Implementation of green planning in the comprehensive plan
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Urban Links 2 Landscape Action plan - Part 1

Text and illustrations: Per Blomberg, planning architect and project manager UL2L, Environmental and Community Building Management Kristianstad Municipality

Translation and layout: Kajsa Aldman, environmental strategist and assistant project manager UL2L, Environment and Community Building Administration Kristianstad Municipality.
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Preface

Green planning is an important part of Kristianstad Municipality's work with sustainable development and a priority for the municipality. Over the past five years, the municipality has adopted a conservation program in 2016, a green strategy in 2017 and a green plan in 2019, all of which contribute to creating better conditions for strengthening the municipality's green values. In the overall physical planning, the municipality has to find a balance between the development structure, traffic infrastructure and green structure to create a good and attractive living environment for the municipality's residents. By participating in the Interreg project Urban Links 2 Landscape, Kristianstad Municipality hopes to be able to contribute with their good experiences in international work but also develop their own work through good examples and recommendations from other countries. In addition to the workshop held in Kristianstad in April 2019, the municipality's contribution to the work is to present two studies on commercial activities on public land and ecological compensation as well as two reports for the action plan - this report and a national guide for green planning which we hope can inspire others countries' municipalities and regions to develop green planning further.

Kristianstad 2020

Kristina Borglund, ordförande byggnadsnämnden,

Tommy Danielsson, förvaltningschef Miljö- och samhällsbyggnadsförvaltningen
Summary

Kristianstad Municipality is located in southern Sweden and distinguished by the fact that a large part of the municipality lies within the Kristianstad Biosphere Reserve water kingdom with the city of Kristianstad in its center. The city is founded from a defense point of view on an island in a large wetland area around Helgeå. This has given the city challenges in terms of flood risk, but also great natural qualities.

In the last five years the city of Kristianstad, with its 45,000 inhabitants, has worked very actively with green planning as a basis for the comprehensive plan. In 2016, a conservation program was adopted, in 2017 a green strategy and in 2019 a green plan. These strategic documents provide an important basis for planning as well as practical implementation and management of the green structure. The green plan is also an essential basis for the comprehensive plan, which shows how the municipality intends to use land and water areas in the future.

In the overall plan, the green structure combines the development structure and the traffic infrastructure into a well-functioning entirety with a balance between individual and general interests. The ability to influence the values of the green structure in the trade-offs is based on knowledge of the content of the green structure, the ecosystem services it provides and the importance it has for a functional and attractive living environment for the municipality’s residents.

With proper planning, it is much easier to secure and develop both the qualities of the green structure and the other two socially important structures without depleting essential ecosystem services. The injury mitigation hierarchy and balancing principle have a significant role in finding solutions that both strengthen the green structure as well as develop building- and traffic infrastructure. The comprehensive plan for Kristianstad city shows how development can be done through densification and on poorly utilized land in the urban area to reduce encroachments on agricultural land and invaluable green areas. It also provides guidance on how the green structure can be developed and provide ecosystem services to the city by adding new qualities and improving existing ones.

Through the Interreg project UL2L we have been given the opportunity to learn and be inspired by our partners and their stakeholders who have provided very valuable knowledge working with our action plan. Particularly important has been the work in Rhineland and Katowice in regards to converting former industrial land into new green structures and the work in England with the green ring around London where Surrey has a vital part. We have also gained much knowledge and inspiration from our own stakeholder group with representatives from authorities, research, business innovation and other municipalities. The guide for green planning that we have developed together with the stakeholder group is the most important.
1. Introduction

Kristianstad Municipality is located in southern Sweden and is distinguished by the fact that a large part of the municipality lies within the Kristianstad Biosphere Reserve water kingdom with the city of Kristianstad in its center. The city was founded on an island in a large wetland area around Helgeå from the defense point of view. This has today given the city challenges in terms of flood risk but also great natural qualities.

The Kristianstad water kingdom biosphere reserve was established in 2005 and was the first biosphere reserve in Sweden. During these first 15 years much has happened in the area that has strengthened the green values in the landscape. The city of Kristianstad has, for example, received a large new visitor center only 500 meters from the central station and in the center of the water kingdom.

In addition to the water kingdom, the city of Kristianstad has excellent access to park areas and other green areas and works actively to develop these qualities and the ecosystem services these areas contributes to, including urban cultivation, health-promoting qualities and climate adaptation.

1.1. Interregprojektet UL2L

Kristianstad Municipality became a partner in the application process for the Interreg Europe project Urban Links 2 Landscape in autumn 2017. The project was granted a grant in May 2018. A significant reason for participation in the project was that the municipality wanted to develop its international cooperation and share its experiences in green planning, but also to learn more about other partners in Europe. The city's green qualities and connections to the green structure around the city have become extra important for a town like Kristianstad that is located in a distinct cultivation landscape where the green structure is a scarce commodity. Similar conditions exist in many other countries around Europe and we can all be better at planning for a more robust green structure.

1.2. Regional action plan for Kristianstad

Kristianstad Municipality chose to work on how green planning can be integrated with the general planning in municipalities within the regulations for the Planning and Building Act in Sweden. In the action plan, the municipality also wants to show how the EU's goals and policies can be implemented within the legislation and how the green qualities can be strengthened in municipal planning. This is presented in two parts, this report which is a description of how Kristianstad Municipality has implemented green planning in the overall plan, and partly a guide to green planning based on all project partners’ experiences and in collaboration with the project’s stakeholders to inspire better green planning in Sweden and Europe.

1.3. Delimitation

The Green Plan for Kristianstad Municipality was being finalized during the fall of 2017 when the application for UL2L was written and adopted in the spring of 2019 when the project was in its second semester. Work on a new comprehensive plan for Kristianstad city started in the spring of 2017 and based on consultations in December 2019. It is mainly the work during the period from the start of UL2L in May 2018, until the consultation was completed in March 2020, that is described in this report.

1.4. Green planning according to the Building and planning act

Land-use planning in Sweden is almost exclusively decentralized to the municipal level through the set of responsibilities popularly referred to as “the municipal planning monopoly”. This implies that the municipalities decide where, when and how development may take place. This goes back to the creation of a modern society in the 1930s and 1940s. The 1947 Building Act clarified the responsibility
and the economic growth in the 1960s and 1970s gave the municipalities power over the development in the urban areas.

The modernistic way of building houses and planning cities wanted to bring light on green qualities in the living environment. The impact on environment, nature and recreation qualities from the increased industrialization and urbanization also contributed to the national physical planning with sustainable management of land and water. The current planning situation is based on the 1987 Building and planning Act and has had minor adjustments over the years. The use of land and water in the municipality is presented in the Comprehensive plan, which is not legally binding but a clear vision for the development in the municipality. The Comprehensive plan is to be updated every four years and if needed, revised. For the development of new housing and changed land use, the municipality will conduct detailed plans that are legally binding. Before starting construction, the developer needs a construction permit from the municipality.

The concept of green plans started in the municipalities in the 1980s and was primarily concerning parks and playgrounds in the urban areas. During the decades since then, green planning has developed to become a broader concept concerning all areas covered with vegetation and water. From primary recreational purpose, it is now including nature conservation, green heritage, ecosystem services, green infrastructure and other issues connected to the green structure. Today most municipalities work with three themes in the physical planning: building structure, traffic infrastructure and green structure.

1.4.1. National level
Simplified, as a builder or planner in Sweden you have two legislations to relate to in planning the construction and use of your buildings: the Planning and Building Act (PBA) and the Environmental Code (MB).

The Planning and Building Act (PBA)
The Planning and Building Act (PBA) and the Planning and Building Ordinance, PBF, contains provisions on the planning of land and water areas, and on construction.
The purpose of the provisions is about the freedom of the individual, to promote societal progress with equal and proper living conditions and clean and sustainable habitat for people in today’s society and for future generations.

The environmental Code (Miljöbalken)
The environmental Code (includes nature conservation legislation) is the most important law in the environmental field. The starting point of the Environmental Code is that the environment should be protected. Other vital issues are sustainability, nature conservation and the work with climate impact and mitigation.

Regional level
Green infrastructure
The Swedish Environment Protection Agency has given the different County Administration Boards the task to coordinate the work with green infrastructure. This work has so far mostly focused on biodiversity and the ecological connectivity in the landscape.

Regional plan – structure picture
The region of Scania (Region Skåne) is the regional assembly in the southern province of Sweden. They have worked with the 33 municipalities in the area for 15 years with the “Structure picture” to analyze the regional planning and support the municipalities in their planning. In 2003 Region Skåne first presented a strategy for green structure in Scania with the local municipalities and the strategy was
updated in 2011. This shows how the regional core areas and corridors can be developed with new corridors and stepping stones to get a regional structure over the municipal borders. The strategy also gives recommendations and guidelines for the green structure planning in the municipalities.

The region of Scania is responsible for conducting a Regional Plan in the same way as the municipalities do Comprehensive plans with new legislation in PBA from 2019. The Regional Plan is not legally binding but an important strategic document for the Region and the municipalities.

1.4.2. Local level

Comprehensive plan
In the Comprehensive plan, the municipality describes how land and water will be used in the future and how they will handle values such as sustainable use of nature resources, climate change, cultural heritage, environment, health etc. The comprehensive plan is not legally binding but an important strategic document for the municipality and other bodies in terms of detailed planning and building permits. All municipalities in Sweden should have an updated comprehensive plan that the municipality every fourth year decides whether it is up to date or need to be revised.

Green plan
More and more municipalities in Sweden develop green plans or Green structure plans as an overall strategy for all values connected to areas with vegetation or water. This strategy is often one of three essential structures in comprehensive planning, together with building structure and traffic infrastructure. The green plan consists of analysis and guidelines on physical planning and management and often also a strategic map and an action plan for the coming period.

Nature conservation plan and other plans
Usually, more detailed strategic plans are developed for special topics as nature conservation, outdoor recreation, water management, parks and green spaces etc.

Detailed plan
The detailed plan is the legal tool to develop urban areas or larger projects in the countryside. Mostly it is used in regards to house construction and development in industrial areas. However, it is also possible to apply for the development of parks and urban farming. The detailed plan is mainly facilitating development and should not give more restrictions than motivated. The plan should neither be more detailed than necessary.
2. Green strategy and green plan in Kristianstad municipality

2.1. Previous strategic position on green planning
Kristianstad Municipality first presented a coherent green structure in the comprehensive plan for Kristianstad City in 2009. When the comprehensive plan for the entire municipality was adopted in 2013, there was a need for an in-depth green structure program as one of the measures. At the same time, work started on a nature conservation program for the municipality, which became the first adopted document for nature conservation in 2016. The Technical board started to develop an overall green plan for the municipality in 2015. The plan is described in more detail below. The Green Plan takes a holistic view of all vegetation-covered land and water areas in terms of ecological, recreational, cultural-historical and experiential values.

2.2. Green strategy 2017
In 2017, the municipal council decided that a green strategy should precede the green plan, in the same way, the municipal traffic plan based on a traffic strategy. This green strategy was ratified in the fall of 2017 and then served as a basis for the continued work on the green plan. The green strategy establishes four overall goals for the green structure, in accordance with the municipal Vision 2030 and the strategic roadmap. Based on the four goals, eleven strategies were developed to guide the green planning in the municipality.

The four goals are:

1. Long-term sustainable housing and urban development

2. Attractiveness

3. Rich nature and strengthened ecosystem

4. Good, equal health and increased participation.
2.3. Green plan 2019
The Green Plan is the municipality’s strategic program for how the green structure is to be preserved and developed as well as the basis for green structure issues in the comprehensive plan. During the work on the green plan, the municipality produced fourteen reports to compile knowledge and analysis of the green structure. These reports form the base of the Green Plan. Seventy-four guidelines show how the municipality can take into account green issues in the ongoing work, as well as sixty-four measures that involve special projects to be implemented with associated responsibility and priority. The administrations will request money for these projects in the annual budget preparation. The green plan also shows a planning basis for how the green plan can be developed in the municipality as a basis for physical planning and especially for the comprehensive plan.

Illustration: Map as a planning basis for the green structure from the Green Plan.
3. Implementation of green planning in the comprehensive plan

3.1. Balance between three structures
According to the comprehensive planning model presented by Boverket, the overall planning is based on weighing together three important structures - green structure, building structure and traffic infrastructure. This balancing can be done in different ways and with varying considerations of the values of the green structure. The second chapter of the Planning and Building Act sets out the general interests that comprehensive planning must take into account and promote. Based on natural and cultural values, environmental and climate aspects, as well as inter-municipal and regional conditions, the planning will contribute, among other things, to an appropriate structure, good and accessible living environment, good management of land, water, energy and raw materials, economic growth and housing construction. With proper knowledge of the green structure through a green plan, there are better circumstances for balancing the three structures.

3.2. The injury mitigation hierarchy and balancing principle
The injury mitigation hierarchy is an important principle for reducing the negative impact on the green structure in the development of buildings and traffic infrastructure. The balancing principle is based on mitigating ecosystems affected by a change. The injury mitigation hierarchy has four steps to ensure these aspects are taken into account both before and after the change is completed.

Avoid
Firstly, damage during exploitation should be avoided through good planning and protective measures.

Minimize
Secondly consideration should be given to designing the business to minimize the damage from exploitation.

Equalize
Thirdly, on-site treatment and other remedial measures should be implemented to mitigate the adverse effects that arise as far as possible.

Replace
As a last measure, the injury shall be compensated by measures at the site or elsewhere.

Illustration: The Compensation Staircase
If these four steps are followed, the conditions are very good for maintaining and/or strengthening the values of the green structure at the same time as the development structure and traffic infrastructure is proceeding.

Illustration: Compensation with different levels of ambition.

3.3. Existing and new green areas

Both the County Administrative Board of Skåne and Kristianstad Municipality have protected the most valuable green areas as a nature reserve or as a general land in detailed plans. However there are also valuable areas that are not protected that eventually will become relevant for various forms of protection. In addition, there is the General Beach Protection along all major watercourses, lakes and seas that both ensure access to outdoor life and the conditions for biodiversity. Among other things, currently, there is ongoing work to form nature reserves in the northern part of Hammarsjön and the western part of Araslöv. When these reserves have been created, the entire water kingdom around Kristianstad is protected as a nature reserve.

With regards to new or developed green areas, the comprehensive plan has several such designated areas in the consultation proposal. For example, the covered previous landfill at Härlövs backar is marked as a green area with the opportunity to develop an inspiring center-close nature and roaming area of 60 hectares. Another example is the old military training area at Åsum fure where the municipality wants to form an event, recreation and nature area. The Näsby field in the northwest is also an old military exercise area that has excellent qualities and proposed to be further developed. In the eastern part of the city, the low-lying parts of the former Nosaby Bay is located with Sweden’s lowest point, 2.41 meters below sea level. A proposition has been made to develop the area to a larger green area for recreation and day and wastewater management.
All in all, the comprehensive plan includes a green structure of 5133 hectares, of which about 36% is generally accessible to the residents (the rest are plot land and wetlands with nonexistent or limited access). This corresponds to 263 square meters accessible green areas per person and is 12% lower than for existing green structures mainly due to denser populated city in the plan. The amount of accessible green areas are low in a national perspective but relatively high in a regional perspective as southern Skåne is more cultivated than the rest of the country.

3.4. Existing and new green paths
Helgeå with surrounding beaches and nature areas is the most important path through the city of Kristianstad. Other important routes are the closed trainways that have been converted into cycle paths and link the city with Töllarp in the southwest, Degeberga in the south and Arkelstorp in the north. Within the city, street trees and avenues are important for creating green paths. The city’s canals and the Råbelövs trench are important blue structures within the city.
New proposed paths include, inter alia, better linking the larger parks with green areas adjacent to the city, and to strengthen the residential areas in four directions from the city center, with green corridors.

Illustration: Existing and new green paths and green structure in Kristianstad city.

The comprehensive plan shows only a fraction of all the green paths proposed in the green plan, and this is because the green plan shows more functional green paths that need to be preserved, while the comprehensive plan shows what is really to be implemented during the coming planning period. A new green structure can be created with tax assets that are limited for this purpose and with exploitation funds which are more common. When developers develop new buildings, they contribute to the green structure that makes the building functional and attractive. Often it is the municipality that regulates the costs incurred by the facility through development agreements and land instructions. In neighborhood land, the property owner undertakes the maintenance while the municipality takes responsibility for public land.

3.5. Strengthening of ecosystem services (cultivation, health and climate adaptation)

The green structure is multifunctional and provides the inhabitants with many different ecosystem services. The green structure that was built in the 1960s to date has mainly strengthened the recreational ecosystem services and has not, in the same way, contributed to strengthening the ecological and regulatory ecosystem services. Examples of regulatory ecosystem services are climate control through, among other things, the shading of trees. Crown coverage in Kristianstad has decreased in recent decades, partly because of the car’s demands on areas in the city but also because of the alms disease. With an increased frequency of heatwaves due to climate change, it will be important to increase crown coverage again, especially in preschools, schoolyards and senior housing. This is proposed in the Green Plan and the city plan. Another important regulatory ecosystem service
is the flow equalization of stormwater during heavy rains where parks and other green areas play an important role.

The town of Kristianstad is located in a cultivation village on Kristianstadslätt and here is a long tradition of cultivation. In the city, colonial lots were established for the city's inhabitants in the early 1900s. These were important not least for the residents who had limited finances and could grow to wipe out the household cash register, but also for workers who had heavy and laborious jobs and could enjoy relaxation and recreation on their colonial lots. Cultivation lots were also built in the city during the first half of the 20th century. Subsequently, the number of allotments and cultural plots has decreased as the city has grown and densified. The city plan shows new areas intended for colonial activities and cultivation plots in connection with socially vulnerable areas with many apartments where the need for urban cultivation is greatest. A large such area is located in the western part of the city near the district of Charlottesborg.

The green structure is of great importance for preventive health care by providing residents with daily contact with a soothing green and blue environments as well as a place for activities and social interaction. Biosphere Reserve Kristianstad Water Kingdom has actively worked to create new places and trails in connection with the city and has contributed to the development of outdoor life. The water kingdom has become a national and also international destination that means a lot to the visitor industry but also the city's attractiveness in general. The comprehensive plan contributes to continuing this development by developing four new large green areas in the city as well as a number of green and blue stripes based on the green and blue structure's overall functions.

3.6. Implementation and monitoring

The possibility of implementing the changes in land use that the comprehensive plan for the city entails depends to a large extent on the general economic cycles that affect housing construction, business establishment and the municipality's own economy. The plan's starting point is the population growth projections available for the next 12-16 years and represents an increase of 12,000-16,000 inhabitants to the city's current 45,000 inhabitants. The development of the green structure will give these new inhabitants the same conditions for green qualities that are present, while at the same time strengthening the conditions for ecosystem services to meet many of the challenges society faces in terms of climate change and environmental impact.

The comprehensive plan has a number of indicators and key metrics that will be followed up to show whether set goals and strategies are being met. Some of these goals are about the quality of the green structure such as how green the school gardens are, how far the residents have to the nearest park and how high the crown coverage is in the city. Other indicators are based more on perceived satisfaction through surveys and interviews. All in all, they should provide a picture of how well the municipality achieves long-term sustainable development in terms of the green structure.
4. Discussion

4.1. Green structures status when balancing
The green structure has previously been difficult to assert in trade-offs with other societal interests such as traffic, business and development. Today, awareness of the importance of the green structure and contribution to attractiveness is much higher and it is easier to find solutions that more closely balance current qualities. At the same time, it becomes obvious that many of the ecosystem services are socio-economically very valuable and both difficult and expensive to replace with technical solutions. However, the municipality and the various actors operating in the area still have work to better plan for the long-term socio-economic consequences of various decisions.

4.2. Limitation of legislation
In its structure, the Planning and Building Act is primarily development legislation and regulates how the development in and around urban areas can be developed. It is worse at managing existing buildings and green structures and how this can be developed and strengthened. For example, ecosystem services are not mentioned in the legislation and it is difficult to place requirements on these qualities in detail plans and building permits. A clearer statement that the green structure is as important as the urban structure and traffic infrastructure would facilitate long-term sustainable solutions.

4.3. Barriers for implementation and enforcement
Ambitious green planning in the early stages does not necessarily lead to high-quality results. There are many steps and many stakeholders on the journey from the comprehensive plan to the completed development with new green areas. Continuous participation from the municipality and good collaboration with contractors and builders is important to achieve good results. Good cooperation with the management organization is also a prerequisite for the implementation of the green structure in an appropriate way that enables long-term sustainable management.

4.4. Success factors
During the implementation of green planning in the comprehensive plan, the following success factors have been demonstrated:

- **A clear mandate to work with green planning**
  It is important that the assignment to produce a green plan comes from the highest political decision-making bodies that in Sweden are the municipal board or the municipal council. It can also be an advantage to divide green planning into a more strategic green strategy and into a more practical green plan. The final result should also be determined by the highest decision-making body, which is the City Council.

- **A good knowledge base**
  Kristianstad Municipality has invested extensive resources in mapping and analyzing the green structure in the municipality, which is an important basis for the work on the green and blue structure. This information is an important basis for being able to make good balances between different interests in the overall planning.
A good structure for the community building process
Green planning must come in early in the municipality's planning and various alternatives and opportunities are highlighted in a good way so that they can then be weighed against each other. The whole community-building process is therefore important for green planning to be successful.

An organization for the implementation of green planning
Once the Green Plan and the Comprehensive Plan have been adopted, the real work begins and it is important to have both resources, structure and organization for implementation. All administrations are affected and should in some way be involved in the implementation.

A good monitoring of the work
How do we know if green planning is successful? A good follow-up is a prerequisite for evaluating the results and requires both resources and responsibility. It is also important to have good indicators and key figures to be able to follow developments. It is reasonable to evaluate to a certain extent each year and for major work every four years in connection with the updating of the comprehensive plan.

5. Appendix