



The German Advisory Council  
on the Environment

# **Towards Strengthening and Reorienting Nature and Landscape Conservation**

**Special Report**

**Summary and Conclusions**

June 2002

## **The German Advisory Council on the Environment**

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Concomitant to the Council's Secretariat being moved to Berlin in April, there have been several changes in the Secretariat's permanent staff. The members of the Secretariat's staff at the time of the completion of this report were: Petra Busch, Susanne Junker, Dipl.-Biologin Yvonne Kiefer, Sabine Krebs, Pascale Lischka, Gabriele Schönwiese.

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As has been the case in past reports, the Council once again depended on external experts. This report incorporates the following papers:

“Meeresnaturschutz” (Ocean Conservation), provided by Prof. Dr. Detlef Czybulka (Lehrstuhl für Staats- und Verwaltungsrecht, Umweltrecht und Öffentliches Wirtschaftsrecht, Universität Rostock),

“Wirkung des bestehenden Fördersystems für Wohnbau auf die Inanspruchnahme von Flächen” (The Effects of Current Housing Construction Subsidies on Land Consumption), provided by Dr. Dieter Ewringmann, Dipl.-Volkswirt Michael Vormann and Martina Jung (Finanzwissenschaftliches Forschungsinstitut an der Universität zu Köln (FiFo)),

“Analyse der Bedeutung von naturschutzorientierten Maßnahmen in der Landwirtschaft im Rahmen der Verordnung (EG) 1257/1999 über die Förderung der Entwicklung des ländlichen Raums” (An Analysis of the Effect of Agricultural Nature Conservation Measures as Stipulated by the Council Regulation (EC)1257/1999 on Support for Rural Development), provided by the Institut für Betriebswirtschaft, Agrarstruktur und ländliche Räume der Bundesforschungsanstalt für Landwirtschaft Braunschweig (main author: Dipl.-Ing. agr. Bernhard Osterburg),

“Studie zur Personalsituation in den Naturschutzverwaltungen in der Bundesrepublik Deutschland” (A Study of the Staffing Situation in Nature Conservation Agencies in Germany), provided by Dipl.-Ing. Ivo Niermann (Planungsgruppe Digitalis, Hannover).

Text drafts or comments on text drafts were provided by: Frau Yvonne Becker (Universität Bielefeld), Dipl.-Ing. Jürgen Jebram and Cand.-Ing. Simone Kellert (Universität Hannover), Dr. Ekkehard von Knorring (Universität Augsburg), Ministerialrat Prof. Dr. Hans Walter Louis (Universität Hannover) and Dipl.-Ing. Stefan Ott (Universität Hannover).

Further, the Council held numerous discussions with scientists from a wide variety of disciplines, as well as with politicians, members of ministries and other government authorities, and members of private associations. The Council would like to thank everyone who participated in preparing this report.

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# **Special Report**

## **Towards Strengthening and Reorienting Nature and Landscape Conservation**

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English Publications of the Environmental Council



# 1 Introduction

1. In this special report, the Environmental Council highlights the central problems in nature and landscape conservation. The Council defines nature and landscape conservation in a broad sense, beyond the protection of endangered species. The definition includes the capacities and functioning of ecosystems, the usability of natural resources, and the diversity, uniqueness and beauty of the landscape. In spite of numerous individual successes, overall progress in nature conservation in Germany has not been very encouraging. There are a variety of persistent problems in this policy area, problems which are evidenced by the loss of valuable natural areas and biodiversity in Germany.

The Council sees a broad range of obstacles and deficits. The public at large is positive about nature and landscape conservation, but there are sometimes considerable acceptance problems as regards specific, local uses of nature. These problems are due not only to varying local economic interests or a lack of understanding on the part of the users, but also to strategic weaknesses in nature conservation. For example, extremely far-reaching objectives (such as strict adherence to IUCN criteria in designating national parks) can impair acceptance.

At the same time, nature conservation actors, in the opinion of the Council, have limited powers of implementation. A large number of people is active in nature conservation on a voluntary basis in Germany: the OECD puts the number of members in environmental associations at 4.4 million; the number of members in nature conservation associations recognized by the Federal Nature Conservation Act is approximately 3.8 million. Their clout, however, is less than that of local and national economic interests, especially when employment interests are played off against protecting a single, often relatively unknown, species. The government nature conservation agencies also have relatively little clout. Their staffing, funding and competences are often such that they are not able to deal adequately with current tasks, let alone adequately deal with new tasks such as setting up a nationwide biotope network. The legal framework, e.g., as concerns planning considerations, is also inadequate. The Federal Nature Conservation Act, which has now been amended after several previous attempts, provides important improvements in the particulars of this framework in spite of all the criticism to which it has been subjected. What needs to be done now is to start using nature conservation to a greater extent as a national strategy. In the opinion of the Council, nature conservation cannot be left up to the German states alone.

2. In the following, the Council describes the components of a national nature conservation strategy based on the analysis of objectives, instruments and obstacles undertaken in this report. In doing so, the recommendations made in previous sections

(in the long version of this report) will be summarized. In the interest of being effective, a national strategy should begin by tackling the causes of persistent problems in nature conservation. It can interface with and augment the national sustainable development strategy, which necessarily incorporates only a few highly aggregated objectives pertaining to nature conservation.

A nature conservation strategy is understood in this report as planned action to achieve nature conservation objectives while taking current constraints into account. This includes modifying the strategy to accommodate learning processes and changes in the situation. Short-term strategies can pursue objectives under given constraints, whereas long-term strategies can be used to overcome these constraints.

By developing and pursuing a nature conservation strategy, Germany will also be able to catch up with EU level policy developments, especially as concerns the EU sustainable development strategy, the EU biodiversity strategy and the European Landscape Convention. The EU sustainable development strategy requires that resources be managed responsibly and that the decline in biodiversity be stopped by 2010. The objective of the 1998 biodiversity strategy is to use specific action plans to integrate biodiversity protection concerns into the various sectoral policies. Currently, there are such action plans for conserving natural resources, for agriculture, for fisheries, and for economic and developmental cooperation. The biodiversity strategy also provides for action plans relating to regional policy and planning.

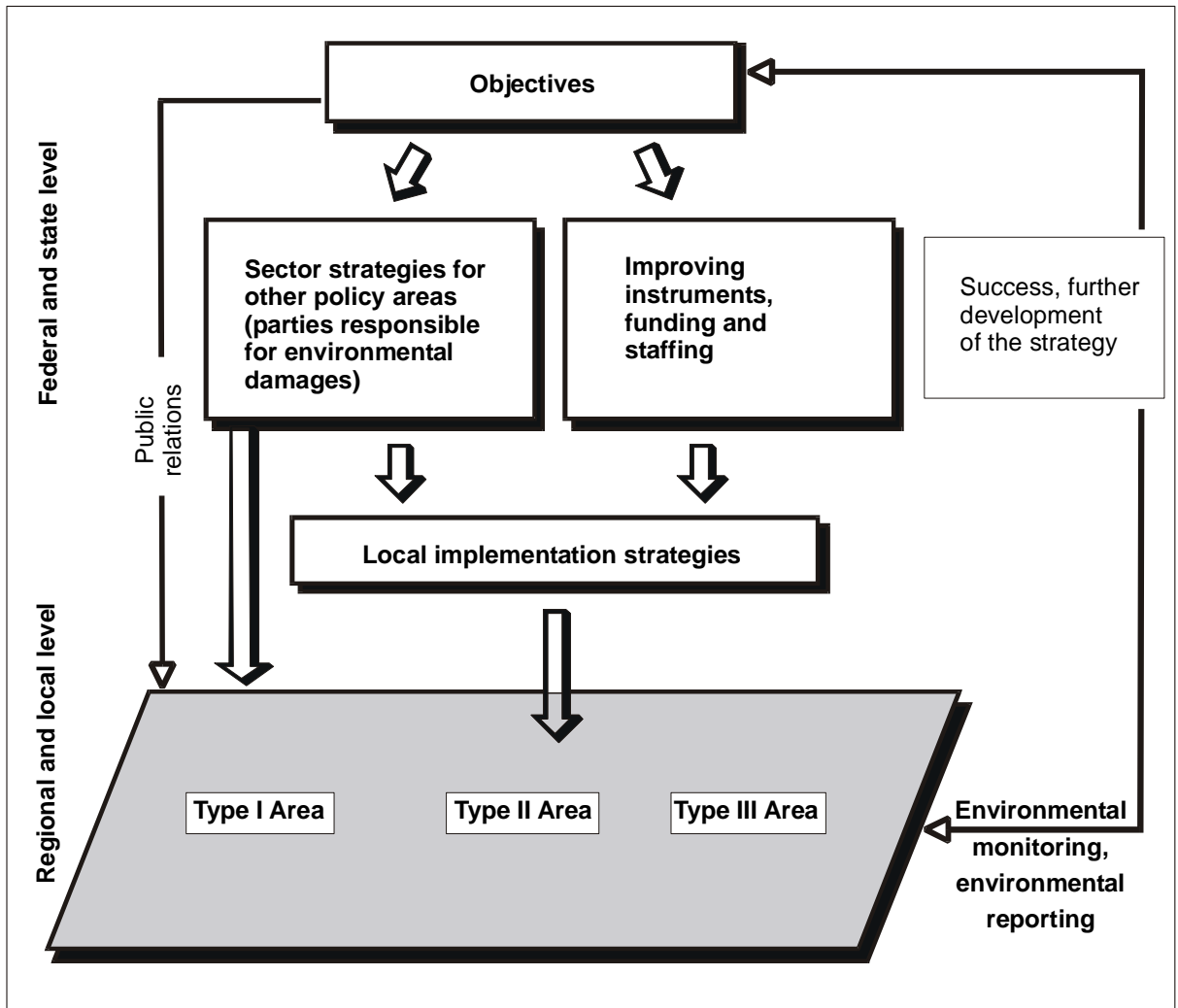
**3.** As early as 1992, the UN Convention on Biological Diversity required signatory countries to develop national strategies, plans and programmes to preserve biodiversity and use biodiversity in a sustainable manner. The opportunity that this provided, namely, to develop a national nature conservation strategy, has, however, not been used. Instead, the German government merely presented a national report pursuant to Article 26 of the convention in 1998. The objectives of the national sustainable development strategy cannot be considered to be sufficient either. The “Leben braucht Vielfalt” (Life Requires Diversity) campaign launched by the Federal Ministry of the Environment and the Federal Nature Conservation Agency is merely intended to provide information about the Convention on Biological Diversity and to present best-practice examples.

Developing a national nature conservation strategy, which would also incorporate a biodiversity strategy, should thus be considered an urgent objective. An effective nature conservation strategy should, in the opinion of the Council, be based on concrete objectives. It should place particular emphasis on integrating aspects of nature conservation into relevant policy areas at the federal level and thus on improving the scope of land users to act in a nature-conservation-oriented manner. Optimizing the largely symptom-based and area-specific instruments of the Federal

Nature Conservation Act and other relevant environmental laws is also necessary, but optimization alone will not suffice.

Figure 1:

### Components of a National Nature Conservation Strategy



The components of the strategy are explained in detail in the following:

1. **Objectives:** Objectives are the prerequisite for problem-related communication. They should be developed by analysing problems and setting priorities, should be quantified to the greatest extent possible, and should incorporate deadlines. Appropriate measures should be chosen for their implementation, competencies should be established and the necessary funding should be apportioned. Gaps in the specification of nature conservation objectives at the federal level should be closed.
2. **Sectoral integration strategies:** Developing sectoral integration strategies as part of a comprehensive nature conservation strategy serves to integrate nature conservation objectives into other policy areas. Agriculture, transport, construction and tourism are sectors that are highly relevant to nature conservation. Negative

effects of government agency activities and possible alternatives have to be identified, and objectives and measures have to be specified and implemented such that implementation is coordinated with other governmental and nongovernmental agencies. This includes requiring reporting and using indicators to monitor the success of implementation.

3. Improving the instruments within the area of responsibility of the Ministry of the Environment: This component includes further developing instruments for protecting ecosystems and maintaining biodiversity and the recreational functions of landscapes, as well as optimizing the manner in which these instruments interact. Improving the sectoral integration strategies alone would improve the effectiveness of particular nature conservation instruments. Nevertheless, effective instruments for implementing area-specific objectives in sensitive areas or areas particularly worth protecting would still be necessary. Therefore, one must not neglect to optimize nature conservation instruments and create the preconditions to allow them to interact well.
4. Strategy recommendations regarding implementation: Federal level recommendations and objectives regarding area- and objective-specific local strategies can be used to support strategically oriented and better coordinated implementation of government and nongovernment nature conservation. Such strategy recommendations include recommendations on setting spatial priorities and selecting appropriate instrument mixes. They are intended to compensate for local strategy deficits and to subject nature conservation activities to common principles.
5. Monitoring results: Regularly determining the results of nature conservation policies allows successes and deficits to be evaluated, and thus allows the strategy to be further developed. To this end, environmental indicators must be developed to measure the degree to which objectives have been achieved.
6. Promoting acceptance: Given the severe resistance sometimes encountered in implementing nature conservation objectives, promoting acceptance of such objectives is of considerable importance. Means of doing so are improving incentive structures, using a dialogue-oriented policy-making style, establishing strategic alliances, evaluating appropriate local strategies on a case-by-case basis, and informing the public about the value and endangerment of natural goods.

## **2 Objectives**

4. Objectives that provide a basis for framework legislation, that show the political will to maintain nature and landscapes, and that allow for monitoring the success of nature conservation policies should be established to a greater degree at the federal level. Establishing ambitious objectives is the precondition for being able to stop and turn around the decline in the stock of natural goods in Germany.

Establishing superordinate nature conservation objectives

- clarifies the need, from a national and international perspective, to take action,
- provides a framework for integrating nature conservation objectives into other policy areas at the federal level,
- makes it possible to evaluate on a nationwide basis the progress made by the states in protecting and caring for nature and landscapes.

In addition, politically determined nature conservation objectives promote

- policy transparency,
- the establishment of priorities and thus the delimitation of the scope for negotiations,
- efficient and result-oriented actions in practice,
- better consideration of nature and landscape concerns in decision-making processes,
- the feasibility of monitoring results and thus of further developing the main strategy, and
- facilitate implementation insofar as the objectives are broad-based and thus generally accepted.

5. Intensive cooperation between the states and the federal government and the further development of a nationwide monitoring system are necessary to be able to develop overarching, quantified objectives and evaluation standards based on a good and convincing data base. Although an adequate data base can only be established in the medium term, work on formulating and scientifically justifying objectives at the federal level needs to be initiated immediately. Suitable components of the objective system can thereafter be integrated into the German sustainable development strategy. Specifying objectives makes it possible to demonstrate the extent to which they have been achieved by using a nature conservation barometer.

6. It would be possible to formulate concrete nature conservation objectives and indicators at the federal level in the following areas: the establishment of the amount of land to dedicate to the development of wilderness or cultivated landscape biotopes, the

establishment of objectives regarding buffer zones, regarding improving groundwater quality, regarding the quality and structure of surface waters, regarding reducing soil erosion and regarding preserving (or rehabilitating) unfragmented areas. The current objectives of the German sustainability strategy are unsatisfactory as regards nature conservation.

An overall portrayal of objectives of federal policy importance is needed to be able to localize further nationally representative areas, to give the states an indication of their responsibility for particular areas and the inventory in these areas, and to be able to limit the documentation of changes to priority areas. Such a portrayal, in the form of a federal landscape concept, should include nationally and internationally important areas of biodiversity and biotope protection, geotope protection, cultivated landscape protection, nationwide flowing waters protection, soil protection, and recreation, and should take large-scale climate and air hygiene phenomena into account. The priority objectives in such areas would be implemented within the framework of the states' nature conservation competences, as well as through the more direct influence of the federal government, by its subsidizing nationally representative areas, as well as test and development projects.

**7.** The documentation of the implementation of objectives should take place at the federal level. To measure progress, indicator systems need to be developed that are compatible with international systems and need to be supported by monitoring systems that are geared to the indicator systems. In the area of quality measurement, particularly as concerns ecosystems, a considerable amount of development work will have to be undertaken to establish meaningful indicators. State survey and assessment standards for landscape functions and natural goods need to be harmonized if information is to be compiled satisfactorily at the federal level.

The number and variety of nature-conservation-related indicators included in the German sustainable development strategy is also still not satisfactory. Concentrating on indicators that are necessarily only able to provide an incomplete picture of the situation, or on so-called flagship species, should not be allowed to lead to neglecting problem-oriented environmental monitoring at the basis, as only such monitoring can provide the information necessary to be able to assess actual environmental trends. If the sustainable development strategy is, as opposed to the nature conservation strategy, to contain primarily simple objectives that appeal to the general public, it would be better to use a species index that includes a large number of appropriate species than to use a few species that are not sufficiently representative.

### **3 Sectoral Integration Strategies**

#### **3.1 Sectors and Procedural Aspects**

8. It is well-recognized that the integration of nature conservation into other policy sectors is a prerequisite to being able to engage in successful nature conservation. Sectoral strategies for integrating nature conservation concerns into agricultural, forestry, transport and construction policies have, however, not been the topic of much discussion. If such policies were, however, designed appropriately, they would provide great potential for implementing the integration principle.

Sectoral integration strategies aim at internalizing the responsibility for problems by including to a greater degree the sectoral ministries also responsible for nature conservation problems in the solving of these problems.

They are a great challenge for nature conservation as regards the concept of nature conservation itself, the way it is organized, its strategies, and its staffing and financial capacities. They must be understood as constituting a long-term challenge that must be met continually. Not only the extent to which objectives are achieved should be crucial, but also the extent to which a process of strategy evaluation and revision is introduced and institutionalized in the long term sectors.

9. Sectoral strategies should be established at the federal level for, above all, the transport, construction, agricultural, forestry, trade and industry, and tourism sectors. Additionally, sectoral nature conservation strategies could also be established for the energy, education and research, fiscal, defence, and development cooperation sectors. In the following, examples of key items in such strategies are provided for selected policy sectors relating to federal and state levels:

- Transport policy: designing the transport infrastructure such that it is in line with nature conservation by revising, inter alia, the Federal Transport Programme, The Federal Highway Act and the Railway Act to minimize fragmentation of areas especially worthy of protection; a “Brücken für die Natur” (Overpasses for Nature) development programme for extant roads with dangerous game crossings;
- Construction policy/regional policy: redesigning regional planning, urban development planning and urban development support to create nature-conservation-related priority land planning and concentrating on urban development measures; redesigning the property tax and the fiscal equalization system; construction policy as a partner of nature conservation as regards the removal of impermeable land cover, soil remediation and nature-friendly redesign of transport routes;

- Agricultural policy: further reform of the "Gemeinschaftsaufgabe Verbesserung der Agrarstruktur und des Küstenschutzes" (GAK, Joint Task for the Improvement of Agricultural Structure and Protection of the Seacoasts) by reallocating more funds to agri-environmental measures and by making it possible to provide support for nature conservation measures; revision of fertilizer and pesticide legislation and other nature-conservation-relevant agricultural policy legislation; agri-environmental measures as a contribution to rural regional development;
- Forestry policy: ecological design of the Federal Forest Act and the relevant provisions of the GAK; the relationship between forestry, nature conservation and hunting; landscape entry rights that are in line with nature conservation; measures to diminish the impact of deer on sensitive areas (by adjusting game management);
- Trade and industry and tourism policy: increased subsidization of integrated rural regional development measures; requirement that business sites must be naturally landscaped;
- Energy policy: establishment of guidelines for the nature-friendly design of wind power and hydropower facilities, and for taking old, inefficient or poorly situated facilities out of service; rehabilitation of lignite mining areas, using demanding nature conservation criteria;
- Education and research policy: increased support for environmental education and research; long-term forecasts of nature trends in Germany given status quo conditions ("What will happen if no additional measures are taken?"); research on the indicator value of certain organisms;
- Fiscal policy: long-term protection and problem-appropriate management of ecologically valuable areas owned by the federal government; environmental impact assessment of the budget; complete revision of subsidy policy in order to do away with counterproductive subsidies; taxes on gravel mining; use of fiscal policy instruments to tax land use;
- Defence policy: remediation of contaminated military sites and establishment of management plans for former military sites; military sites as a local nature conservation partner;
- Development policy: environmental impact assessment of subsidies and export credits; ceasing subsidization of large projects that have an obvious negative impact on the environment; increased subsidization of concepts for regionally integrated development.

## Procedural Aspects of Establishing Sectoral Integration Strategies

**10.** Creating appropriate procedures is of crucial importance for establishing problem-appropriate integration strategies. Experience with environmental policy integration at the EU level confirms this: in the Cardiff Process, the lack of detail, the lack of coordination by a central body and the lack of any responsibility for results has engendered largely unsatisfactory results. Most of the strategies are not very problem-oriented or polluter-related. Truly new objectives and measures with specified time frames are as rare as meaningful indicators for monitoring results. The same is true for the EU biodiversity strategy action plans for agriculture, fisheries, economic cooperation and the conservation of natural resources. EU experience should be taken into account in order to successfully design sectoral integration strategies in Germany. Against this background, the following action requirements are particularly relevant:

- Problem orientation and polluter relatedness: A comprehensive analysis of the individual responsibility of each sector for environmental problems is needed. The compatibility of objectives with problem responsibility in the individual policy sectors must be scrutinized. Using long-term persistent problems as a basis, appropriate priorities should be set in order to avoid limiting strategy formulation to easily resolved problems. Comprehensively including the (environmental) sciences and a focusing of environmental reporting is a precondition in this respect. Regular sector conferences at which sectoral ministries and interest groups can express their views on concrete problems and work out solutions to these problems are recommended. Meetings between federal and state ministers would also be useful in integrating nature conservation into other policy sectors.
- Establishment of objectives and measures: Integration strategies require a national nature conservation strategy with intersectoral objectives that can be specified for individual policy sectors. The objectives must be quantified and go beyond current insufficient objectives. They should engender a problem-appropriate and long-term orientation, but should also emphasize the necessity to take action in the short term and should be based on a broad public discussion. Concrete measures that include implementation time frames and responsibilities should be specified for the objectives and if necessary in particular cases should be further specified using subordinate action plans. Relevant target groups should be allowed to participate in doing so.
- Monitoring: Clear monitoring of results must be made possible by using a system of graduated, meaningful indicators and binding requirements to periodically generate monitoring reports.
- Establishment of result responsibility: The responsibility for results lies with the sectors and their associated institutions. Horizontal coordination of strategy

formulation and implementation processes by an environmental agency is usually necessary, but in view of previous experience with environmental policy integration it is in itself not sufficient. Occasionally, rivalries occur, and the environmental agency often turns out to be the weaker party. Thus, additionally, the next higher level has to be capable of exerting vertical influence on the coordination of these processes. The coordination and supervision of these processes could possibly be assigned to the "Staatssekretärausschuss für nachhaltige Entwicklung" (State Secretary Committee for Sustainable Development); its capacities would, however, have to be expanded. Further, it would also be useful to require the individual sectoral departments and agencies to report regularly to the Bundestag (Lower House) or have the Bundestag appoint an independent evaluation institution. An example worth copying is the Canadian Commissioner the Environment and Sustainable Development, who is part of the Office of the Auditor General and is responsible for evaluating the integration strategies of the individual departments and agencies.

- Coordination between the federal and state governments: As a flanking measure, regular conferences should be held between the ministers of agriculture, transport and construction, since the greater part of the strategies will have to be implemented by the states. These conferences could be part of a long-term learning process for both sides.

In addition to the integration of nature conservation into nature-conservation-relevant policy sectors, the creation of strategic alliances at the federal and states levels is highly important for overcoming nature conservation's relatively weak position. Not only can ministries establish alliances with other ministries; they can also assist in establishing alliances with and between associations, alliances that are based on newly discovered common interests.

## Regional Planning and Strategic Environmental Assessment as Intersectoral Instruments of Sectoral Policy Integration

**11.** Regional planning and strategic environmental assessment (SEA) instruments are of special relevance for the integration of nature conservation concerns into other policy areas. Regional planning is the central instrument for integrating regionally relevant policies and plans. It is thus especially important for developing scarce land resources. In order to ensure that land use trends are environmentally friendly, and to achieve greater integration of nature conservation and landscape management concerns into regional planning, region planning objectives have to be better coordinated with these concerns. In this context, the overriding sustainability principle (Article 1, paragraph 2, sentence 1, of the Regional Planning Act) first needs to be specified in greater detail. The formulation of detailed and binding guidelines for environmentally friendly land development is, especially in these times of increasing

regionalization and competition between regions to attract businesses, of basic importance for conserving nature. Such nationwide objectives are important prerequisites for integrating national nature conservation concerns into the EU regional planning policy.

In order to lessen the complexity of regional planning's integration task, regional planning will have to be better supported by sectoral planning. Many conflicts between nature conservation interests and nature use interests can, for example, be resolved at the outset through spatial deglomeration or the integration of nature conservation interests. By integrating environmental aspects into sectoral plans and policies from the outset, the number of problems to be dealt with by regional planning can be reduced, so that only the core conflicts remain to be dealt with. Some planning sectors, for example, the transport, water supply and agricultural sectors, are already beginning to do this. Nevertheless, there are also many conflicts that cannot be resolved using such cooperative solutions. Shifting the conflicts to sectoral planning in these cases generally poses the danger that the interests of the individual sectors will be given disproportionate weight and that the economic interests involved will be given priority over nature conservation interests. Thus, when sectoral planning and regional planning interface, regional planning should always keep its central coordination and planning function. In order to be able to resolve conflicts in a harmonious manner at all planning levels, regional planning should not only be provided with more specific nature conservation objectives, but should be further strengthened institutionally and given greater influence over sectoral activities such as the GAK and federal transport infrastructure planning. Concomitantly, subsidies should be granted based on regional planning objectives.

**12.** In the future, SEA will develop into a central instrument for assessing strategic alternatives to existing plans and programmes. It will also assess regional planning and support finding the most environmentally friendly way of achieving objectives, while taking basic alternatives (such as different transport systems) into consideration. Taking environmental concerns into account at the plan and programme level is important because it is at this level that decisions regarding alternative locations for projects are made, and these decisions are preparatory and binding for lower permitting levels. When transposed into national law, SEA should be introduced analogously to the way Project-EIA has been introduced into national legislation and should be integrated into current planning procedures by using cross references. In order to ensure that SEA is implemented uniformly, the scope of assessment and the procedures to be used should be delineated in an administrative regulation similar to the 1995 administrative regulation for the Environmental Impact Assessment Act. SEA should be based on landscape planning to the greatest extent possible, or, in other

words, landscape planning should lay the groundwork for SEA. To be able to use landscape planning optimally for this purpose, a requirement for plan- or project-related revision of landscape planning taking into account the particular requirements and expanded assessment scope of SEA (e.g., impacts on human health) should be introduced.

### **3.2 Individual Aspects of a Sectoral Integration Strategy for the Settlement Policy Sector: Recommendations Regarding Land Consumption**

**13.** The public at large is less aware of the land consumption problem than the climate change problem, but the former is no less pressing than the latter. Currently, approximately 130 ha of land is consumed per day in Germany by new settlements and roads. In the foreseeable future, this trend will engender a dramatic loss of ecological functions and can hardly be reconciled with the principles of sustainable development. Thus, as part of its sustainable development strategy, the federal government aims to reduce land consumption to 30 ha per day by 2020. The Council welcomes this ambitious medium-term objective. In the long term, however, the government should aim to put an end to the covering of undeveloped land with new impermeable land cover.

Reducing the designation of land for new settlements and roads by 75% or more will have profound effects on the economy. To cushion these effects at least partially, the reduction will have to be implemented in an economically efficient manner, whereby “efficient” means that, preferably, land can only be designated for new settlements and roads in areas where doing so would engender large economic benefits. In the German federal planning system, such selective control cannot be achieved using central planning methods, but rather by using market-appropriate economic regulation instruments, whereby one should differentiate between tax instruments and tradable rights.

Due to the high tax rates that would be necessary, taxes are poorly suited to controlling designations for new settlements and roads. Depending on the price elasticity of demand, tax rates of several hundred euros per square meter would be necessary to reduce the demand for building by 75%. Tax rates of this magnitude, however, raise a great deal of revenue. There are no sufficiently reliable estimates of the corresponding price elasticities, but it can be well assumed that demand would react by becoming relatively price inelastic, because the available alternatives often do not correspond to the demander’s preference structure and would cause an additional financial burden. In order to prevent a further expansion of the public sector share, it would be necessary as a countermove to lower the tax burden elsewhere. Such compensation would

require radical changes in the current tax system, which because of their distribution effects would provide considerable potential for political conflicts. Thus, it is to be feared that using taxes to control designation of building land would only be politically possible with a “small solution” with moderate tax rates. A drastic reduction in the designation of development land of the intended magnitude could thus not be achieved using taxes.

In order to avoid this problem, the Council, in its 2000 Environmental Report, recommended using tradable development land designation rights. The basic idea behind this instrument is to determine the maximum amount of land that can be designated as development land at the state level and to allot municipalities land free of charge by giving them tradable development area designation rights, or to auction off such rights to municipalities. If a particular municipality were to require additional rights, it would have to buy them at an exchange established by its state. Rights which were not needed could be sold through the exchange to other municipalities. The trading of these rights between municipalities would bring about the economically optimal allocation of development land designations. That is, the total amount of land that could be designated as development land would be distributed to municipalities, within the limits set by regional and state planning, in such a way that it would maximize the benefits engendered by designations. At the same time, this would bring about a scarcity of development land that would induce an innovation process aimed at using land in ways that would save land.

Numerous design questions would have to be dealt with before such a model could be put into practice, questions that relate, inter alia, to the method used for the initial distribution of the rights, to the means of regulating trade volumes over time, to limiting the validity of such rights to particular time frames, and to the possibility of differentiating them according to region or land use. Nevertheless, in the opinion of the Council, under the given German conditions, they are the only instrument which could be used to achieve the quantitative objectives in regional planning in a manner that is economically efficient.

### **3.3 Individual Aspects of a Sectoral Integration Strategy for the Agricultural Sector**

14. The relationship between the Federal Ministry of the Environment and the Federal Ministry of Agriculture has fortunately improved over the last year. Both ministries appear, at least to some extent, to have discovered that they are allies. Agricultural policy has become more open to nature conservation concerns, as is shown by

- the ecologization of the subsidization principles of the GAK
- the increase in the subsidization of ecological agriculture in order to increase the amount of farmland used for ecological agriculture to 20%
- the planned modulation of 2% of direct payments to promote extensive and environmentally friendly farming and grassland farming methods, to reduce livestock stocking rates in some regions and to promote environmentally friendly and species-appropriate livestock keeping.

**15.** Nevertheless, the integration of nature conservation concerns into agricultural policy at the federal level still cannot be considered satisfactory. This lack of integration is evidenced by the following:

- the environmental ministries cannot participate as voting members in the "Bund-Länder-Planungsausschuss Agrarstruktur und Küstenschutz" (PLANAK, Federal and State Planning Committee Agricultural Structure and Protection of the Seacoasts), which decides on the framework plan for the GAK,
- environmental nongovernmental organizations have virtually no legal means of introducing nature conservation concerns into the design of the GAK or into its framework plans,
- agri-environmental programmes are hardly related, or are not adequately related, to designated conservation areas requiring ecological action,
- there are few nature-conservation-oriented agri-environmental measures,
- investment grants are not assessed using environmental criteria (thus, grants for building new stalls for commercial, intensive livestock production are still approved),
- irrigation projects receive financial support, and
- afforestation with tree species that are not consistent with the objectives of nature and landscape conservation can receive support.

One of the basic obstacles to more far-reaching integration of nature conservation concerns into agricultural policy is the design of the Common Agricultural Policy at the EU level. The lack of funding for the second so-called pillar of the Common Agricultural Policy relative to first pillar has negative effects. The first pillar provides direct income support for farmers, whereas the second pillar provides support for the development of rural areas and agri-environmental measures. The federal government's scope for integrating agricultural and environmental policy consists largely in participating in the design of the Common Agricultural Policy. It should rigorously press, within the framework of the negotiations on the further development of Common Agricultural Policy until 2006, for the reallocation of funds from the first to the second pillar. The

effects of a specific redesign of agricultural policy on nature conservation and agriculture should, however, be assessed in depth before implementation in order to avoid negative effects. Nature conservation should contribute scenarios of the means and costs of implementing nature conservation objectives using various types of instruments and given the changes in the agricultural policy framework currently being discussed.

The federal government can also influence the further specific design of rural development measures cofinanced by second pillar funds. Of particular importance for nature conservation in this context is the further design of programmes pursuant to the Rural Development Regulation ((EC) 1257/1999), which provides for support mainly for improving the structure of the agricultural sector and for cross-sector rural development measures and agricultural, environmental and compensation measures. Agri-environmental programmes provide an opportunity to combine support for rural development with environmental and nature conservation objectives. The federal government should press at the EU level for the removal of obstacles to agri-environmental and nature conservation measures pursuant to the Rural Development Regulation. In particular, it should press for raising the amount of support allocated to agri-environmental measures, so that they can actually create an alternative to intensive production for the majority of farms. Specific obstacles to the implementation of voluntary agri-environmental measures could be removed by allowing farmers to claim support for landscape structure elements constituting between 10% and 20% of the total area receiving support (the so-called Bavarian Model). The system of granting support exclusively to farmers should be scrapped in favour of an easier to manage and more open system.

Nature conservation measures (pursuant to Article 16 of the Rural Development Regulation) in bird reserves and areas designated pursuant to the Habitats Directive and nature-conservation-oriented agri-environmental programmes are particularly disadvantaged because of EU provisions and the national situation. The basic problem is once again the overall small amount of support allocated to nature-conservation-oriented agri-environmental measures. In most of the states, such measures are allocated, in relation to the extensification measures carried out under the aegis of the state agricultural ministries, only a small proportion of the overall budget for agri-environmental programmes.

Further, various individual problems hamper the broad and efficient use of nature conservation measures. For example, the maximum compensation paid, as specified by EU provisions, for measures in bird reserves and areas designated pursuant the Habitats Directive is €200/ha, whereas more than double this amount can be paid for voluntary environmental measures. This disadvantage should be addressed

immediately. Even the maximum allowable payments for voluntary measures are often not enough to finance special, complicated nature conservation measures. The “top ups” that this makes necessary increase administration costs and the financial burdens of the states. Nature-conservation-oriented measures are greatly disadvantaged by the fact that they cannot be cofinanced via the GAK.

**16.** Cofinancing programmes via the GAK constitutes a considerable incentive for the states, since they themselves then only have to provide 20% of the funds for the programmes. Within the GAK framework, however, support is only provided for extensification measures relating to abiotic natural goods, and these measures are often relatively undemanding. The design of the programmes cofinanced via the GAK, and pursuant to the provision of the Rural Development Regulation, can be influenced, inter alia, by the federal government. In these cases, it should be required to a greater extent that the establishment of designated conservation areas, i.e. delimited areas to which support is to be restricted, in environmentally sensitive areas should determine the measures to be taken in these areas. Only a few activities, such as engaging in ecological farming or refraining from using plant treatment chemicals, should be funded area-wide.

On the whole, coordination between agriculture and nature conservation as regards the use of instruments within the framework of the GAK is at present not adequate. This is the case as regards instruments that can be used area-wide, such as support for individual farms, as well as regards instruments that are restricted to use in particular designated conservation areas, such as support for disadvantaged areas, or that are restricted to the above-mentioned agri-environmental programmes, which could be made more environmentally oriented. It is thoroughly possible for individual farms to receive support for intensification purposes in nationally important priority nature conservation areas, thus considerably impeding the implementation of nature conservation objectives or making them considerably more expensive. The most important committee in the GAK is the PLANAK, which is dominated by the states. The German parliament has no say in this body. Since, however, 60% of the funds for the GAK are provided by the federal government and only 40% by the states, there is an imbalance between the decision-making and funding levels. In the future, the federal government should use whatever influence it can bring to bear on the GAK to prevent support from being given to measures, especially in particular types of area, that run counter to nature conservation objectives. Further, the ability to provide support for nature-conservation-oriented agri-environmental measures should be improved. This can be accomplished in the short term by focusing to a greater extent on multifunctional measures that benefit biotic as well as abiotic natural goods.

**17.** In the future, not only should the budget for agri-environmental measures implemented both within the framework of GAK-cofinanced programmes and within the states' nature conservation programmes be increased, the use of funds should be made more efficient by better remunerating performance and results. The current eco-point models do not prevent, however, the greater part of the available funds from generating windfall benefits. Thus, a given budget limits the ability to remunerate ecological services and thus also limits the results that can be attained with such services.

In addition to the present system of remunerating farmers for their ecological services, the Council thus recommends introducing a results-based system of remunerating farmers for their agricultural services. This system should be based on an eco-point system that uses a special bidding procedure that allows part of the farmer's rents to be skimmed off. Before introducing this model on a nationwide basis, numerous details have to be clarified, however. Nevertheless, since the partial skimming off of rents can, depending on the production and cost situation and on a given budget, engender considerable increases in the rendering of subsidized ecological services, the Council recommends testing such a model in pilot projects as quickly as possible.

**18.** An important precondition for the effective implementation of agri-environmental programmes is that expert advice should be provided to participating farmers, or to farmers one would like to participate. Currently, expert advice is often provided separately in agricultural and nature conservation matters, and advising services in nature conservation matters are only barely institutionalized in many states, or are not institutionalized at all. The advising system should thus be reorganized. Some states have had good results with the outsourcing of expert advice. Appropriate parties for outsourcing are institutions that have expert knowledge in nature conservation matters, such as biological stations, or specialist advisors who mediate between the farmers and the departments and agencies involved (as in North Rhine-Westphalia and the Rhineland Palatinate). The institutionalization of appropriate advising services in the states is hampered by the fact that the EU provides funding to cover support measures but not to cover administrative or advising costs. The Council is of the opinion that funding in addition to cofinancing funding should be provided in order to make it possible to establish an efficient infrastructure for managing agri-environmental programmes. This would also motivate agricultural and nature conservation interest groups to participate and thus promote acceptance of agri-environmental measures.

## **4 Improving the Legal and Financial Instruments in the Environmental Sector**

**19.** Nature and landscape conservation policies are implemented using numerous instruments provided for by the Federal Nature Conservation Act as well as other environmental laws that have been in force for some time. In addition to these instruments, there are also instruments that stem from EU legislation and that should be, or must still be, introduced in Germany. The most recent amendment of the Federal Nature Conservation Act began a process of modernizing the current set of instruments and strengthening their preventative character. This process should be continued, the timely integration of nature conservation concerns into land uses should be promoted, and the active participation of the nature conservation sector in shaping policies in other sectors should be increased. Further, the manner in which old and new instruments mesh should be improved. Additionally, the guidance function of the Federal Nature Conservation Act should be enhanced by introducing more specific standards regarding the use of instruments. Developing uniform instrument use standards for all the states is, in the opinion of the Council, especially pressing as regards instruments which can be used to fulfil EU obligations or which can be used to deal decisively with developmental and investment conditions that engender counterproductive locational competition. Nature and landscape information services should also be made uniform throughout the states. Similarly, the parameters for assessing natural goods should be made uniform and used as a package in order to promote a uniformly demanding level of conservation, to improve coordination between the states, to create a basis for national environmental monitoring and to introduce German conservation objectives adequately into regionally relevant projects at the EU level. The consequences of these general modernization requirements are summarized for the individual instruments and their interactions in the following.

### **Interactions of the Most Important Instruments for Implementing Nature Conservation**

**20.** Nature conservation instruments are used either at the conceptional level or the level of individual projects. Landscape planning is the most important conceptional instrument for nature conservation. It specifies the objectives of the Nature Conservation Act as regards areas and thus interacts with regional planning. Further, in the future, SEA and the Water Framework Directive will be important for integrating nature conservation concepts into other sectoral policies. Instruments for individual cases are environmental impact assessment, the so-called Eingriffsregelung (intervention provision) and the protection of areas and entities.

Increasing the active participation of the nature conservation sector in shaping policies in other sectors primarily involves the instruments used at the conceptional level.

Currently, the integration and design of SEA pose a special challenge. Along with regional planning, it will have to be designed such that it effectively influences the concepts of land use at an early phase in planning. Landscape planning and SEA must be closely linked. Then, together they will fulfil the function of providing information on the following for specific regions:

- natural balance and landscape type,
- the consequences of implementing the objectives of the Federal Nature Conservation Act in specific cases,
- areas requiring remedial action, precautionary measures (such as protecting areas or entities) or support programmes,
- assessments of land use plans and programmes generated in other sectors.

In individual cases, this information can be used to choose the optimal mix of instruments. The newly introduced Water Framework Directive is a conceptional-level instrument. How to link this instrument with other instruments remains to be clarified. In order to prevent a duplication of effort, management planning pursuant to the Water Framework Directive and the amended Federal Water Management Act should be based on, and coordinated with, landscape planning results, especially as concerns conducting surveys and planning measures.

#### Further Development of Landscape Planning

**21.** Landscape planning should be expanded in some areas so that it meshes better with regional planning and SEA and so that the guidance function of federal policy is enhanced.

There is a need for action especially as concerns the following:

- Landscape planning should be set up or revised largely previous to or parallel to regional and urban development planning, as well as sectoral planning requiring environmental impact assessment and SEA, so that landscape plans are sufficiently embodied in overall and sectoral planning. The Council recommends that a requirement to this effect be embodied in federal law. Using such parallel planning, landscape planning could also take over important environmental impact assessment and SEA functions.
- Requirements that are engendered by implementing the Habitats Directive, by preserving open spaces in conurbations and by the necessity of having to designate sites of community importance and special areas of conservation in order to implement support programmes in rural areas make it necessary to improve the coordination between landscape planning and regional planning. Sectoral planning aspects, regional economic aspects and support policy aspects need to be brought

together in a coordinated manner in regional planning, and means of implementation need to be determined. Regional planning needs to designate more nature and landscape development areas, especially as regards the implementation of the Eingriffsregelung in urban development planning and as regards the requirement that municipalities adapt their planning to conform with regional planning when compensation is effected in areas outside of the planning area. Landscape planning needs to do better groundwork for these regional planning tasks involving nature conservation.

- To establish a uniform understanding of planning and tasks, it will be necessary to establish minimum landscape planning standards that apply nationwide.
- A requirement to allow the participation of the public in establishing landscape plans should be written into the Federal Nature Conservation Act.
- Planning should be understood more as a process. The further development of plans can, subject to success monitoring, incorporate new technologies that can be used within the framework of SEA.

The Council has long recommended that nature conservation objectives that are of national and international importance be established and spatially mapped using a federal landscape concept. Such a concept would involve

- conserving natural resources and protecting areas for which Germany carries a particular responsibility, both of which are to be implemented by the states, as well as protecting areas of national importance,
- coordinating state nature conservation activities of national or international importance, especially as concerns designing the biotope network,
- providing federal nature conservation activities with a strategic orientation by providing support for areas that are nationally representative,
- integrating nature conservation concerns into other federal policy sectors by establishing nature conservation bases for managing designated conservation areas that are part of support programmes,
- taking account of German nature conservation concerns in EU regulations and international agreements.

A nonbinding federal landscape concept should be embodied in the Federal Nature Conservation Act in a future amendment.

#### Assessment Pursuant to the Habitats Directive

**22.** Clear criteria should be established as regards the nationwide implementation of assessment pursuant to the Habitats Directive in order to assess the relevancy and

the establishment of measures to ensure the integrity of the EU ecology network Natura 2000. These criteria should at least be established at the federal level, but it would be best to establish them at the EU level.

### The Eingriffsregelung

**23.** In order to take nature conservation concerns better into account when assessing, pursuant the Eingriffsregelung, the allowability of interventions into nature, assessment should set priorities as regards the weight to give the functions of nature and the landscape that are involved. The basis for doing so in Article 19, paragraph 3 of the Federal Nature Conservation Act should be improved. For assessment, a uniform priority list should be developed for determining the value of protected entities and functions. This list would provide a uniform basis for weighting their value against the conflicting interests of project sponsors.

A minimum level of legal uniformity needs to be established as concerns the definition of the basic terms used in the Eingriffsregelung (avoidance, compensatory measures, restitution measures). The Council is of the opinion that the terms need to be better defined to make them uniform throughout the country. In addition, standards need to be established concerning the papers to be submitted for the permitting procedure.

In order to improve the implementation of compensatory measures, a requirement to set up a register of compensation areas should be established. Further, proof that areas are available is necessary, as is the supervision of implementation. In addition, it has to be ensured that funds for the compensation of interventions (taken from restitution payments) are not used to finance measures that are only minimally relevant to the natural functions that have been destroyed. Possibilities to cooperate with appropriate partners (such as forestry or water management sectors) should be taken advantage of also when implementing compensatory measures in order to generate synergies and to expand the basis for nature conservation.

## **5 Implementation: Strategy Recommendations**

### **5.1 Nature Conservation Strategies and Local Implementation**

**24.** People who are affected locally by nature conservation measures often have little understanding for such measures, which poses a great challenge for representatives of government nature conservation agencies and nongovernment nature conservation organizations. In order to mitigate implementation deficits and increase acceptance of nature conservation measures, great hopes have been placed for some time now in “soft” strategies. Such nongovernment strategies involve acceptance-promoting measures that involve cooperating with the users of nature, e.g., in marketing or tourism projects, or with actors who are pursuing similar objectives. Both government agencies and nongovernment organizations have begun to use such strategies, which is imperative to give nature conservation some political momentum and move it out of its defensive position in society. Greater acceptance of nature conservation objectives could be engendered amongst numerous addressees of nature conservation concerns, such as organized sport, the local population and municipal authorities, by providing information in a timely fashion, by allowing them to participate in the formulation of objectives and by dealing with legal regulations in a transparent manner. Appropriate measures could also be taken at the federal level. For example, agreements could be made with the umbrella organizations of landscape users, and mutual information campaigns regarding nature conservation concerns could be initiated.

**25.** A necessary, but not sufficient, precondition for mitigating acceptance deficits that stem from divergent value notions is that the affected population should not have to suffer any major economic disadvantages. In addition, numerous further preconditions are necessary in order to initiate successful nature conservation projects. If measures are taken without there being an adequate financial and legal basis, success will be limited to singular cases with ideal constellations. If nature conservation agencies “have nothing to offer”, land users in particular will hardly develop any interest in cooperating with them unless they can be threatened with legal measures. As long as intensive agricultural production is supported to a much greater extent than nature-conservation-friendly production, and as long as nature conservation can contribute only very marginally to the total income of a region, communication and cooperation strategies alone will not be the ideal solution for nature conservation.

**26.** Thus, providing sufficient support funds would be an important step towards establishing a basis for nature conservation measures that would be welcome. To establish such a basis with which to increase acceptance of nature conservation

measures, policy-makers at the federal and state level need to begin taking action aimed at better remunerating environmental services and at abolishing subsidies that reward behaviour that damages nature. Not until these conditions are fulfilled can strategies begin to be used to break down prejudices, to utilize synergy effects produced by coalitions and cooperative efforts, and to generate approval for nature conservation measures. The upcoming reform of the Common Agricultural Policy will provide an opportunity which nature conservation agencies and organizations should definitely not leave unused.

**27.** An important strategy element in lessening acceptance deficits that stem from a fear of being ordered around by nature conservation agencies or of being degraded to being a service provider is the manner in which nature conservation concerns are presented. One should avoid presenting nature conservation objectives as demands. Instead, nature conservation objectives that are being pursued within the framework of integrating conservation and use should be presented as an offer to land users to remunerate them for a “good” whose preservation is deemed very valuable by society. Nature conservation services such as developing new biotopes, enriching the landscape by planting field scrub or creating field boundary strips can be provided in many areas by various types of land users. The demand in society for such services in these areas should be determined and a budget should be established to pay for these services. Particular services could also be competitively tendered.

By basing remuneration to a greater extent on results, land users would be motivated to be more innovative entrepreneurially and to develop appropriate nature-conservation-friendly land use methods. Remuneration based on the results produced rather than the fulfilment of particular requirements could produce the side-effect that land users become more interested in the natural endowment of their land and in local biodiversity. The precondition for such a strategy to succeed is that results-based remuneration models have to be integrated to a greater extent into state programmes.

Taking into account the interests of those who will be affected by nature conservation measures before they are implemented can also help to make conflicts more objective and to make nature conservation efforts more effective. However, conflicts cannot always be resolved in a manner that is suitable for nature conservation concerns and that can be integrated into the extant structure of farms. In such cases, conflicts can possibly be resolved by consolidating farmland.

**28.** When large protected areas are involved, the exact nature of acceptance problems needs to be determined. It is entirely possible that an analysis of acceptance problems will also identify interests (recreational interests of the local population, tourism) that coincide at least partly with nature conservation objectives. Those who have these interests often remain a silent majority when the public is made to feel

negative about nature conservation from the outset. Coalition strategies should be established using interests such as these that are consistent with nature conservation interests.

## **5.2 Qualitative and Quantitative Changes in the Financing and Staffing of Government Nature Conservation Agencies**

**29.** The use of “soft” nature conservation strategies requires more personnel to prepare measures than the use of top-down regulation. If nature conservation agencies are already stretched to capacity by performing public administration tasks, assessing intervention projects etc., any other type of communication style will fail due to a lack of human resources. The staffing situation at nature conservation agencies does not leave the agencies much time to develop a situation-appropriate strategy of their own with which to implement nature conservation objectives. In addition, they have no funds to pay for external advisors. The ability of representatives of nature conservation concerns to develop strategies is generally also compromised by the fact that they have less political clout than representatives of such sectors as agriculture and forestry, trade and industry, construction, traffic, transport, and sport. The precondition for every new type of nature conservation action is thus that adequate human and financial resources are provided by the states in particular and if necessary by municipalities and counties. The change towards a “cooperative State” also requires that representatives of government agencies be given greater scope to cooperate with land users. This means giving subordinate agencies greater decision-making and assessment scope. Acquiring additional qualifications in, for example, management and communication, would also be of aid to agency representatives.

Adequate staffing for new strategies can be provided in various ways. Additional staffing can be provided in the nature conservation agencies. On the other hand, nature conservation experts could instead be added, as many have advocated, to the staff in agencies in other sectors, for example, in the already relatively well-staffed road construction or agricultural agencies. For the latter concept to work, however, two conditions would have to be fulfilled:

1. Qualified nature conservation personnel would have to be hired. Hiring administrative staff or transferring staff from agencies in other sectors, for example, transferring civil engineers, will, as experience has shown, not suffice.
2. A sufficient number of personnel units would have to be set up in order to really implement nature conservation concerns within the particular nature conservation agency.

A third, promising model outsources a variety of activities. In this model, the outsourcing agency can continue to perform public administration duties, whereas newly created “landscape agencies” perform particularly such activities as require a great deal of flexibility in dealing with land users and other actors. These agencies can be tailored variously, depending on the problem situation in a particular region. Potential activities that they can engage in are advisory activities, maintenance and area and measure management (in conjunction with the Eingriffsregelung), the financial administration of compensation payments, working together with agricultural cooperatives in water protection areas, supporting processing and marketing initiatives, and procuring support funds. Also, various organizational forms could be used for such agencies. Municipalities, nongovernment nature conservation organizations, water suppliers and the representatives of land users could all participate in such agencies.

### **5.3 The Concept of Differentiated Land Use as a Basis for Strategy Formulation**

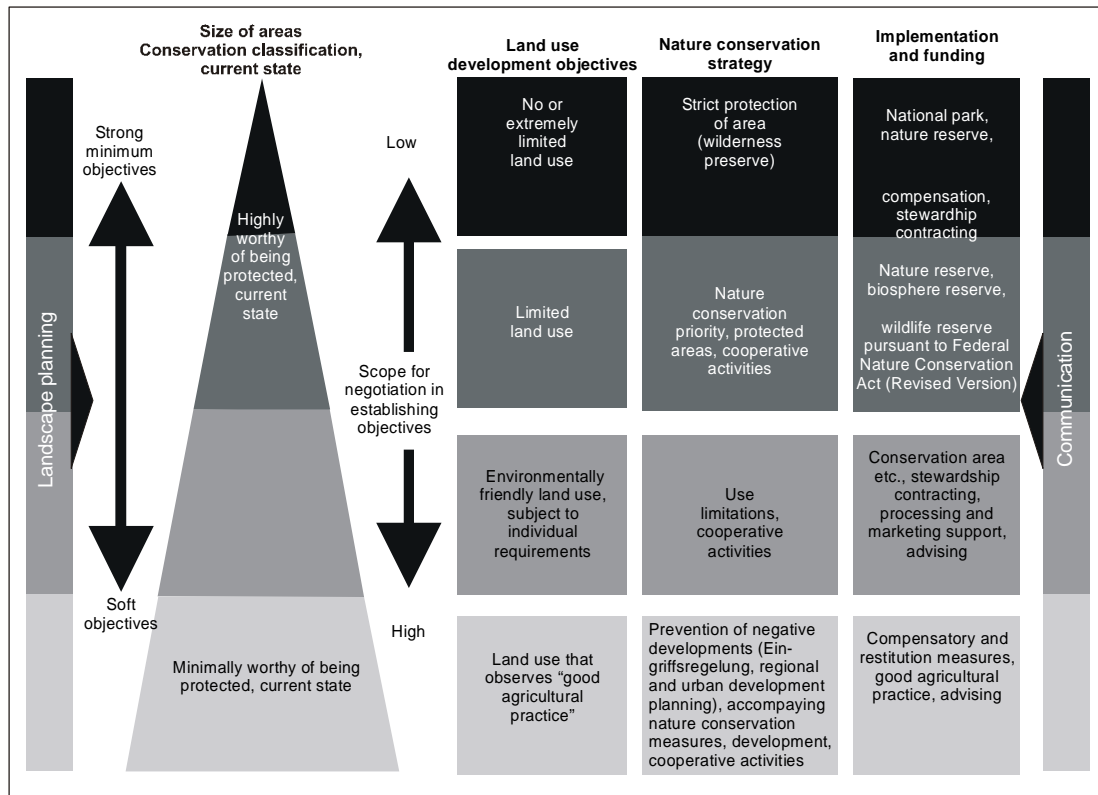
**30.** Whereas the above-mentioned strategy components are area-independent, effective strategic nature conservation action must take area conditions into account. The concept of differentiated land use often recommended by the Council is a suitable basis for a nature conservation strategy that takes various area and implementation situations into account. This concept should be developed further, whereby such aspects as the general situation for land users, the poor acceptance of nature conservation objectives, and, above all, the sensitivity and functions of ecosystems should be taken into account.

**31.** Assuming the objectives of nature conservation and the demands nature conservation places on area use and planning, a modified concept of differentiated land use (Figure 2) has three partial strategies:

- Assigning priority to nature conservation that involves (a) complete conservation (no, or only very limited land use) and (b) partial conservation (limited land use),
- Integrating nature conservation and land use (environmentally friendly land use subject to individual requirements),
- Assigning priority to land use (land use that observes “good agricultural practice”).

Figure 2:

### Differentiated Land Use and Situation-Appropriate Nature Conservation Strategies



**32.** Strategies should be chosen according to nature conservation criteria while taking the state to be maintained into account. In intensively used areas, there are generally few elements that are of any great importance as regards species and biotope protection. Nevertheless, the increased sensitivity of abiotic natural goods in soils in such areas or the location of such areas in water catchment areas can make it necessary to limit their use. In addition, it is possible to develop nature and the landscape in such areas. Near settlements, chiefly recreational functions can be improved. Nature conservation objectives that do not require particular site conditions can be selectively implemented in areas where land use conditions are conducive to doing so because there is less interest in using the land in these areas. As a rule, implementing nature conservation measures in these areas thus also costs less. Conflicts between nature conservation and land use interests thus do not need to rage in intensively used areas. Good agricultural practice on the greater proportion of land in such areas would suffice to meet basic nature conservation requirements. Most of the nature conservation services that go beyond fulfilling basic requirements could be left up to land users to render voluntarily. Support policy should also reflect such spatial differentiation. Measures to reduce pollution caused by fertilizers and pesticides (such

as ecological farming), and possibly measures to enhance farmlands with landscape elements, should be the only measures that are subsidized nationwide.

In other areas, nature conservation must, on the other hand, be given priority due to the great value and sensitivity of the natural goods in these areas, because land uses generally have to be adapted to specific sites to a greater degree in such areas. In these areas, it is also advisable to merely make it known that there is a societal demand for nature conservation services on nonpriority land so that land users will be given the opportunity to voluntarily offer to provide such services. Differentiating between areas in which stringent regulatory means are used when necessary to pursue minimum objectives and areas in which the demand for nature conservation services is less specific or pressing increases land users acceptance of nature conservation measures. It is also important to differentiate between various categories of land in a transparent and readily understandable manner.

**33.** The conflict between agriculture and nature conservation dominates public perception. The future of agriculture in numerous areas with unfavourable production conditions will, however, depend upon whether income alternatives can successfully be created, since production that is based on world market prices is only possible on farms where favourable production conditions prevail and where there are corresponding farm structures. Farmers' increasing interest in income alternatives will lessen the conflict between agriculture and nature conservation if sufficient funds for remunerating farmers for their nature conservation services are made available.

Differentiating areas according to various priorities (see Figure 2) is merely a means of designating large areas as priority areas and of developing corresponding strategies for all areas. Large areas are actually a patchwork of various area types, and thus plans pertaining to large areas in which land use is given priority can also take smaller areas which are contained within the larger areas and in which nature conservation is given priority into account.

## **5.4 Partial Strategies for Spatial Implementation**

### **5.4.1 Priority Nature Conservation Areas**

**34.** The variety of natural sites, species and biotic communities can only be adequately maintained in large areas. Dynamic processes in landscapes require areas in which various developmental phases can occur and play out simultaneously and repeatedly. In order to maintain populations capable of reproduction, many plant and animal species require large, disturbance-free habitats in which various biotope complexes must also be present. Exchanges with populations in similar, neighbouring areas must also be possible. When habitat size is reduced, the range of species in a

particular habitat changes, as specialist species are replaced by mobile generalist species (culture followers). This engenders a loss of biodiversity. Thus, in many cases, as in the case of biotopes that depend on land uses in semi-cultivated areas, as well in the case of habitats that have a dynamic of their own, the size of protected areas is crucially important as regards achieving targeted objectives.

### Complete Protection

**35.** It should be a strategic objective to incorporate nationally important near-natural, largely unused habitats into a system of large reserves. The surface areas of this system would have to considerably exceed the surface area of the current national parks and nationally representative areas. Further fragmentation and levelling of differences between habitats must be prevented. In this context, firm protection objectives that cannot be diluted by cost-benefit analyses (as with road projects) are needed. Efforts to protect larger areas must also include protection of used adjacent areas in order to be effective. Large interconnected, unused areas must be surrounded by adequately large buffer areas. Zoning concepts could protect unused habitats from outside impacts. Fragmented areas should be included in protected areas to a greater extent in order to make the free movement of species possible.

**36.** Most forest reserves established pursuant to state forest legislation are too small (10–50 ha). Because most types of forest require large habitats, the forests in these reserves cannot develop freely in a nature conservation sense. Since Germany is naturally a well-forested country, more large, unused forest habitats should be protected. The Habitat Directive provides for the protection of various beech forest communities, oak forest communities, oak and hornbeam forest communities, alluvial forests along large rivers, swamp forests, bog forests and forests on slopes. Numerous Central European habitat types in Germany which are protected by the Habitats Directive and for which Germany carries a special responsibility because of international agreements it has signed are, from a protection point of view, clearly underrepresented on the proposal lists. Currently, there is a particular lack of large protected Central European near-natural beech forests of various types, forests which are especially characteristic of Germany. Protecting such forests should be considered a national objective. A beech forest national park could, by comparison with forests used for forestry purposes, serve to demonstrate natural development and forest growth processes. The Council thus recommends that a suitably large area of the particularly polymorphous beech forest communities that occur in Germany be set aside as a national park.

The flood plains of the large rivers and their flood dynamics should also be preserved and developed as potential areas for the development of large near-natural flood plain

ecosystems. No further engineering projects should be undertaken on ecologically significant rivers and sections of rivers.

**37.** The most important obstacle to the nationally coherent protection of priority areas is the exclusive competence the constitution gives to the states to designate national parks, nature reserves and biosphere reserves, whereby core areas in biosphere reserves can contain unused nature reserves. It is obvious that this state competence is increasingly causing international problems and colliding with EU legislation. Some states that have a great deal of potentially protectable nature cannot cope with the financial consequences of establishing rigorous protection for large areas. A concept for protecting national important areas and based on the nature conservation considerations of the Federal Nature Conservation Agency would be useful, but, because it would only have the character of a recommendation, it would not be sufficient. The Council is thus of the opinion that the federal government should have at least minimum jurisdiction over nationally important, unused priority nature conservation areas. The political hurdles to changing the constitution accordingly are, however, so high that, for the time being, other options have to be pursued, such as providing more funding for large-scale nature conservation projects.

**38.** Designating large nature conservation areas and core areas in national parks is a suitable instrument for implementing complete protection of areas. By cooperating with the forestry sector, complete protection pursuant to the Federal Forest Act or the forest legislation of the states would also be possible (protected forests, natural forest reserves). Because the forests would not be open to use, they should be located on public lands to the greatest extent possible (or should belong to nature conservation associations). Private users of such forests who do not intend to stop using the forests should be bought out when land is bought or exchanged in the course of nature-conservation-related land consolidation.

#### Priority for Nature Conservation with Limited Land Use

**39.** A large number of small unused areas worthy of protecting are located outside of the large protected areas. This is the case as concerns many of the areas protected by the Federal Nature Conservation Act (Article 30) and habitats protected by the Habitat Directive. The type of protection to be established for such small succession areas should be decided upon within the framework of a general nature conservation concept which includes priority areas with limited land use. Otherwise, priority should be given to maintaining or developing nature-conservation-appropriate land use. This type of land use is necessary whenever particularly important ecosystem functions or individual natural goods are affected by land use. This is the case with the majority of the extant protection-worthy and endangered biotopes, such as semi-dry and humid grasslands. Establishing priority for nature conservation and nature-conservation-

appropriate land use can, however, only be accomplished if sufficient funding is made available to provide land users with the prospect of being able to derive income from providing nature conservation services. Legally protecting areas (as biosphere reserves or nature reserves) is generally a necessary precondition for this but it also necessitates that land users be compensated for such services. If the necessary funds are not available, nature conservation has to be limited to smaller areas. In areas where the yield potential is low and thus where there is little prospect of being able to derive income from land use, it should be taken into careful consideration whether and where succession can be allowed and where management activities are absolutely necessary to maintain especially important habitats and landscape functions. Possible alliance partners in maintaining nature in these areas and if necessary in keeping the landscape open in other areas are tourism, organized sport and water management activities.

**40.** A particular problem in small reserves is the danger that activities at their borders may subject them to damaging impacts. Buffer zones with graduated areas of land use intensity can serve to protect small reserves from such impacts. These can be established relatively easily using the nature reserve regulations. This is, however, not possible as regards protected biotopes and habitats protected pursuant to the Habitat Directive if they are not also designated as (nature) reserves. Thus, priority nature conservation areas subject to land use should be designated such that they are large, and the funds for conserving nature should be taken into account within the framework of a strategic implementation concept.

#### Restricted and Prohibited Land Use in Contaminated Areas

**41.** Areas in which the soil is contaminated with pollutants or the area is impaired by mining activities are another type of area in which agricultural land use should be either prohibited or heavily restricted for nature conservation or environmental protection reasons. Many such areas are located in extensive flood plains, near environmentally intensive industries, adjacent to heavily travelled motorways (lead contamination), on sewage farms, on military training areas, etc. These areas should either be left subject to ecological succession or be used for the production of renewable resources.

**42.** In the case of contaminated soils, when the type of contamination is known, local alliances between agricultural and nature conservation interests are often possible because agricultural interests are potentially also interested in ceding or converting such land. Certain changes in use can be financed using EU acreage reduction grants, which are currently used to fund the production of renewable resources. What is problematic, however, is funding the complete decommissioning of lands. If heavily contaminated lands are to be taken out of production for long periods of time and/or if soil remediation measures need to be taken, considerable costs are

incurred. As a rule, the polluter cannot be made to pay the costs. Thus, extremely contaminated sites, such as contaminated industrial sites, are purchased by the public sector, via land development societies, are remediated, and are then sold again. In some cases, the remediation consists in encapsulation, as was the case with the large “Centro Oberhausen” project. There are no state programmes for this purpose. Thus, the municipalities are left as the only potential providers of funding for the majority of the necessary encapsulation measures. To deal with this problem, new funding methods need to be found.

#### **5.4.2 Integration of Protection and Land Use**

**43.** The objective of integrating protection and land use is ensuring sustainable landscape use, especially as concerns agriculture, forestry and recreation. Integration strategies are used in large areas where the majority of landscape functions are less worthy of being protected and are less sensitive than in priority nature conservation areas. Small priority nature conservation areas can, however, also be included here and there on lands in large areas in which the balanced integration of protection and land use is desirable. A nature conservation integration strategy should be actively pursued when the performance of ecosystems, the value of habitats or the beauty of the landscape depend on land use activities. The bioclimatic functions of the landscape or the groundwater recharge rate also depend on the landscape being kept open and thus certain land uses that observe conservation criteria make good sense. Historically cultivated landscapes with grasslands, farmers’ fields, field scrub and forests used for recreation cannot generally be replaced by virgin forests. The integration of protection and land use is also necessary in landscapes in which agricultural use is of a high priority due to natural or other favourable production conditions, but in which the sensitivity of ecosystems requires use limitations that go beyond good agricultural practice.

**44.** Within the framework of this integration strategy, agriculture and forestry are the most logical partners for forming an alliance with nature conservation. Government and private forestry, in keeping with their purpose, also pursue nature conservation objectives. Establishing local or regional alliances with agriculture can be facilitated in a number of ways:

- Opening up income alternatives in the production, processing and marketing of nature-conservation-friendly products or in the area of ecotourism would be welcomed by some farms, but would require extensive time and funding in the organizational and start-up phase. As a rule, when nature conservation places far-reaching demands on production, compensation is necessary, even when production is linked to marketing strategies.

- A demand-oriented nature conservation strategy is especially important. Since land users' nature conservation services should largely be provided voluntarily, acceptance obstacles need to be removed. Such services should not be considered by land users to constitute an obligation imposed from without nor should they feel that such services are expected. Rather, they should feel that they are voluntarily satisfying societal demand; that is, that they are producing nature conservation services for the market. Farmers with marginal farming land could for the first time "market" the specific characteristics of their lands by developing biotopes rather than producing agricultural products. If services are not expected of particular farmers on particular lands, then services in large areas with numerous farmers could be tendered. The cheapest bidders for planting field scrub could then be paid using a budget created particularly for this purpose.

Agri-environmental programmes are especially important as regards funding such an integration strategy because they are, apart from promoting marketing, the most important instrument with which to provide incentives and support for voluntary production changes. They should, whenever possible, be set up as results-oriented programmes and used in combination with a tendering procedure. Ecological agriculture is an attractive alternative to integrating protection and land use everywhere where no particular nature conservation objectives need to be pursued.

### **5.4.3 Land Use Priority**

**45.** Land use should take priority over nature conservation in areas where there is little worthy of protecting and where landscape functions are not particularly sensitive, but where interest in using land is high. Priority agricultural areas with deep, nutrient-rich, relatively impermeable soils with a natural high yield potential, are, from many points of view, less sensitive to land use than areas with nutrient-poor, permeable soils with a low yield potential. In areas that are of low priority for nature conservation, it is important to ensure that good agricultural practice is observed and to aid land users by providing environmentally related advice. In this context, too, ecological farming is an appropriate means of achieving land use that is more environmentally friendly while remaining cost-neutral as regards nature conservation. Farmlands with high yield potentials are often particularly suited to farming using only small amounts of pollutive fertilizers and pesticides. In these areas, more stringent nature conservation demands are often placed on small, individual pieces of land. Such demands can be met using agri-environmental programmes and possibly also by designating areas as nature reserves or by buying lands. Land users can also provide environmental services on land of their own choice. Such services could consist in planting field scrub and riparian strips or taking special measures to protect biotopes and species such as the field hamster. Coalition partners for such measures could be hunters and hunting

associations, anglers, and farmers who are not dependent upon using every square yard of land they have.

When the budget is highly limited, priority should be given to using support funds for priority nature conservation areas or areas in which the environment is extremely endangered.

## **6 Environmental Monitoring**

**46.** The requirement to monitor nature and the landscape has been modified by the implementation of the Habitats Directive and the Wild Birds Directive, as well as by the embodiment of environmental monitoring in the Federal Nature Conservation Act (Article 12 ff.), such that not only general environmental data but also nature-conservation-related data, and thus detailed data on all types of natural goods, need to be gathered. A considerable demand for reporting has also been created by the requirement that EU structural and agri-environmental programme measures be assessed, as well as by the provisions of the EU Water Framework Directive and the EU Strategic Environmental Assessment Directive, a demand which cannot be met given the current national database. In the light of this situation, the Council would once again like to formulate some current requirements regarding cross-sectoral monitoring:

- For nature-conservation-related data to be meaningful, they have to be spatially continuous and they have to document in a representative manner all protection-worthy entities and their relevant characteristics and functions, as well as the changes that these may undergo. In this context, the spatially continuous, EU-wide collection of nature conservation data for use as a broad database upon which policies can be based is extremely important. The representative, detailed documentation of special protection-worthy entities may not, however, be ignored. The currently available diverse data need to be pulled together, networked and augmented in order to make it possible to rank the value and polluter-related endangerment of individual protection-worthy entities.
- In order to be able to assess environmental policy objectives, monitoring data that indicate the need to take action are required. Indicators that adequately provide information on the strain put on nature and on changes in nature and the landscape must therefore be developed quickly.
- Data on nature reserves, biotopes and biotope types, plant and animal species, and related trends need to be updated on a regular basis, especially given the reporting requirements of EU directives.
- Land use impacts are illustrated using too few nature-conservation-related environmental data. Thus, the assessment of trends on various lands needs to be

accelerated, especially as regards the state of creeping and little noticed problems such as soil compaction, erosion, nitrogen accumulation and the degeneration of grassland biotopes.

- The means of forecasting the effectiveness of nature conservation measures implemented within the framework of intervention compensation or maintenance and development should be improved. In doing so, knowledge of the impacts on various lands and of independent trends on these lands as compared to managed trends is needed.
- Particularly as regards assessing the success of agri-environmental programmes, base data with which to assess the effectiveness of nature conservation measures and the efficiency of the way funds are used for nature conservation are still not available.

**47.** Area-wide documentation of the scarcity of protection-worthy entities and the changes they undergo requires that data be collected such that they can be related to particular problems and areas. They must provide information on the various representative habitats and species.

Since important nature conservation planning decisions are often made at lower levels, assembling and augmenting the planning-relevant data (with the aid of automated satellite photography assessment) required at these levels is urgently needed. Further planning data needed are data gathered in conjunction with red lists and distribution maps.

**48.** Available monitoring data pertaining to the protection-worthy entities water, soils, and air need to be augmented or reinterpreted for nature conservation purposes. An example of an expanded interpretation of state sectoral data is the method management system used by the Lower Saxony Soil Information System (NIBIS).

National condition maps of nutrient and acid-base balances, compaction and erosion endangerment, and soil moisture regimes are not available. Available data on lake development and water quality need to be augmented by nature-conservation-relevant data on the characteristics of lakes and their shores. Data gathered while monitoring damage to forests need to be augmented by data on species and biotope protection. Since many species and habitats (e.g., moors and infertile meadows) are sensitive to nitrogen, the indicator-based data on nitrogen inputs and nitrogen levels in ecosystems provided by the Nitrate Atlas need to be revised such that they also take nature conservation aspects in small areas into account.

**49.** As regards typical types of agriculture and forestry, land-use-related data should be collected in representative areas in conjunction with data on nature

conservation measures. These data could be used to assess the impact of such measures on the various types of land use (intensive vs. ecological farming).

**50.** The Council recommends focusing on collecting the core nature conservation data required by the federal government's national and international reporting obligations. The Federal Nature Conservation Agency has developed a corresponding assessment method for inventorying habitats and species specified in the Habitats Directive and the Wild Birds Directive which is to be used as a nationally uniform, mandatory approach for collecting data with which to fulfil EU reporting obligations. The collection of such data will no longer be allowed to be carried out voluntarily using correspondingly heterogeneous collection methods. The data to be collected to fulfil the various reporting obligations (Natura 2000, the Water Framework Directive, agri-environmental programmes), and their assessment, should be conceptionally harmonized such that they can be used variously.

Nature-conservation-related data on trends in used landscapes and on environmental trends at a few selected sites in biosphere reserves are also needed, data which can be collected using continuous ecosystematic monitoring. This approach should be augmented by attempting to explain special environmental problems by pursuing particular questions, whereby such explanation attempts could for the most part be the object of the research projects. The Council has already pointed out the need to integrate continuous monitoring of genetically engineered organisms into ecological monitoring.

The nature conservation base data also necessary for planning purposes need to be collected, assessed and made available using uniform criteria in order to ensure that nature conservation concerns are better taken account of.

Since land consumption caused by overdevelopment and fragmentation of the landscape is a basic, unresolved problem for nature conservation, and since there is no suitable nature-conservation-related data basis as concerns this problem, the Council recommends that binding indicators and a corresponding assessment method for nationally uniform data collection be established.

## **7 Promoting Acceptance of Nature Conservation**

**51.** Promoting acceptance and resolving conflicts are never-ending tasks for the nature and landscape conservation sector. The basic precondition for being able to promote acceptance and resolve conflicts is dealing with “nature” in a manner that does not primarily cause people to associate nature with prohibitive regulations, but, rather, causes them to think of opulence and diversity. Prohibitory signs at the entrance to nature reserves have little effect if the scarcity value of the nature behind the signs is not pointed out. As regards economic advantages, the notion that nature is the “jewel” of the region is often perfectly correct. A further precondition for promoting acceptance is that the constellation of heteronomy illustrated in this report be avoided to the greatest extent possible. It is not at all the case that love of nature is something that has to be engendered in rural areas by nature conservation experts. These experts can, however, explain the particular value of local species and thus contribute to residents’ engaging in nature conservation on their own (including policing their own behaviour). Having sensible, justifiable objectives is a particularly necessary precondition for being successful. One-sided associations of nature conservation with “wilderness” can lower the acceptance of areally extensive nature conservation measures even though the measures are actually primarily intended to protect traditional cultivated landscapes. Another precondition for promoting acceptance of nature conservation is that it does not cause a loss of income for current land users but rather that it creates the greatest possible incentives to engage in nature conservation. Such incentives can consist in making references to best practice. In the meantime, nature conservation has been able to provide numerous economic advantages which allow it to be reconciled with local material interests. In addition to the political style of nature conservation actors, explaining the value of natural assets and improving local strategies, nature conservation acceptance problems need to be mitigated, above all, by improving incentive structures.

Establishing strategic alliances is another approach, one with which to improve, in particular, the ability of nature conservation actors to take action. A special conflict-related means of promoting acceptance by engaging in a specific and professionally organized discourse is a further approach. Both of these approaches are elucidated briefly in the following.

### **7.1 Establishing Alliances**

**52.** In order to increase their clout, nature conservation actors should look more for potential alliance partners. Such partners do not need to have identical motives and interests. It suffices when they can derive a potential benefit from a nature conservation

project and thus support the project. To identify this benefit and actively advertise with it is, in the opinion of the Council, one of the essential conditions for successful nature conservation policy, whereby policy must include government agencies and nongovernment associations to equal degrees. In the case of water supply, the benefit is the lower cost of drinking water treatment engendered by prohibiting the ploughing of grasslands; in the case of agriculture, it is the possibility of earning extra money to stabilize one's income situation. The precondition for nature conservation actors to be able to provide such offers is generally that there are sufficient funds with which to remunerate farmers for providing services or for not using their lands. Government tourism authorities could be motivated to become alliance partners by the prospect of increased revenue. Municipalities could be provided with the prospect of achieving an economically advantageous enhancement of their region's image, as well as the prospect of being able to create new income sources and jobs by increasing business for the trades, restaurants and the tourist sector, and by stabilizing agriculture.

Such an alliance policy also requires, however, that nature conservation actors change the way they see nature conservation itself. Advocates of nature conservation concerns should, in such situations, consider themselves to be the protectors of rural interests.

Thus, the Ministry of the Environment could, for example, cooperate with the Ministry of Construction and Transport to promote an "Overpasses for Nature" investment programme to mitigate habitat fragmentation effects caused by existing roads, as well as to mitigate road safety problems caused by game crossing roads. This alliance could create a broad interest base in the public by including associations and promoting their willingness to participate in an alliance by using a dialogue strategy. It could possibly even be institutionalized by, for example, founding an institution that raises (also) private money through advertising campaigns to be used for the common objective of mitigating habitat fragmentation effects and at the same time raises awareness of the little recognized problem of the mass slaughter of animals on roads.

In the future, nature conservation policy and environmental policy will increasingly have to depend on social innovations of this kind, which will especially be the case wherever nature conservation interests have not been able to prevail against economic interests, and persistent problems were the result.

## **7.2 Discourse Process**

**53.** To overcome nature conservation acceptance problems in specific conflict cases, especially as regards national parks, participatory discourse and mediation processes have been recommended in this report. A cross-sectoral nature conservation strategy, on the other hand, requires the acceptance of the entire public. It is thus crucially important to not only communicate nature conservation concerns and

the nature conservation strategy recommended here to the expert community and institutions (including nature conservation associations), but also to use the strategy as an opportunity to create a nature conservation discourse throughout society as a whole.

Such a cross-sectoral, practical discourse cannot be generated at will. Communication forms and media are only subject to a limited amount of political control for good reason. Policy-makers can, however, improve the peripheral conditions for the scarce resource of public awareness to become ever more greatly focused, and continuously focused, on nature conservation. Whereas the Council in its annual report, under the heading of Citizens and the Enabling State, focused on ecological market transparency and the legal dimension of citizen participation, it would like to conclude here by elaborating the conditions necessary for a possible nature conservation discourse to be successful.

Should a specific public discourse on nature conservation take place (optimally together with the implementation of a national nature conservation strategy), it can be assumed that the public already has a general interest in nature conservation matters, that an intensive expert debate will take place in the scientific community, institutions (the Federal Nature Conservation Agency, the Federal Ministry of the Environment, the Federal Environmental Agency) and associations (BUND (the German Environmental and Nature Conservation Association), NABU (the German Nature Conservation Association), etc.), and that there is a need for programmatic and objective-oriented policy formulation. The peripheral conditions for an ambitious nature conservation discourse, to which this report would like to contribute, are thus not at all negative.

**54.** At times, environmental and even nature conservation problems have been intensively discussed in the German public. The problems discussed, however, were usually dramatic, politicizable problems such as forest decline or dying seals in the North Atlantic. The red lists have, in addition to their standard function, also had an alarming function for the public. The mass media tend to become active only when negative developments occur, as do problem-oriented “citizen interveners”, too. Alarmist or apocalyptic forms of communication, however, hardly provide a suitable basis for a broad discourse on nature conservation. They implicitly pillory particular actors (such as farmers) whose participation in resolving environmental and nature conservation problems is needed, and thus they can exacerbate the acceptance situation. They also underestimate the way and the extent to which nature conservation is nowadays strengthened by international agreements. German agriculture, for example, has long had no choice but to increasingly replace or augment the subsidized quantity production of foodstuffs with “the production of nature conservation services”. The negative discourse that is often helpful in topicalizing problems, is not especially

helpful where positive objectives are to be realized and where nature is not only to be protected but also developed in order to increase the value of natural capital, which is to the advantage of an area. A “problem oblivious” discourse that subscribes to “positive visions” is of no help either; the basis for nature conservation is precisely the fact that nature is endangered.

**55.** Successful policy-making requires that there is an exchange between “institutionalized discourse and informally formed public opinion”. The current situation tends, however, to be one in which the highly specialized expert discourse and public interest, which does exist, are like two ships in the night. Because of their legal aspects, many debates take place within closed expert circles and the public is seldom informed about the debates, and when they are, then only minimally. Nature conservation is thus in danger of becoming a matter for experts only. Currently, a discourse strategy must counteract two complementary dangers. First, the “expertocratic” danger that nature conservation will become a matter for scientists, experts, associations and government agencies, whose debates and disagreements will make little sense to the layperson. Secondly, the “populist” danger that nature conservation will come to be identified with a few simplistic objectives regarding, for example, the protection of species. Thus, there is a large information deficit. Many citizens are, for example, not acquainted with the system of nature preserve categories, the objectives of nature conservation or the criteria on which the value categories for natural entities are based. Further, although they are interested in nature conservation, they have virtually no knowledge of nature, especially as regards landscape forms and species.

A promising discourse strategy should thus combat these two dangers and at the same time attempt to bridge the gulf between the public and expert cultures. Communicative exchange between expert cultures and the interested members of the public should be intensified in appropriate fora and arenas.

**56.** The logical thing to do would be to implement a centrally initiated communication strategy that focuses on providing basic information and pointing out problems to various circles. In keeping with the concept of nature conservation sector strategies, it would be important to confront environmentally destructive sectors (such as the transport or agricultural sectors) with the long-term consequences of their activities and call upon them to participate in resolving problems. Using such communication strategies would, however, have to be augmented by participatory forms of communication that enable laypersons as citizens to form informed opinions. Citizens are already being allowed, in the context of developing regional nature conservation models, to participate to a greater extent in designing concepts and projects. Another form is so-called citizens’ fora and consensus conferences, at which

justifications for nature conservation, and nature conservation targeting systems, instruments and strategies are presented and discussed. Such organized discourse processes also constitute the nodes in a network of public discussions. Citizens' fora and consensus conferences, which are similar in concept, have already been used with largely good results in numerous European countries (Denmark, Germany, the Netherlands, Switzerland) to assess technology impacts. In Germany, the now well-developed network of government and nongovernment nature and environmental centres provides a good infrastructure for discussing nature conservation in citizens' fora, at conferences, etc.

## **8 Conclusions**

**57.** Nature conservation policy as pursued in recent years has achieved important partial successes. Serious ecological damage and a loss of biodiversity could, however, not be prevented. After several attempts at strengthening and modernizing nature conservation had been made, the new Federal Nature Conservation Act finally did so to an initial degree. Nevertheless, the instruments provided for will, on their own, not suffice to stop the ongoing damage being inflicted on the environment. The next step will have to be to give nature conservation a stronger strategic orientation, one that will allow EU and international nature conservation requirements to be better implemented.

Nature conservation policy has to go far beyond the traditional protecting of areas and pursue an integrative strategy. Nature conservation concerns need to be integrated into such policy areas as agriculture, transport, energy and tourism. Ambitious, widely accepted objectives, an expanded set of instruments and new institutions are also needed.

Nature conservation has to become capable of employing strategies and has to strive to establish alliances with potential alliance partners. Government policy-making approaches and consensual policy-making approaches need to be combined such that the greatest degree of success can be achieved. Nature conservation cannot do without mandatory regulation because otherwise there would be little to negotiate over and no means of applying pressure during the negotiation process.

Modernizing nature conservation policy cannot be exclusively a state matter. Increased federal involvement is needed in order to coordinate regional activities and provide them with a common orientation. Therefore, the Council recommends developing a national nature conservation strategy that specifies and augments the national sustainable development strategy and the various EU strategy approaches for Germany.

The wealth of a country is determined, inter alia, by its natural endowment. In the final analysis, nature conservation also engenders increased quality of life. The beauty of nature is of no lesser value than the beauty of art. In the future, nature and landscape conservation should be given policy-making attention and human and financial resources commensurate with their importance.

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