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SPEN – Interactions between Policy Concerning Spatial Planning and Ecological Networks in Europe

Country Study for Denmark

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Claus Goldberg
Orbicon



CONTENTS

1	Executive summary	3
2	Introduction.....	3
3	Methodology	4
4	The process of Spatial Planning in Denmark	4
4.1	Legal and policy framework of spatial planning	4
4.2	Institutional framework of spatial planning	5
4.3	Spatial planning: Actor analysis.....	5
4.4	The spatial planning knowledge base.....	6
4.5	Horizontal integration	6
4.6	The dynamics of spatial planning in practice	7
5	Ecological networks in Denmark.....	10
5.1	Definition of ecological networks.....	10
5.2	Legal framework of ecological networks.....	10
5.3	Policy and institutional framework of ecological networks	11
5.4	Ecological networks planning: Actor analysis	11
5.5	The ecological networks knowledge base	12
5.6	Horizontal and vertical integration	12
6	Integrating spatial planning and ecological networks	12
6.1	Process interactions of spatial planning and ecological networks	12
6.2	Synergies, opportunities, and barriers	12
7	Conclusions and recommendations	13
8	Case study: "Albertslund Municipality"	14
8.1	Introduction	14
8.2	Description of the municipality	14
8.3	Municipal planning and ecological networks	15
8.4	Conclusions	15

This report was prepared for ECNC by Claus Goldberg, ORBICON Denmark.

Orbicon A/S
Ringstedvej 20
DK-4000 Roskilde
Denmark

Front picture from "The new map of Denmark – spatial planning under new conditions, Danish Ministry of Environment, December 2006"

1 Executive summary

This report describes the relationship between spatial planning and ecological networks as they are defined and used by the planning administration in Denmark. The report seeks to provide answers to the following questions:

- What practical experiences are there with regards to cooperation between the nature conservation and spatial planning sectors regarding the planning of ecological networks?
- To what extent is the ecological networks approach known to the actors involved in developing spatial policy and planning?
- What are the perspectives for increasing the involvement of the spatial planning sector in the development of ecological networks in Europe?

The report contains a short introduction and presents the methodology used to prepare the report. Two main sections of the report deal with spatial planning and ecological networks, respectively. In the following sections, definitions of spatial planning and ecological networks are provided, actors are described and analyzed, the planning and preparation process is reported, and the relationship between spatial planning and ecological networks is described. In a special section, the integration between spatial planning and ecological networks is provided and analyzed and a final section contains conclusions.

One case study is provided together with the general report. The case study describes the interrelationship between spatial planning and local ecological network for an urban municipality situated in the Copenhagen area. The municipality is confronted with a number of challenges related to the pressure arising from the development of urban areas and infrastructure.

2 Introduction

Denmark has a long tradition of spatial planning with detailed regulation starting close to one century ago. The first "Act on Spatial Planning" was passed in the Parliament in 1925. At that time its main objective was regulating of the development of towns to ensure its was in accordance with public interests related to transport, health and building types. Since then, many new versions of the Act have been passed and administration and regulations changed constantly. The latest important change took place on 1 January 2007 in connection with the so-called "structural reform" in Denmark.

Before the reform, the administration in Denmark was divided into central administration (ministries), regional administration (counties) and local administration (municipalities). The counties have now been abolished and planning is now mainly the responsibility of centrally and locally based administration though with a new intermediate structure in the form of "regional environmental centres". Together with these new structures a new concept which could be called guided decentralisation was introduced in Denmark . The division of work and responsibilities as well as other aspects of spatial planning are described in greater detail in this report.

The Danish Ministry of the Environment is the public authority with responsibility for physical planning, including the Spatial Planning Act which aims to ensure the quality of Danish towns and open countryside.

This report focuses on the interaction between spatial planning and ecological networks – more broadly defined above as the relation between planning and nature protection. In this respect the objective of the Act on Spatial Planning states, among other things, that the law should seek to protect Danish nature and environment, ensuring that development in Denmark is sustainable and respects animals and plants.

For clarification, the national protection schemes can be divided into three types of network which do overlap and coincide in some instances. This is described in the report.

3 Methodology

The report is based on different sources. The main part is derived from reports, internet consultation, and other available material collected during the interviews. Interviews were conducted with planners at central, regional and local level in Denmark. The input to the report has been analysed and structured according to the format chosen for the five country studies.

4 The process of Spatial Planning in Denmark

When the structural reform came into force in Denmark on 1 January 2007 it resulted in a large number of changes in the preparation and implementation of spatial planning, and its interactions with other fields.

The current planning system can be subdivided into:

- National planning
- Regional planning
- Municipal and local planning

This division corresponds very well to the spatial levels of nature networks that exist in Denmark.

Definition of spatial planning

The Danish Ministry of the Environment is the public authority responsible for physical planning, including the Spatial Planning Act which aims to ensure the quality of Danish towns and open countryside. The Ministry defines spatial planning as planning that seeks to protect nature and the environment while respecting the living conditions of people, plants and animals (Ministry of Environment homepage). The objectives of spatial planning are to ensure that:

- a distinct difference is kept between rural and urban areas;
- development should benefit all in Denmark;
- spatial planning should be based on the respect of the identity of cities and towns, nature, the environment, the landscape, and the townscape;
- spatial planning and investment in infrastructure should be closely linked, and
- spatial planning should be comprehensive.

4.1 Legal and policy framework of spatial planning

The absolute most important legal regulation in relation to spatial planning is the Planning Act in Denmark (the Consolidated Act No. 813 of 21 June 2007). It describes in detail the objectives and obligations related to planning, format and procedures for planning at national, regional and local levels, the possibilities and procedures for public involvement and filing complaints, as well as the general administration of the law. The overall principle is to have a transparent and decentralized system securing sustainable development at all levels where valuable landscapes, nature values and built-up area features are conserved. The coastline should be kept open, pollution should be prevented, and the public should be, as far as possible, involved in the planning process.

4.2 Institutional framework of spatial planning

Spatial planning takes place at three connected levels in Denmark. The relationship between the different planning levels can be illustrated as follows in the figure below.

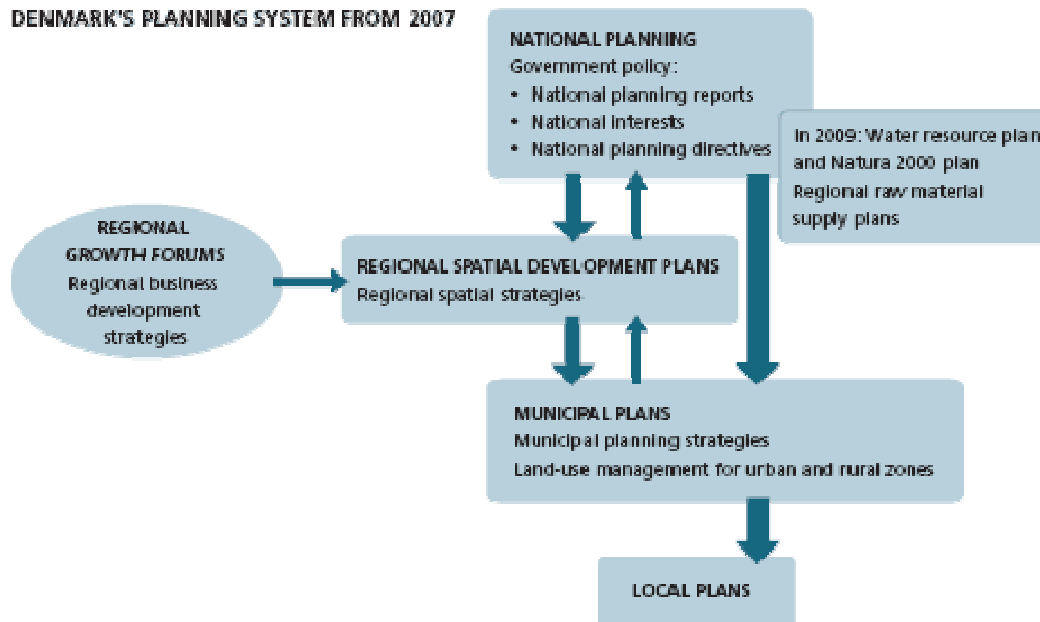


Figure 1 - Danish planning system following the structural reform (from ministry of environments homepage)

After each election, the Minister for the Environment publishes a national planning report covering the Government's visions for future developments. The Government aims to balance development throughout Denmark, so that growth is not limited to cities, and to maintain the attraction of rural districts. The latter includes considerations in relation to nature protection and ecological networks.

Three out of the seven Environment Centres resorting under the Danish Ministry of the Environment actively support municipalities on spatial planning issues where there is a connection with overall state interests. These three Environment Centres are situated in Roskilde (Zealand), Odense (Funen) and Aarhus (Jutland).

4.3 Spatial planning: Actor analysis

The Minister of Environment is the main responsible for spatial planning at all levels.

There are many actors involved in the planning process at all the described levels - nationally, regionally, and locally. Some characteristic differences depending on the type of planning do however exist.

Regarding national planning comments and reactions would typically come from national organisations and the larger NGOs. Going down to the regional and local planning levels, there are gradually changes where more actors will appear in the form of more locally based interest groups, local divisions of nationwide NGOs and individual citizens. It would probably be correct to state that individual citizens will react when personal interest are at stake. Nationwide NGOs and other interest organisations – like farmers and foresters associations, association of raw material extractors, the Danish Outdoor Council – typically actively contribute to the national planning document and regional strategic documents. In this way they will try to secure their interests in relation to nature protection, farming, forestry, raw material extraction, outdoor activities etc. The two larger NGOs – the Danish Ornithological Society and the Danish Nature Protection Association also defend their interests by an active participation at national level.

At the local level the same groups together with locally based groups will be active. In Denmark, the NGOs typically have local chapters that look after the nature protection interest locally.

4.4 The spatial planning knowledge base

There has been a tradition of openness and access to environmental and planning information that naturally has been strengthened even further with the implementation of the Aarhus Convention (Aarhus is the second largest city in Denmark where the Convention was signed). The Convention prescribes free access to environmental and spatial planning data. The spatial planning information is made available to all interested people and parties through newspaper advertising, paper copies available upon request or access through the Internet. In addition there is a detailed hearing system at all three levels where stakeholders with a personal or organisational interest will be informed about draft planning.

In addition, meetings are convened at regular intervals, mainly at the national and regional levels. A number of spatial planning platforms on the Internet have been developed by the Ministry of Environment, regional centres, and municipalities where planning documents are being made available and interactive GIS software can be used by any visitor.

The hearing list for national and regional planning documents is quite long. As far as regional planning is concerned, the material will typically be sent to around 100 NGOs and private interest organisations, universities, private consultancy companies, and "horizontally" to other administrative bodies working at the same planning level. This horizontal aspect is further described below.

4.5 Horizontal integration

The guidance from the Ministry of Environment indicates that cooperation across all levels of administrative borders (including internationally) should take place to ensure ecological connections between nature areas. In this process, existing connections should be maintained – and where needed - new ones established, so that environmental and nature objectives can be reached.

In relation to regional planning there is obviously a need to work closely together across the administrative borders. This does take place at a rather intensive level. Draft documents are distributed for comments across the regional borders (see front page) and cooperation does take place to maintain designated nature protection sites, as well as stepping stones and ecological corridors. This process is now made easier because the regional administrative areas are now larger than before the structural reform.

For the municipal planning there is also a hearing process to protect sites crossing administrative borders and maintaining a green network. This interaction at the municipal level is further described in the case study on Albertslund Municipality.

Interactions with neighbouring countries are on the other hand rather limited – partly because of the "terrestrial isolation" of Denmark. There is some cooperation with Sweden in relation to the designation of marine sites and some cooperation with Germany on terrestrial sites crossing the border. One special area with close cooperation concerns bridge projects and transmission lines (gas, oil, electricity, etc.).

There is intensive cooperation with Germany and the Netherlands in relation to the most important single nature area in Denmark – the Wadden Sea, in connection with the protection and planning of the shared marine and coastal areas in the three countries. There are however still characteristic differences in the administration between the countries (in relation to hunting, fishery etc) which are rooted in different legislative traditions.

4.5.1 With EU and Pan European level policies and instruments

EU regulations and cooperation in relation to spatial planning and nature protection have a very high priority in Denmark. In the last decade the key legislation in relation to planning and nature protection (see section 1) was revised. The incorporation of the Birds, Habitats and Water Framework Directives induced an important shift in the prioritisation of activities related to planning, nature protection, monitoring, and nature management the last decade.

Denmark also prioritises Pan-European cooperation. The Danish Strategy and Action Plan for 2004 to 2009 issued by Ministry of Environment states that the protection of biodiversity should be enhanced by cooperating with other countries that share ecosystems with Denmark. Therefore, both cooperation inside the EU and at a broader Pan-European level, are important. It is also states that Danish government policy should spread the concept of ecological networks “to the rest of the world” (Action Plan for Biodiversity, 2004).

In conclusion, Denmark prioritises the implementation of EU nature protection regulation, while also including other obligations resulting from Pan-European and global cooperation: the Biodiversity, Ramsar, Bern, and Bonn Conventions.

In certain cases Denmark has used the Pan-European cooperation to raise issues not covered by EU regulation, such as forest or landscape protection. Decisions taken at Pan-European level have as a general rule been incorporated into Danish legislation. One obvious example with relevance for this report is landscape protection.

4.6 The dynamics of spatial planning in practice

In relation to the Act on Spatial Planning, every four year the Minister must publish a report on “state of the environment”, describing the state of nature. In addition, this report results in a revised overview of the state interests in municipal planning including its interests related to nature protection.

4.6.1 Preparation

The Minister of Environment is not only in charge and responsible for national planning, but can also veto planning at a “lower level”. The distribution of power and responsibilities is between the Ministry of Environment and the regional municipal authorities.

Planners and ecological network developers at the central and local level have free access to planning information. Documents are typically available on the Internet and are sent to anyone requesting paper versions of the documents.

Public hearings are often convened for large scale spatial planning projects to allow direct communication and discussions to take place with the persons or administrative bodies responsible for the planning. For obvious reasons not all individual citizens can personally meet the authority in charge to discuss planning documents, but everyone has the possibility to react.

There are a number of key sources for stakeholders wanting to react in relation to certain spatial planning. The Danish Nature & Environment Portal is one key place to obtain information relevant to spatial planning. Data on the environment in Denmark are available on this site. At this stage information is only provided in Danish, but later in 2008 it is the intention that the information will be provided in English. Information concerns all aspects of planning and nature protection and is presented on interactive maps. Themes covered include protected sites and nature types, distribution of species, Natura 2000 areas, information on surface water and ground water, soil pollution etc. (www.miljoeportal.dk/English). All types of plans are also presented on the Internet “Planning Platform” – www.plansystemdk.dk. On this site all plans are presented together with the planning document and matching maps. The Internet sites have two main objectives. They allow stake-

holders to react on the draft documents. They are also a key place to seek information for organisations, landowners wishing to know the planning and protection status of any specific area. The advantage of the system is that nature protection and areal use planning are the responsibility of the same Ministry which eases coordination of information.

National planning

At the level of national planning, Denmark is divided into five types of settlement region: Greater Copenhagen and the Oresund region, remaining part of Zealand, Eastern Jutland, town regions, and small town regions. Each region is characterised by different challenges relative to the size of settlements, the state of the local economy, the relationship between urban and rural areas, and the "service level" of region (socio-economical differences).

After each Parliament election, the Minister of Environment must prepare a report concerning the national planning objectives to be used in the regional spatial development planning and municipal planning. Guidance for the regional and municipal planning is detailed in the latest governmental report on objectives for the spatial planning (National Planning Statement 2006). It underlines the importance to conserve natural values and ecological corridors and requests cross-border cooperation across all levels of administrative borders.

Special and strict regulations apply to the coastal zone (in rural areas and summer cottage regions) where planning seeks to keep the area free of further development, infrastructure etc.

Regional planning

There are five new so-called regional councils responsible for the development of regional planning documents. Their objective is to secure a desired future spatial development strategy for the regions, cities and towns, rural areas, and small town settlements as well as nature and environment. The regional planning document may include proposals for municipal and local planning. Preventing negative and promoting positive planning is one of the ways to secure the implementation of nature protection (and secure ecological network).

Municipal planning

For municipal planning the municipalities need to convert the general planning guidelines into actual spatial planning.

The municipal plan is prepared by the municipal council and provides a comprehensive and coordinated plan for land use in the towns and in the countryside. As a result of the structural reform, the municipal planning will contain guidelines for many areas that were previously dealt with at regional level. This should be seen in line with the new responsibility for municipalities in relation to nature protection, environmental protection and roads. These are policy areas for which decisions were previously made at the regional level. As indicated, the Ministry can interfere in the municipal planning through the new regional councils .

It is important that the municipalities should reflect the national and international obligations regarding nature and ecological networks in their plans. The most important are the EC Habitats and Birds Directives, the Water Framework Directive. The plans should also respect Denmark's obligations regarding the Bern, Ramsar and Biodiversity Conventions. In addition, all types of national protection of specific sites and zoning protection should be taken into account in the municipal plans.

The municipal must be made for a period of 12 years. The plan should be prepared with both text descriptions and clear indications on maps. The plan should include the Natura 2000 and water plans following from the mentioned EC directives.

More specifically, the most important issues for nature protection and ecological networks that the municipal planning should reflect are:

- water resources, Natura 2000 general plans and Natura 2000 forest plans;
- raw material extraction planning;
- designation of urban and rural zones (regulation is more strict in the rural zone);
- location of afforestation areas and areas where afforestation is not desired;
- low-lying areas with importance for wildlife or with potential for the reestablishment of wetlands;
- existing or potential areas for nature protection – core areas – and corridors to support the network;
- protection of large undisturbed landscapes, and
- protection of special geological values.

The guidance provides what could be called the planning frame of limitations for the local planning.

The state can veto municipal plans if they are in contradiction with overall national interests.

Local planning

The municipal council may produce local plans to cut down larger areas or to prepare other major development projects.

The local plans must course be in accordance with the municipal planning and other planning like Natura 2000, water planning, nature protection legislation etc. and this relationship needs to be described in the planning. The plan must to include objectives, legal consequences, all information on construction work, infrastructure and demolition, transmission lines that will be established, impact on landscape, use of materials etc.

4.6.2 Implementation

Either the central level (typically national and regional planning) or municipalities (municipal and local planning) are responsible for the implementation of the planning.

There are also many stakeholders involved in both the planning procedures and the later implementation of the planning.

At the national level, ministries – especially the Ministry of Environment – are involved in the development of the national planning. The Minister of Environment is obliged to assist the regional councils and municipal councils with guidance in relation to planning.

The regional councils are responsible for the development of planning at the regional level and municipal councils for the municipal and local planning.

For planning at all levels, a public hearing should be convened during which organisations and individual citizens are given the opportunity to react. Hearing procedures and organisations that will receive material and information directly follows strict rules according to the Act on Spatial Planning and orders issued under the Act.

During the implementation phase of the planning, Environmental Impact Assessment (EIA) and Strategic Environmental Assessment (SEA) procedures are typically followed depending on the type of planning. Appeals can be lodged to the Nature Protection Board of Appeal with the exception of the planning decisions on implementation national. This obviously also applies to all situations where the citizens or organisations appealing consider that the planning is in conflict with obligations in relation to nature protection and established ecological networks. This board is an “independent” administrative body where decisions are taken by a group of legal experts, judges, and elected politicians.

4.6.3 Evaluation

Implementation of planning where EIA and SEA procedures are used will be evaluated according to these rules. In national legislation this strictly follows the similar regulations issued at EU level. The EIA Directive has been transposed to Danish legislation ("Act on EIA") and defines the projects where screening and EIA procedures should possibly be used. This law includes a list of projects for which these procedures should always be applied. Such project include wind mill parks, deposits for waste, retail trade centres, larger roads, and larger animal husbandry farms. All other projects are only screened. The EIA report includes a description of the project, of the alternatives that were examined, the impacts on biological values and landscape features, mitigation measures, and a summary. The report is made available for public inspection. SEA procedures are applied to all planning reports and at all levels (national, regional, municipal). SEA procedures not only include an evaluation of the possible impact on protected sites/areas, but also the impact on the coherence of any ecological networks that might be affected by the implementation of the specific planning project.

The planning is supervised and evaluated by three of the seven environmental centres established as part of the Ministry of Environment. The main function of these centres is to make sure that municipal and local plans do not violate national or EU nature protection legislation.

The central administration is responsible for the overall evaluation of the planning. Regular reports on the state-of the art in planning are published including spatial planning evaluations. More detailed evaluations of nature protection and ecological networks are carried out in the context of national reporting obligations concerning the EC Directives (Birds and Habitats), Council of Europe work, Biodiversity Convention etc. More specific evaluations take place every fourth year specifically directed towards impact of spatial planning on natural values.

5 Ecological networks in Denmark

5.1 Definition of ecological networks

Ecological networks have been defined and developed in Denmark at different scales and levels based on both international and national regulations.

Nature protection in Denmark - like in many other European countries - is characterized by a large number of protection schemes. Examples based on national regulation include: protected areas, protection zones, strictly protected nature types and coastal zone protection. However, in total there are more than 20 different protection schemes. Internationally, the most important regulation is clearly the Natura 2000 network. All designated Ramsar sites in Denmark are situated inside the Natura 2000 network.

5.2 Legal framework of ecological networks

In relation to nature values and ecological networks the most important legislation are:

- Act on nature protection no 749 of 21. June 2007.
- Act on watercourses no 789 of 21. June 2007.
- Act on environmental objectives related to water bodies and international nature protection areas no 1756 of 22. December 2006.
- Statutory Order on demarcation and administration of International nature protection areas and protection of certain species, no. 408 of 1. May 2007.

These laws contain the main regulations in relation to nature protection, protection of specific areas, corridors and stepping stones in the landscape to maintain ecological networks, and rules on procedures, administration, distribution of responsibility etc.

Regarding sustainable development and public involvement the main legal documents are:

- Act on strategic environmental impact assessment of plans and project no. 1398 of 22. October 2007.
- Act on environmental impact assessment in relation to public and private construction work no 1335 of 6. December 2006.
- Act on open administration no 552 of 24. June 2006.

These laws are to a large extent concerned with the implementation of similar EU Directives (EIA, SEA directives) and EU regulations on openness in public administration (and thereby implementation of the Aarhus Convention).

Based on the mentioned laws many statutory orders have been passed providing details and procedures for the regulation, division of responsibility for implementation, involvement of the public etc.

5.3 Policy and institutional framework of ecological networks

For a matter of clarity, the national protection schemes based on the above-mentioned regulations can be divided into three types of network. There is clearly an overlap and correspondence between these networks.

1. National scale: The Natura 2000 network that includes the designated areas (254 SACs, 113 SPAs and 27 Ramsar sites). The network is divided into core areas – the designated sites – and stepping stones and corridors between them. The stepping stones and corridors are integrated into the planning procedures. There is some degree of overlap with the networks mentioned below.

2. Regional scale: The regional planning has traditionally defined core areas and connection lines and corridors. The 14 counties "regional plans" mentioned earlier define nature core areas and connection lines in detail and form the basis for regional planning. The 14 plans are coordinated and connected across the county borders. This system is unchanged and continues to secure a basis in relation to the new planning system.

3. Municipal and local planning. Within each municipality a more detailed network is defined taking into account the two mentioned larger scale networks. In this way, core areas and connection lines on the local scale are defined within each municipality. All planning initiatives in relation to construction work, infrastructure, raw material extraction, tourism etc. need to consider and respect the integrity of this local network.

5.4 Ecological networks planning: Actor analysis

In many cases the same actors involved in the spatial planning will be responsible for the planning of ecological networks. Ideally there would be planning teams consisting of spatial planners and ecologists at all three levels. Other interests which are not the subject of this report are also represented in such teams, and would include experts on agriculture, transport, raw material extraction, cultural interest etc.

However to this can be added at national level that specific part of the administration of respectively international and national nature protection interest which leads to the main ecological networks. Through a hearing process as described in the spatial planning actor analysis, many other actors (and interests) will be involved.

The Ministry of Environment, the municipalities and the Danish Nature Protection Association have all the rights to initiate proposals for the designation of nature protection at specific sites. These protected sites cover 6-7 % of the Danish national territory and constitute an important element of both national and local ecological networks.

5.5 The ecological networks knowledge base

The above description of the spatial planning knowledge base is also relevant to ecological networks. In accordance with the Aarhus Convention all environmental data are available for everybody and can typically be found on Internet platforms.

Detailed descriptions of the Natura 2000 network, protected areas, regional and local ecological networks can all be found on the Internet. The information is typically a combination of interactive GIS maps and description of biodiversity values in specific areas or sites.

5.6 Horizontal and vertical integration

As mentioned before, international cooperation is mainly relevant to the Wadden Sea Area where cooperation has taken place for years with The Netherlands and Germany. At the regional level there are meetings and a full exchange of information between the administrative bodies. One very relevant aspect is of course that many of the Natura 2000 areas are crossing regional borders. Another important aspect of the cooperation is to ensure that regional ecological networks are coherent with each other. The regional planning forms the basis for the municipal planning where coherence should further be sought through consultations between municipal administrations.

6 Integrating spatial planning and ecological networks

6.1 Process interactions of spatial planning and ecological networks

The interactions between spatial planning and ecological networks are detailed and a lot of the work is in fact been done by administrative teams which cover both in the same process. Some developments of ecological networks are done independently – like Natura 2000 sites - involving a hearing process including spatial planners. Once such a new ecological network element has been established it is covered and considered in relation to spatial planning.

6.2 Synergies, opportunities, and barriers

The development of ecological networks and even the ecological network concept alone, create a planning platform in relation to spatial planning. Synergy is obvious because the overall planning process typically involves many interests including ecological networks.

The opportunity is of course to include the network into planning. For example, the national work regarding Natura 2000 is at first focusing on the demarcation and designation of core areas to protect listed species and habitat types. In the following round of regional planning these core areas are secured and “bound together” by the planning of corridors and step stones between the core areas (and between regions).

On the other hand there are of course barriers and limits in relation to planning and ecological networks. In the national, regional and local planning, ecological networks are just one among many interests that need to be secured. As described in the definition, spatial planning should secure not only nature interests, but also infrastructure, agriculture, forestry, town development, cultural interests etc. In many cases this will create barriers for the optimal development of ecological networks, because of the need to secure the balance with general sustainable development of society.

7 Conclusions and recommendations

Denmark holds a long tradition of spatial planning and protection of nature areas. The planning is divided into three layers at national, regional, and local level. There is fundamental interrelationship between the different planning layers.

Ecological networks constitute a natural and important part for the planning. This concerns both ecological networks at the national and at the local level. These networks are mainly defined by what could be called international obligations and national decisions in relation to nature protection and conservation of biodiversity.

The report describes positive synergies between the spatial planning and development of ecological networks, but also to some extent barriers or obstacles to full development of the networks. This is caused by the many interests involved in spatial planning.

From the Danish model a few important recommendations should be extracted:

- Full openness and availability of data increases the quality and success of both the physical planning and the ecological networks;
- Any form for information exchange is beneficial, but the use of the Internet has shown to be an easy way to provide a lot of details on planning and networks to all parties concerned;
- A division of responsibilities where central administration secures international obligations and interests and local administration the national priorities seems to be well functioning at least under Danish traditions and legislative set-up;
- The Danish priorities are securing implementation of EU regulation. Objectively the planning process and the establishment of ecological networks could probably benefit if more inspiration were sought and weight laid on obligations following from other international agreements like Pan-European cooperation.

8 Case study: “Albertslund Municipality”

8.1 Introduction

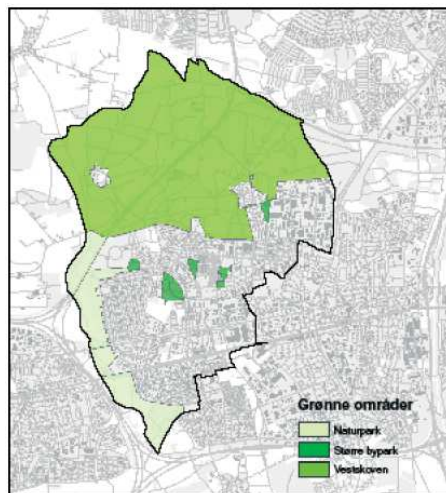
Albertslund municipality was chosen as the case study. It is situated in the western part of the Copenhagen area, see figure 2. The case study has been based on information from the Internet, material received from the municipality and an interview conducted with a planner from the local administration. The different sources and documents have been evaluated and analysed, and a description of the relationship between spatial planning and local ecological networks are provided in the text.



Figure 2 Location of Albertslund Municipality on Zealand – one of the suburban municipalities of Copenhagen (From www.albertslund.dk)

8.2 Description of the municipality

The municipality has an area of 23 km², with 28.0000 inhabitants. The municipality shows a mixture of land use, where around half of the area is built-up, and the other half is nature constituted of both high nature value areas and re-established nature areas. The municipality is confronted with some characteristic problems associated with the position close to Copenhagen. There is for this reason a high pressure for expanding the built-up area and productive activities, but at the same time a clear need to conserve and improve the natural values. The municipality contains one of the largest restored natural areas in Denmark (the “Western Forest”) where former land used for agriculture and horticulture was restored into a natural area with meadows, forest, and lakes. On figure 3 this is the North Western part of the municipality, shared with the three neighbour municipalities (Ledøje-Smørum, Høje Taastrup, and Ballerup).



Kort over grønne områder

Figure 3 Brown areas build up part, green areas nature'

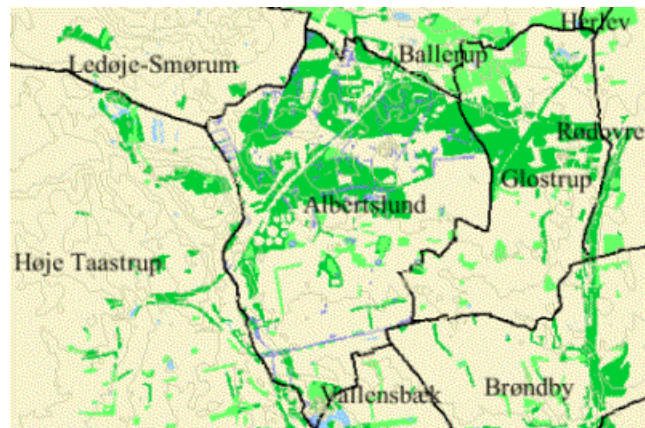


Figure 4. Light green nature park medium green the Western Forest, dark green nature areas and parks inside the build-up area.

Further in figure 3 and 4 show that the natural values in the municipality are centred in one large northern area and only smaller more isolated nature patches exist inside the more dense town parts in the southern half of the municipality. Different streams occur in the whole western and part of the northern and eastern border of the municipality. The valleys and the lower surroundings around the streams are the main ecological corridors situated in the municipality.

8.3 Municipal planning and ecological networks

The new planning structure after the administrative reform is still rather recent, which makes it somewhat difficult to describe any changes in the impact of the spatial planning system on e.g. ecological networks. A huge problem for the municipal planning authorities is that the earlier expertise situated in the county administration is now spread between local, regional and national administration. For the planners in the municipality there is a need to contact and interact with administrators in other municipalities, regional centres and ministries.

The core areas for nature exists partly because of the spatial planning legislation, but also to a high degree because of earlier nature protection legislation especially the Act on Nature protection with articles on strict protection of a number of nature types (meadows, dry grassland areas, moors and other with a surface area over 2500 m², lakes over 100 m²).

Similarly the spreading corridors - the streams - secured in the spatial planning are also strictly protected according to nature protection legislation. It is in other words difficult to differentiate the impact between the two types of legislation.

8.4 Conclusions

The administration is confronted with new challenges because of the changed administrative structures after the reform. They have now developed a lot of formal and informal administrative networks to cope with this situation. The network cooperation concerns as most important.

- Contact, meetings, and cooperation with the Agency for Spatial and Environmental planning – both planners and environmentalists, to secure coherence with regional and national planning. Main issue is also to use of the Ministry administration as an advisory service.
- Contact, meetings with neighbouring municipalities to enable coherence of ecological networks across municipal borders.
- Contact with a network of municipalities across Denmark to develop methods locally for sustainable development of municipalities and at the same time among other securing ecological networks.
- Cooperation with a number of municipalities on development of so-called local agenda 21. Focus is here sustainable development locally.

The case story shows mainly that the integration between spatial planning and ecological network does work at the local level, as shown by the illustrations, but that the challenges are high after the structural reform in Denmark. The need for cooperation with administration outside the municipality has increased tremendously and the risk for weakening of ecological networks has increased. There could be a tendency that local economical interest could to some extent overshadow nature interests. To what extent this will be the case will first appear in the coming years when the structural reform is fully implemented.