution to the promotion and conservation of biodiversity, however.
- **Significant levels of funding**, however, are needed to implement Natura 2000 – to promote environmentally compatible land management by farmers and forest owners, to plan and implement investments in nature conservation and to carry out activities to enhance acceptance for Natura 2000. Acceptance for Natura 2000 – and for nature conservation in general – depends centrally on whether the necessary funding is provided. For the agriculture and forestry sectors, nature conservation must be developed into an attractive field of business. Farmers and forest managers need to be offered a viable conservation-oriented alternative to further intensification of production and to abandonment of sites that can only produce borderline yields.
- If this situation cannot be significantly improved, at the latest, by the new EU programme period beginning in 2021, **biodiversity protection in the EU will remain acutely under threat**, and such protection will fail in spite of legally binding regulations such as Natura 2000 and of the ambitious objectives defined under the EU Biodiversity Strategy. For this reason, considerable changes need to be made in the coming years.

6. Requirements for sustainable EU nature conservation financing

In light of the above-described deficits in the EU's nature conservation financing, and of the finding that the status of nature and biodiversity has not been improved in the past funding periods, a fundamental reorientation of the EU's nature conservation financing is required. Two basic approaches for achieving this can be considered.

6.1 Establish a new dedicated EU nature conservation fund

A fund to promote biodiversity as well as the restoration and development of ecosystems and their services is proposed. Such a fund would eliminate the need to finance nature conservation via numerous different funds. The **funding spectrum** of such a fund would include the fulfilment of all requirements under the Habitats and the Birds directives, as well as all requirements under the EU's Biodiversity Strategy, including funding of nature conservation outside of the Natura 2000 framework. In particular, its foci would include the following:

- measures for species conservation,
- contractual nature conservation,
- land purchases for nature conservation purposes,
- compensations for usage restrictions and for damages caused by protected species,
- biotope-shaping measures,

- support for cooperative approaches to implementation, such as conservation-oriented advising structures and management of protected areas,
- efforts to raise public awareness, and educational measures,
- planning of measures,
- the establishment of regional value chains based on Natura 2000,
- investments in nature conservation and landscape management,
- monitoring and reporting obligations.

Conservation-related aspects of water and climate protection should also be included, due to their close relevance for nature conservation in general. Further discussion is needed to determine the extent to which these requirements, and any conservation-related requirements from other environmental policy areas (such as the Water Framework Directive and the Marine Strategy Framework Directive), can be integrated within this fund.

A new EU nature conservation fund has to be oriented to the **nature conservation aims and target groups**. This implies the following:

- DG Environment and the environment ministries of the Member States would be responsible for relevant programmes and their implementation;
- the trade-off between controllability on the one hand and efficiency concerning ecological quality on the other hand needs to be eliminated by defining a specific organisational and control framework for this fund;
- funding scheme covering all regions and clearly oriented to nature conservation requirements;
- reform of other provisions, such as state aid regulations, the basis for calculation of compensatory payments, incentive components and project-selection criteria.

The budget of the new EU nature conservation fund should include all funding needed to implement Natura 2000 obligations (financial requirements in Germany amount to EUR 1.416 billion per year; cf. section 3; this would correspond to nearly EUR 10 billion for the next funding period 2021-2027). In addition, it would have to include key funding that has not been specified to date: funding needed for the achievement of the EU's biodiversity objectives and for conservation-oriented requirements in other environmental policy areas (such as for the implementation of the Water Framework Directive and the Marine Strategy Framework Directive). In the current financing period, the share for the greening amounts to about EUR 94 billion (30% of the total direct payments, which amount to about EUR 312.7 billion). The EU Commission indicates that 8-9 % of the EU's budget, or about EUR 85 billion in the current financing period, are biodiversity oriented (EU biodiversity tracking). Predominantly the funding intended for biodiversity protection is being used inefficiently (cf. Greening, the integrated approach; sections 4.1, 4.2).

6.2 Develop further the integrated approach

As an alternative to the strategy outlined in no. 6.1, the EAFRD fund would be developed into a "fund for rural areas and nature conservation," which would serve as a common fund for financing all nature conservation measures (in keeping with the requirements outlined in 6.1.). The requirements pertaining to enforcement (especially controllability, state aid rules, payments calculation) would need to be harmonised with the requirements pertaining to nature conservation. The fund would be managed jointly by the administrations responsible for agriculture and nature conservation at EU level (DG Agri and DG ENV) and the Member States. This would need to be fixed explicitly in the relevant regulation. Nature-conservation-oriented funding eligibilities in the Structural Funds (ERDF, ESF, EMFF, Cohesion Fund) would be eliminated. At the same time, a **binding minimum budget** would be earmarked for nature conservation. It would be defined in keeping with the financial requirements for implementing EU nature conservation law, and it would be specified in the regulation for the EAFRD fund for "rural areas and nature conservation." In addition, the types of measures that could be funded as nature conservation measures would have to be specified.

The **LIFE** programme's total budget would be considerably enlarged, to ensure that the EU would remain able to directly fund pilot projects and cross-border projects. The practice of explicitly earmarking funding for biodiversity projects would need to be retained.

Annex 1

Method for estimating the financial requirements for implementation of EU nature conservation directives

Breakdown of financial requirements

The financial requirements for implementation of EU nature conservation directives, amounting to EUR 1.41 billion per annum in Germany, break down as follows:

Estimation of the financial requirements for implementation of EU nature conservation directives (Habitats and Birds directives)									
No.	Measure	Description	Derivation	Area (ha) in Germany	Running costs (per year)		Investment costs (per year)		Total (EUR) per year
					Cost rate (EUR / ha)	Total (EUR)	Cost rate (EUR / ha)	Total (EUR)	
1	Open-land habitats under the Habitats Directive	Including habitats calling for low-intensity management, such as dunes, etc.	Areas pursuant to the national report under the Habitats Directive; Cost rate pursuant to scientific literature and Länder experience	720,000	EUR 400	EUR 288,000,000			
2	Buffer zones	Grassland and cropland around areas with habitat types	Area: 1/3 of the open-land area with a habitat type Cost rate: see above	240,000	EUR 400	EUR 96,000,000			
3	Protection of meadow-breeding birds	For grassland areas of importance for the protection of meadow-breeding birds	Area: 50% of the grass-land area in Special Protection Areas; Cost rate: see above	360,000	EUR 400	EUR 144,000,000			
4	Investment measures in open-land areas	Initial-management / renaturation measures, land purchases, purchases of machinery, etc.	Calculation at the federal level, on the basis of costs as reported in the scientific literature, and of the costs of individual Länder					EUR 200,000,000	
	Total for open-land areas					EUR 528,000,000		EUR 200,000,000	EUR 728,000,000
5	Private and municipal forests	Increases in dead-wood fractions (not including management of oak-forest habitat types)	Habitat-type area pursuant to the national report according to the Habitats Directive; percentage of forest that is private or municipal forest determined from scientific literature; Cost rate determined on the basis of the "biotope-tree concept" ("Biotopbaumkonzept") used in Baden-Württemberg's state forest	1,200,000	EUR 50	EUR 60,000,000			EUR 60,000,000
6	State forest	Increases in dead-wood fractions (not including management of oak-forest habitat types)	Habitat-type area pursuant to the national report according to the Habitats Directive; percentage of forest that is state forest determined from scientific literature; Cost rate is half of the rate for private forest, due to social-responsibility aspects	570,000	EUR 25	EUR 14,250,000			EUR 14,250,000
7	Watercourses and standing waters	Specific nature conservation measures above and beyond what is required under the Water Framework Directive (i.e. with no backward relocations of dikes, etc.)	Areas pursuant to the national report under the Habitats Directive; Cost rate pursuant to the scientific literature and Länder experience	340,000		EUR 10,000,000		EUR 36,000,000	EUR 46,000,000
8	Compensatory payments for species conservation	For prevention of, and compensation for, feeding damages caused by geese, wolves, lynx and beaver	Calculation at the federal level, based on the costs of individual affected Länder						EUR 23,000,000
9	Special species-conservation measures	All measures not covered by investment measures and permanent measures in open-land areas, forests and water bodies (toad fences, nest protection, etc.)	Calculation at the federal level, based on the costs of individual Länder						EUR 75,000,000

Estimation of the financial requirements for implementation of EU nature conservation directives (Habitats and Birds directives)									
No.	Measure	Description	Derivation	Area (ha) in Germany	Running costs (per year)		Investment costs (per year)		Total (EUR) per year
					Cost rate (EUR / ha)	Total (EUR)	Cost rate (EUR / ha)	Total (EUR)	
10	Establishment of new landscape elements	Such as hedges, field shrubbery and small water bodies	Areas: long-term doubling of the existing ca. 33,000 ha, via establishment of an additional 1,000 ha / year; Cost rate pursuant to the scientific literature and Länder experience	1,000	per year		EUR 30,000	EUR 30,000,000	EUR 30,000,000
11	Cropland extensification	Including fallow land; species conservation in cropland areas for animals such as hamsters; "lark windows" (uncultivated areas), etc.	Area: 2% of the cropland area (share of the 10% requirements share that is not covered by the above-mentioned measures in open-land areas); Cost rate pursuant to the scientific literature and Länder experience	240,000	EUR 850	EUR 204,000,000			EUR 204,000,000
	Total for measures					EUR 816,250,000		EUR 266,000,000	1,180,250,000
12	Overhead costs	Surveys, planning, success monitoring, other monitoring, public relations, personnel (including EIAs for species protection and under the Habitats Directive)	20% of the costs of measures						EUR 236,050,000
	SUM TOTAL								EUR 1,416,300,000

1. Expenditures / costs covered; period covered by the estimate

The current estimate of the relevant financial requirements covers the requirements for implementation of the Habitats Directive and the Birds Directive in terrestrial and limnic areas. It does not include requirements pertaining to marine areas; to measures for achieving good status of water bodies pursuant to the Water Framework Directive; to backward relocations of dikes (although such relocations are necessary with regard to the achievement of a favourable conservation status of certain species and habitat types found in riparian zones); to environmental impact assessments under the Habitats Directive and for species protection – where such assessments are not carried out by nature conservation authorities; and to measures for reducing the large-scale impacts / adverse environmental effects of agriculture, transports and industry (in particular, reduction of atmospheric nitrogen inputs).

Many nature conservation objectives, such as conservation of meadow orchards or maintenance and conservation of rare and endangered habitat structures in agricultural landscapes, overlap in many ways with objectives of the EU nature conservation directives. The present estimate includes only those costs that can be predominantly assigned to implementation of the EU nature conservation directives. For this reason, it includes e.g. the costs for the establishment and maintenance of hedges needed for the achievement of the objectives of the Habitats and Birds directives – but does not include financial requirements for care and maintenance of existing hedges in the agricultural landscape.

The aim of the estimate was to determine the average expenditures that the public sector would need to make, over the coming years, in order to fully implement the EU nature conservation directives. It does not include private costs that are not reimbursed by the state, such as costs incurred in complying with imposed require-

ments, or with rules such as those of good agricultural practice. An implementation period of 25 years was assumed.

The cost estimate was made on a conservative basis. This applies both to overhead costs, including personnel costs, and to requirements pertaining to monitoring. In addition, the reference values on which the estimate was based (minimum area sizes required for the achievement of a favourable conservation status as that is defined in the Habitats Directive) tend to correspond to the values that nature conservation administrations consider considerable feasible, and not to the values that might be necessary from a biological standpoint.

2. Basic data

2.1 Area data (breakdown)

The quantitative basis for the cost estimates consists of the distribution data, area data (habitat type) and population data (species) given in the 2013 national reports pursuant to Art. 17 Habitats Directive and Art. 12 Birds Directive. Those reports were prepared via coordination between the Federation and the Länder and within the Federal Government. In addition, data reported to the EU, via the standard data forms for Natura 2000 sites (as of 2015) and data from monitoring pursuant to Art. 11 Habitats Directive, were taken into account in the estimates. For measures for restoration / new establishment of habitat types and species habitats, the target values applied consisted of the favourable reference values given in the 2013 national report under the Habitats Directive.

2.2 Rates for expenditures / costs

The relevant expenditure and cost rates were determined via study of the scientific literature; of contractual nature conservation programmes of the Länder; of guidelines and regulations of the Länder; and of additional publications of the Länder with regard to special nature conservation measures. In addition, experts at the federal and Länder levels provided pertinent information (via oral communications). Data sets were completed, and checked for plausibility, with the help of experienced Länder representatives in the working group on cost estimates.

3. Individual categories of financial requirements

(Broken down by the line numbers in the above table)

1. Open-land habitats under the Habitats Directive: In this area, grassland habitat types, oligotrophic grassland communities, heaths, dunes and bogs were taken into account. According to the 2013 German national report pursuant to the Habitats Directive, such habitat types cover a total of some 720,000 ha. The cost rates for management measures differ widely, depending on the habitat types and locations in Germany that are involved. In sum, the differences occur because management practices can vary widely as a result of differences in natural and geographic factors (e.g. scythe mowing is practised in mountain regions, while mechanised mowing is carried out in flat-

land areas), and of large differences in the necessary management intensities (e.g. less than once per year for dunes, but several times per year for meadows). Large differences between financing strategies are yet another factor (e.g. some cases involve crediting of the lump-sum Natura-2000 compensatory payments that are commonly provided in some Länder). The assumed rate of EUR 400 / ha / year is seen – also by the Länder – to be the best-suited nationwide average.

2. Buffer zones: To be effective, protection for sensitive open-land habitat types has to include buffer zones that can minimise influx (such as nutrient inputs) from intensively cultivated, bordering agricultural areas. The total additional required area for such buffer zones has been calculated as amounting to 1/3 of the total area of the open-land habitat types. That figure for the total area of buffer zones for guarding against external influences seems appropriate in light of the fact that the above-mentioned habitat type areas are fragmented into small areas. The relevant measures and costs depend on the manner in which the buffer zones are managed, and on the intensity of such management. Here as well, the resulting average cost-rate figure of EUR 400 / ha / year is a realistic average.
3. Protection of meadow-breeding birds: For the protection of wading birds and songbirds typically found in grassland areas, the area which would need to be managed as important habitat was determined 50% of the grassland areas within Special Protection Areas (bird sanctuaries) or 360,000 hectares. It does not seem necessary to cover 100% of those areas in this regard, since part of the grassland areas in Special Protection Areas are also habitat type areas designated as Special Areas of Conservation under the Habitats Directive and thus are already taken into account under Point 1 above. Moreover, the Special Protection Areas include areas that are unsuited for the protection of meadow-breeding birds. On the other hand, the estimates do include grassland areas that are outside of Special Protection Areas and that are important for meadow-bird protection. The total grassland area of the Special Protection Areas (which amount to about 740,000 hectares overall) was taken from the pertinent standard data forms. The average cost rate of EUR 400 / ha / year takes into account the fact that part of the required compensatory payments are compensation for usage restrictions on highly productive grasslands.
4. Investments in open-land areas: For renaturation measures; scrub clearance; creation of depressions and hollows in grassland, in order to optimise wading-bird habitats; land purchases; machinery purchases, etc.. The type and scope of the required measures, and the costs of the measures, were derived from the scientific literature and from Länder figures, followed by up-scaling to the federal level.
- 5./6. Forest habitat types: The applicable operational rules differ from Land (state) to Land. In some Länder, nature conservation expenditures in state forests are compensated for via explicit allocations from the state budget. In some cases, such compensation is seen as a task of state forestry operations, however, and thus is not explicitly listed. By agreement with the Länder representatives, a practical calculation method was chosen that takes account of the differences between the various approaches. In this calcula-

tion, per each hectare of state-forest area on which measures are carried out (about 1/3 of the total forest-habitat-type area of 1,770,000 hectares), only half of the expenditures are assumed that would be incurred per hectare of "measures area" in municipal or private forests. The measures costs calculated for the various relevant forest habitat types (under the Habitats Directive) include compensatory payments for provision of adequate shares of old wood and dead wood, and for management measures. They also include a small share – which is not explicitly shown in the table – for investment measures in the area of peatland forests. The cost rates for the aforementioned measures have been estimated on the basis of calculations in the scientific literature and of information obtained from the forest administrations of the Länder. The rates shown, EUR 50 and EUR 25 / ha / year, are considered – also by the Länder – to be realistic averages.

7. Watercourse and standing-waters habitats under the Habitats Directive: This category includes areas totalling about 340,000 hectares. The calculation covers the necessary costs for renaturation measures; for reduction of nutrient inputs from agriculture; for establishment of new habitats; and for compensatory payments for conversions to extensive aquaculture operations. The scope and costs of relevant measures were determined on the basis of information provided in the scientific literature, of documented examples from actual practice and of Länder guidelines for renaturation of water bodies. Initial results were then upscaled to yield nationwide requirements, for measures, of EUR 46,000,000 / year.
8. Compensatory payments / compensations for actions to protect species: The damages that protected species (including geese, cranes, wolves, lynx, beaver) cause, especially in the agricultural sector, are normally compensated for or prevented through suitable measures. The figure for the relevant necessary funding, amounting to about EUR 23,000,000 / year, has been extrapolated to the federal level from figures given in the scientific literature, in other publications and in oral communications from Länder representatives.
9. Special species-conservation measures: Individual species protection measures, such as installation of toad fences, nest protection, bat-roost protection, etc., cannot be assigned either to the permanent-measures or investment-measures categories, with regard to open-land, forest and water-body habitats. On the basis of information provided by the Länder, the required ongoing funding for such measures has been calculated as EUR 75,000,000 / year.
10. Establishment of new landscape elements: Hedges, field shrubbery, small water bodies, etc. are important elements for many species found in agricultural landscapes. According to data provided in the official list of regionalised percentages of small features (amtliches Verzeichnis der regionalisierten Kleinstrukturanteile), the total area of such landscape elements amounts to about 33,000 hectares. From a perspective of nature conservation, this area needs to be doubled, if the declines seen in many typical species of agricultural landscapes are to be stopped and the status of relevant populations is to improve. To this end, such elements are to be added at a rate of 1,000 hectares per year, until the overall objective has been achieved. The average-cost-rate figure given, about EUR 30,000 / ha, accords with figures giv-

en in the scientific literature and with relevant experience gained by the Länder.

11. Cropland extensification: In only a few cases (such as cases involving hamster populations) is cropland a focus of the Habitats Directive. At the same time, biodiversity conservation in cropland areas plays a necessary role in efforts to protect bird species and to achieve a range of objectives under the Habitats Directive (such as preserving functional ecological interconnections with other important natural assets of agricultural landscapes, such as butterflies). Scientific studies have shown that such biodiversity conservation must include high-quality environmental measures (such as set-asides of fallow-land areas, set-asides and extensive management of buffer strips, etc.) on at least 10% of the total cropland area. In addition, measures that take up less area, such as "lark windows," are also required. A large part of this required area is already being provided via protection for buffer zones (cf. Point 2 above). Other parts of it are being provided via special species conservation measures (cf. Point 9) and via nature conservation measures outside of areas covered by the Habitats and Birds directives. For this reason, the additional requirements in this category are small, amounting to only 2% of the cropland area in Germany, and providing for targeted measures for protection of cropland species such as hamsters, grey partridge, corn bunting, skylark, etc.. The pertinent average cost rate, EUR 850 / ha, is based on the compensatory payments made for "Integration of naturally oriented structural elements of farmland" ("Integration naturbetonter Strukturelemente der Feldflur") (C 4.0 GAK Rahmenplan 2016 (= 2016 framework plan for the Joint Task for the Improvement of Agricultural Structures and Coastal Protection)).
12. Overhead costs: For estimation of expenditures for planning, surveys, reporting, success monitoring, other monitoring, public relations, area management and personnel (and including the necessary assessments under species-conservation law and environmental impact assessments under the Habitats Directive), various surcharge factors were used that are based on the current structure of nature-conservation expenditures in Germany and on experience gained in practical implementation. As a result, these costs are expected to amount to about 20% of the measures' costs (for permanent measures and investment measures).

4. Additional information about the cost estimates

4.1 Breakdown of investments over the implementation period

In the case of regular, recurring investments, such as those for shrub removal in areas with oligotrophic grassland communities, and carried out at intervals of about 10 years, the cost estimates are based on an annual average value. In the example mentioned, this would amount to one tenth of the costs for one instance of shrub removal. In the case of one-time investments, such as those for renaturation of watercourses or rewetting of bogs, all of the investments needed for Natura-2000 implementation are summed and then evenly distributed over a period of 25 years. That period has a practical orientation; it is based on the "Long Term Vision" (to 2050) of

the EU Biodiversity Strategy, which calls for biodiversity and ecosystems to be protected and restored, on the necessary scope, by 2050. In addition, it is based on the fact that the majority of investments in habitat types and species conservation measures cannot be justifiably postponed until 2050, since otherwise a worsening of status would occur, long before that time, which would either be irreversible or reversible only at great expense and effort.

4.2 Increasing management requirements as a result of biotope development – required expenditures following the end of the implementation period

The investment measures to be carried out over the relevant time period would establish or restore habitat types which would then generate additional management costs. The ongoing expenditures would thus be higher at the end of the period covered by the calculations than they would at the beginning. Thereafter, the annually required investments would decrease, since the necessary one-time investments covered by the present calculations would have already been made. Such discontinuity in expenditures is normally not expected in practice, however. In all likelihood, the investments would be made in such a manner that the stream of expenditures would be more or less continuous. Therefore, to estimate them a simplifying approach was used whereby the growing expenditures were converted – with the help of an annuity calculation and with calculation of interest at the customary 3% rate – into equal-sized annual payments. The final results thus consist of an unchanging annual-expenditures figure, along with – for the period following the completion of the necessary one-time investments – largely unchanging figures for the annual management costs and for recurring replacement investments.

4.3 Differentiation between investments and ongoing expenditures

Separate listings are provided for annually incurred, ongoing expenditures for management measures, compensatory payments and other compensations, as well as for investments that occur once (such as investments for rewetting of bogs) or that occur at (more or less) regular intervals of several years (such as investments for shrub removal). In many cases, it is not possible to differentiate clearly between expenditures for annual management measures and investments for measures carried out at intervals of several years. For example, on large areas, shrub removal could be carried out annually, on a by-section basis. In practice, such measures would entail unchanging annual expenditures. In the preparatory document for the cost estimate, the Federal Agency for Nature Conservation (BfN) assigned costs to annual management measures and to investments. Following the BfN's work, the Länder working group on Natura-2000 cost estimates then adjusted those BfN cost correlations, in order to obtain a structure that would correspond as far as possible to the current practice of the Länder.

4.4. Summary of the estimation results

The resulting estimates shown in the above table are based on a differentiated calculation of the Federal Agency for Nature Conservation (BfN). Following the BfN's work in this regard, its individual results were aggregated by a working group of the Länder that included BMUB participation. The expenditure rates were rounded off in

the process, and the expenditures for the various different areas were regrouped so as to fit more closely with the nature conservation systems of the Länder.