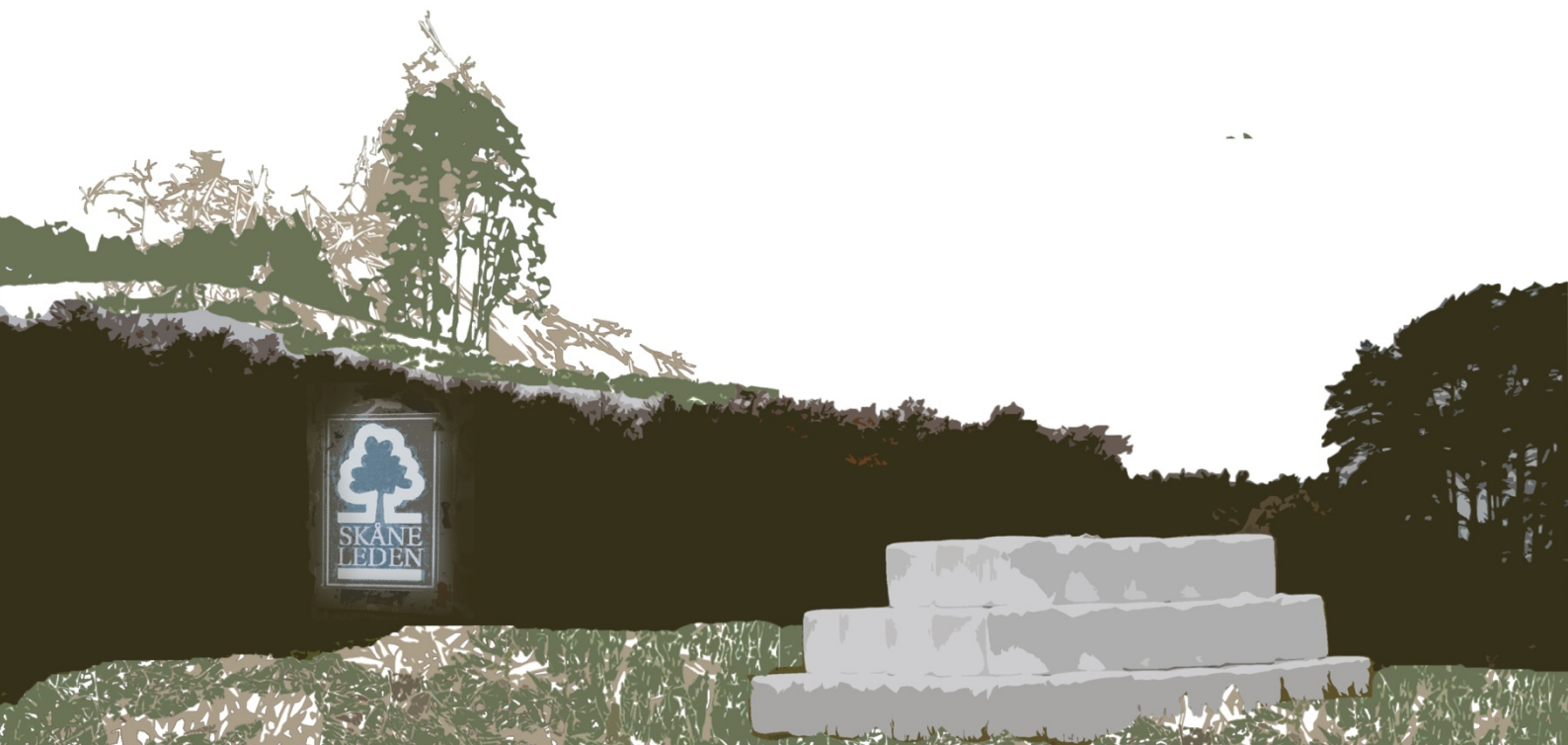




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Land Art and Greenways Planning in Sjöbo

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Master's thesis in landscape planning , 30 hp
Landscape Architecture Programme
Självständigt arbete vid LTJ-fakulteten, SLU
Alnarp 2012

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Land Art och Gröna vägar i Sjöbo

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Credits: 30hp

Level: A2E

Course title: Master Project in Landscape Planning

Course code: EX0546

Programme/education: Landscape Architecture programme

Subject: Landscape planning

Place of publication: Alnarp

Picture cover: Gabriel Sebastián Reques

Series name: Självständigt arbete vid LTJ-fakulteten, SLU

Online publication: <http://stud.epsilon.slu.se>

Key words: land art, greenways, planning, place, space, site, nature, sculpture, aesthetic.



ACKNOWLEDGEMENTS

To begin with, I have been studying for long time to reach and become a Landscape Architect. It has been a hard and pleasure way which has made me mature as a person and as a professional. I have met inspiring people during the way that taught me a lot and made this project possible; I would like to thank them:

Special thanks to all teachers, which for many years, have given me their knowledge and patience. I am so grateful that they have aroused my interests and always supported me.

Special thanks go to Maria Kylin, my master project supervisor who has been a support and a guide from the beginning with patience and determination.

My deep gratitude to Professor Conceição Castro with who I spend many hours in her wonderful and pleasant lessons of vegetation, and that without her help, I don't know how I could deal with the administrative troubles during my education abroad.

I also want to thank Inga-Lill Olsson from the Swedish University of Agricultural Science (SLU), the person how has helped me most during my studies in Sweden, who has been the kindest person from the beginning of my studies all the way through my project.

I would like to thank my friends from Otero de Herreros whom they have followed and listened of many conversations about my projects.

Many thanks to Alexandre Palinhas, my dear colleague and friend, for countless discussion, both supportive and helping; to Naran, for sharing my daily life and spending many stimulating discussions; to Osquitar and Fernan, old friends that they give me wise counsel. They deserve my appreciation and they inspire me; to Otto, Diego and Luis Canelo for always being a moral support and inspiration.

I would like to extend my genuine thanks to Arvidssons family who not only shared so generously everything with me, but also opened their arms to their family.

Finally, my deepest gratitude goes to my mother, father, sister and brother Nieves, Santiago, Eva and Mariano who brought me up to become who I am, with the highest support and infinite love. And, finally, my beloved Gry, the most precious of supporters.

ABSTRACT

Land art and greenways have not been practiced for so long. The term which makes both of them connecting is the intervention on the landscape using the nature as material. Respectively land art has relation with the culture of artistic expression, and greenways concern to an ecological or natural process of mobility and displacement. Both of them have become a social, cultural and ecological movement of the contemporary society that is depicting to follow rules, regulation and specifics local conditions. The consequence leads that these two subjects should be planned to avoid problems between stakeholders.

This project presents a theoretical and a practical process of planning integration of a greenway network and a possible location for land art works of a municipality level in Sweden. The main aim is to reach a plan which is made following the characteristic of the territory, the character of the places and sites as prerequisites analysed by a geographic information system.

The case study is done in Sjöbo Municipality. The municipality is trying to improve the touristic attraction, indeed, help to achieve a better development. This project is a perfect combination to be part of an ecological and sustainable tourism development.

Keywords: land art, greenways, planning, place, space, site, nature, sculpture, aesthetic, art, ecology, green corridors.

CONTENS

| | |
|--|-----------|
| ACKNOWLEDGEMENTS | 2 |
| ABSTRACT | 3 |
| CONTENS | 4 |
| INTRODUCTION | 6 |
| 1. INTRODUCTION | 6 |
| Background | 6 |
| Main aim and objectives | 8 |
| Issues and questions | 9 |
| Limitations (constraints in the process) | 9 |
| Reach to a proposal | 9 |
| 2. METHODOLOGY | 10 |
| <i>THEORETICAL PART</i> | 10 |
| <i>PRACTICAL PART</i> | 11 |
| Working process | 13 |
| Techniques | 14 |
| Examples of inspiration and guidance | 14 |
| Reflections | 15 |
| BACKGROUND | 16 |
| 3. THEORETICAL AND CONCEPTUAL COMPLEMENTS | 16 |
| 4. GREENWAYS IN LANDSCAPE PLANNING | 19 |
| Introduction | 19 |
| What is a greenway? | 19 |
| Why we should create greenways? | 21 |
| Brief history of the greenways | 23 |
| Theory of "Continuum Naturale" from Francisco Caldeira Cabral | 24 |
| Values of greenways | 25 |
| Types of greenways | 26 |
| Greenway's functions | 26 |
| Creating a comprehensive greenway network | 30 |
| Balancing between recreation and conservation: Impacts and planning strategies | 31 |
| Examples guidance | 34 |
| 5. LAND ART IN LANDSCAPE PLANNING | 36 |
| Introduction | 36 |
| The beginning of a new dialogue with the nature | 36 |
| Aesthetic value | 37 |
| Ethical value | 38 |
| Relation Land Art- Site | 38 |

| | |
|--|-----------|
| Identity of the local linkage: Place | 39 |
| Land Art in the process of planning | 40 |
| Example projects..... | 42 |
| Reflections | 45 |
| 6. GUIDELINES..... | 47 |
| PROPOSAL/ CASE STUDY..... | 48 |
| 7. APPROACH OF A POPOSAL | 48 |
| 8. SJÖBO..... | 49 |
| Regional location | 49 |
| Territorial location | 50 |
| Socio-economic context..... | 50 |
| Historical and cultural context | 51 |
| Characterization of the landscape in Sjöbo | 51 |
| Guidelines | 55 |
| 10. HOTSPOTS..... | 56 |
| Selection process | 56 |
| Reflection..... | 59 |
| 11. GREENWAY NETWORK..... | 60 |
| Why integrate greenway planning in Sjöbo? | 60 |
| Making a greenway network | 61 |
| Process of selection: assumptions, requisites and alternatives | 62 |
| Process of selection: Balance of the alternatives..... | 67 |
| 12. LAND ART | 70 |
| Characteristics of the Land Art project: ideas and assumptions | 70 |
| Selection of the areas: requisites..... | 71 |
| Process of selection | 72 |
| Reflections | 74 |
| 13. DISCUSSION | 75 |
| 14. CONCLUSION | 77 |
| 15. REFERENCES..... | 79 |
| Books | 79 |
| Papers | 80 |
| Websites and Internet Documents: | 82 |
| Others resources..... | 82 |
| List of Figures | 83 |
| ATTACHMENT 1 | 85 |

INTRODUCTION

1. INTRODUCTION

The integration of a greenways network and a plan for Land Art in a territory requires following a methodology adapted of its environment. The biotic and not biotic resources, management policies and the use of the land establish a series of prerequisites at time to changes and modify the uses of the landscape. Despite the fact that there are other social and economic features that mark well-defined objectives, there is also an aesthetical character of the landscape and an ethical character in planners which steers a creative and moral awareness applied in landscape planning.

Thereby this project has been developed in order to get a clear understanding how to plan a method which gets a good proposal of the two spoken topics for a determined territory.

Background

Big threats have undergone the sustainability of territories and landscape. Effects on the landscape such as the fragmentation, homogenization, the densification of the cities and the abandonment of the countryside, have involved serious consequences to the terms of sustainability for the territories. The European landscapes have been affected with impacts like the lost of the traditional patterns and the lost of biodiversity.

New changes must succeed in the political and the current social culture to avoid serious negative consequences for the environment due by the aggressive use of the landscape. To supply the massive consumerism it has been done radical structuring for the use of the land. Thus, for example, big extensions of fields have been planted with same species to get the best profitability of the production. That have created homogeneity of the forest and agricultural fields and it has a very strong impacts for the biodiversity and the natural environment. There are several negative situations that can be noted: uncontrolled fire-forest loss of biodiversity in plants and animals, plagues and diseases, change in traditional sustainable uses of the land and alterations of its patterns are some of the several problems that are being experienced. This was just some of the changes because in the same way the urban densification is causing a high pressure on the territory against the biological, cultural and historical values. (Hellmund & Smith, 1993).

Not everything with human activity could be seen as something wrong. Treatments, laws and strategies are the new instruments using, from the global until the local scale, to help in the management of the resources in a sustainable direction. At the global scale, since the Conference of the United Nations about Environment and Development that it was celebrated in 1992 in Rio de Janeiro, 27 principles was indicated. These principles establish several requisites to reconcile the demands of the human

development with the environmental protection. After that, it has been done instruments of environmental legislation to regulate the human's environmental activities. Further it has appeared methods and processes towards a sustainable development to foment the biodiversity and help in the protection of the natural heritage. As an example, it has been appealed to demarcate areas to the conservation. And in the same way, appeared strategies which help to the genetic interchange of populations. In that way, the corridors have become the elements which connected the isolated areas.

Meanwhile, it increased the awareness and the concern of human health. Then, the importance of the green areas in the urban structure became important as well as proximity of the nature. The search for a healthier environment out of the air pollution, the high levels of noise and the pressure of the density of population, has required taken the nature as a way to escape (Bechtel, R & Churchman, A. 2002). Sports in the nature and outdoor activities began to attract people in an exponential grade due to the physical, psychological and social rewards that are achieved. The nature is a source of emotions and feelings for the leisure which transmits pleasure appreciation and encourages experiences. Those experiences have been corroborated physiologically that it causes good mood. (Bechtel, R & Churchman, A. 2002)

The emotional quality of the countryside, forests and beautiful landscapes expresses perceptual and spiritual sensations that everybody can perceive, and its interpretation is defined as the poetry of the landscape (Sanchez de Muniain, 1949). But poetry is also the sensations of the cultural landscape which after years of work, changes and marks on the land are involved in the essence of the places. Likewise, talking about the aesthetical emotions, it provides attraction by the beauty that can be found onto the intrinsic features in the nature. It was and it is idealized by humans, and it was referenced by Tomas D'Aquino, who defined the beauty as something which is a pleasure for the view. The aesthetic of nature comes from Immanuel Kant as aesthetic experience. He argued that nature is more than Art and explain that it is involved in the idea of the *beautiful* and *sublime* as aesthetical experiences of nature. At the same time, in relation with the beauty character scenic of the nature, emerge the idea of the *picturesque* applied in famous pictures and English garden of the eighteen century. And everything has its influence on the current days in which the environmental aesthetic has an important relevance of the everyday life where the human aesthetic appreciation of environments goes together with the environmental and moral responsibilities to maintain ecological health (Carlson, 2010)

All this leads to new practical perspectives that they are able to correct and prevent of the current and future environmental problems without lost the view of the social development. Those perspectives must to be developed in plans and programs to regulate the intervention in the environment and to purpose of ensure a sustainable progress of the human activities. Greenways have become an instrument in landscape planning because it is able to achieve solutions by its multifunctional and ambivalence between recreation and conservation. Thus, it is a framework to study and practice on the territory and that is the motive of this project.

Approaching the aesthetic environment toward human influence in the landscape, work with nature and on nature is a reason for use greenways as an aesthetical element of the nature. In the same direction but with other aims, land art, recognised as artistic experience, is developing in the contemporary cultural atmosphere. The close relationship that this kind of Art establishes with the nature, marks and emphasizes the epistemological consideration that the actual society has taking towards the nature. Far away of esoteric thoughts, in this project Land Art is understood as sculptures located in the landscape that have a great cultural value, that they are a part of the actual society, that they have an economical consideration and that they are part of the future cultural heritage. Thereby the aesthetic expression of the Art in extreme relation with nature will be source of emotional sensations with the aim to transmit feelings to the visitors.

Taking into account what has been discussed in the preceding lines, the municipality of Sjöbo is taken as a practical exercise. To do this project it has been developed a methodology for providing a plan that can respond to the requirements of the society which it could be received as a practical consideration to the Öreferie program. Program that is focused in bring new opportunities for a local tourism in Skåne and in Sjöbo.

Main aim and objectives

The main aim is to reach a methodical process able to integrate land art and greenways plans as part of landscape planning procedure from a holistic point of view. That is reach using a geographic information system as a work tool.

To reach the main aim, two objectives have to be achieved. The first one is to develop a greenway network in the territory. To achieve that, it will be to analyse the physical environment and different factors which depends the integration of the network, establishing a list of requisites and use them to obtain the best alternative.

The second objective it will be suggest suitable locations to installed land art work. It arises as an idea to promote a natural outside art gallery in a large scale which foments attraction and mainspring for the regional and local tourism. For that, it will be study what characters the area has to hold to be selected as an implantation site.

The integration of these two objectives, in the base study case, leads to a implantation proposal which is also a object of this project.

Issues and questions

There were many questions that arise in the beginning of this project; others came during the process of searching; and many others appeared after the study case. The main question is: How can greenways and land art works be integrated into a process of landscape planning?

The issues and questions that have been formulated at time to start looking into the bibliography, arise from the greenway subject: What is a greenway? Which are the characteristics that a greenway has to have? Which criteria could be used to select a greenway? How can it create a network? How to choose the best optional network for a territory? And for the Land Art subject: Why can it be decided for a land art master plan? What are the possible problems that can be found in the process of making a plan, during the planning and after planning? What are the prerequisite that can constitute a good emplacement for land art works? How can the planner choose and find the potential areas where to introduce artworks?

Limitations (constraints in the process)

Perhaps the most difficult have been to get a global view for the main problem that can come with the execution of this project. The use of the land, the individualism of the artists around the concept of their artworks and the difficulties of finding a site where all the stakeholders are in agreement, they were a complex problem to resolve. In this case, other similar project and the consulting to planners, artist and stakeholders has been studied to get an idea on how a consensual solution could be made.

In a practical way, it has been a lack of knowledge about Swedish culture, Swedish language and laws in force in Sweden, which, at the beginning of this project has caused some small inconveniences.

In a technical way, the disposition of the digital information required for a deeper and more detail study of the territory in the study case hasn't been what it was expecting, but finally it was enough to get a satisfactory proposal and to reach the main aim.

Reach to a proposal

In the searching to achieve a proposal, the case study presented is a real situation in a municipality territory. Therefore the use of the consulted literature in the process of making the proposal is crucial and very useful to reach a good result. The result is a map in which selected possible areas to introduce land art works and the greenways network. To achieve that final map is followed a methodology in three steps has been followed and described in the next chapter.

2. METHODOLOGY

The methodology of the manufacture of this project is based on two fundamental parts, a theoretical study of the bibliography and a proposal or study case. To acquire the objectives a deep knowledge has been achieved in the two subjects: Land Art and greenways. It would lead to gain ideas, to obtain answers and even to create new questions.

THEORETICAL PART

The first part of the process within the project is the literature review. The theoretical part begins with studying articles and books in relation to Land Art and greenways. These two large concepts has been reduced or summarized in its components, in the way to get an easy and focused knowledge. The history of the concept, their types, characteristics and generalities, indeed, the basic knowledge of them, has been compressed with the objective to go on to the main aim of the project.

The literature about greenways has served to elaborate the method to follow in the study case. Planning with ecological and sustainable issues is part of the strategies of planning with greenways, so to focus the project was very useful the considerations about the environment and land use, thus as reflects about different study cases.

Otherwise, the topic about Land Art is very wide due all the different interpretations that there are around the concept. The thematic representation and conceptual views of the Land Art founded in the literature was useful just only to follow the subject on two directions: to a description and meanings of the land art works; and second, headed to a philosophic way.

Trying to find a theoretical base in relation with land art, which can give an easy understanding to the project, has been used the concepts nature, place, site and space. Both of them are briefly discussed from the author's point of view because they are used during the writing of the planning project.

Very few cases about Land Art with relation about landscape planning were founded in Europe. It was study tree different projects already done which already have a great importance for the locality as for the international meaning.

The projects were studied because present similar characteristics which could help to achieve a procedure as a part of the landscape planning. It will be discussed and compared to conclude with practice knowledge in the process of making a new land art plan.

PRACTICAL PART

This part develops a study case in which was related with the theoretic and depicting a way how to introduce land art and greenways in landscape planning. Thereby, the objective of this study case is to get a proposal useful to be integrating in the Master Plan of the Municipality. A greenways network and selected areas where to put land artworks are located in a map as conditions. That conditions determinate which kind of intervention could be done and how should be done. To reach it, it has followed two working methodologies: the analytic and the synthetic method. The analytic is applied to know the components of the landscape to get an easier understanding. The synthetic is used to engage relations between components of the landscape to get a global view of the system.

•*The synthetic:*

The synthetic method gathers information about the context and characteristics of the territory from several sources. It deals with the selection and crossing information to reach a holistic point of view of the territory. A geographic information system (GIS) is used as fundamental tool in landscape planning. That presents digital and cartographical data with the possibility of work with then in different layer over the territory.

This information is useful and essential in the process and selection of the alternative greenway network and the location of the land art areas. GIS reads the maps alter given criteria, then GIS processes the information and synthesizes the data, and it is able to get a previous network in the map. Likewise with the land art areas selected.

•*The analytical:*

The analytical parametrical method consists in the interpretation in part of a data system. Maps, schemes and pictures are divided in themes or topics. The study of the thematic maps gives a simple understanding of the components of the landscape. It is essential to study the problems and opportunities of each part to get coherent proposals. Thus methods are used to select the thematic maps to use with GIS. The combination of the thematic maps and its formulation done by criteria is part of the scheme work.

The project reaches a proposal following three steps (Figure 1):

- The first one is to locate hotspot, points which present several services and touristic elements to support and be attractive for tourists. The selection is done with GIS following a requisites set of selection.
- The second step is to connect the hotspots with greenways. It decides to take three alternatives according with three thematic features. Each theme has different requisites of selection. To be able to make a decision it has been done a balance of the alternatives. The balance is done with a crossing data matrix between the features and four factors of implantation of the network. That crossing is done with a positive and negative subjective valuation depending how is affected. The valuation is made by holistic interpretation of the digital cartography and physical characteristics of the landscape, as well as an overview of the social and cultural features in the territory in study. To reach a value is counting the positive values in the matrix in base of the four factors for each alternative. Then the selected alternative will be which more positive values get.
- The third step is to find the possible areas to place land art works. The process is done like in the point before. It is done by GIS using a set of requisites and in base of the greenway network alternative selected.

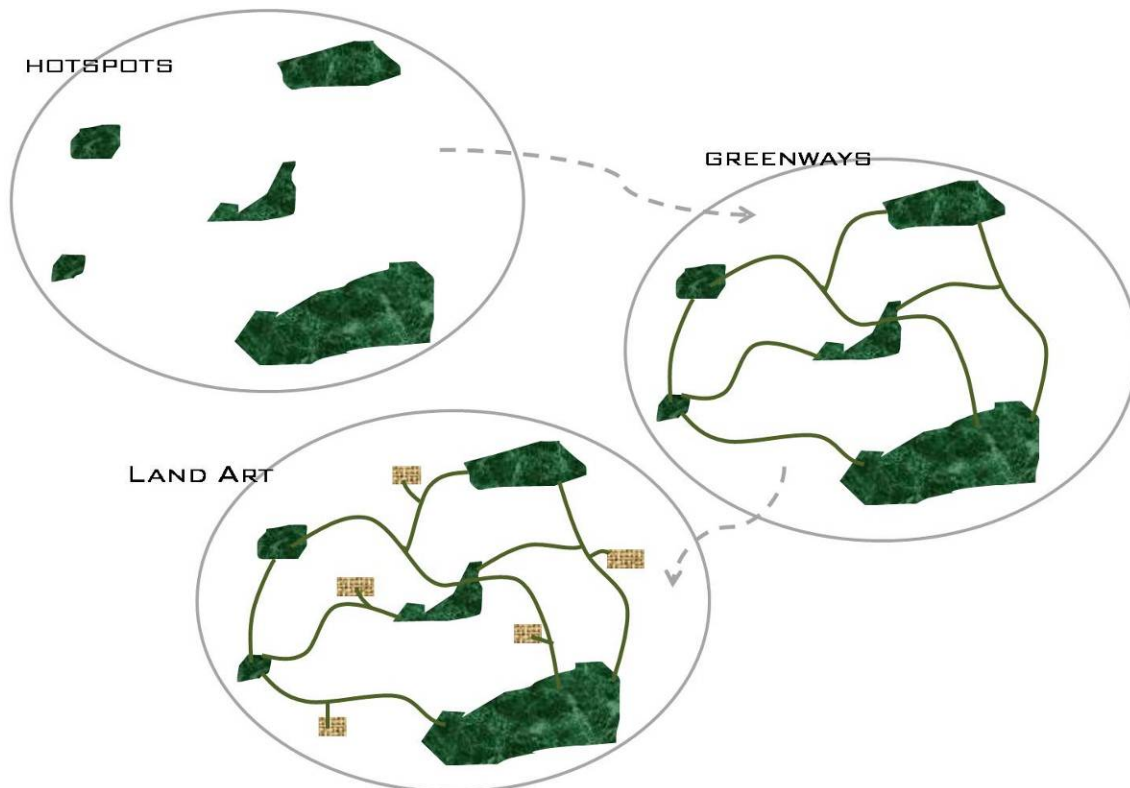


Figure 1: steps of the method that was followed to reach a proposal. (Image: Gabriel Sebastián)

Working process

I. Study into literature, articles and others sources:

1. Reading articles and books about the main subjects: Land Art and Greenways;
2. Making a brief, and comments;
3. Contrasting similar sources;
4. Deal with the knowledge in the next parts of the process.

II. Characterization and evaluation of the territory: to reach a global knowledge about Sjöbo Municipality. (Pragmatic analysis):

1. Analysis of maps from the large scale to the detail;
2. Analysis of the conditions;
3. Localization of the interesting points. Definition of possible touristic routes.

III. Locating the hotspots

1. Definition of Hotspot;
2. Setting the touristic elements for types of tourism by GIS;
3. Select the requisites of selection;
4. Selection of the Hotspots.

IV. Greenways planning

1. Definition of the greenways; Greenways theory;
2. Scheme and structure of the data analysis procedure by GIS. Basic information to process by GIS;
3. Selection of greenways in base to three alternatives;
4. Analysis and balance of the different alternatives;
5. Selection of the best alternative.

V. Searching for the best areas to introduce Land Art works.

1. Definitions and concepts about Land Art;
2. Prerequisites to find possible areas to introduce land art works;
3. Searching the areas by GIS;

Techniques

The techniques used in the process of realization of the project are that landscape architects must manage to achieve a global and a detail approach of the work. Reading, sketching, taking photographs and mapping.

Reading the literature to take most possible knowledge about art, aesthetic in the environment, land art for the landscape architecture, greenway planning and tourism in the countryside. There is the background for the practical exercise. There will be a search, compilation and extraction of the ideas in articles and bibliography.

Sketching is the technique of the representation by hand drawing. It is quick and effective. It is easy to show the spatial characters of a place. It allows acquiring the physical presence of a point of view for the observer. Moreover, by the imagination it can draw a mental map of a place or to express individual ideas.

The **photography** is widely used to show a realistic aspect of the scene. It is a quicker technique to take the visual present of the elements from a focus further to be used to refresh the memory and not forget the essential characteristic in the office's work. Currently it is very much used for the aesthetic analysis of the landscape.

Mapping carries an important part of the project. The collection of maps provides the overview of the territory. It is necessary to know exactly what the right information is to work with. The analysis of the cartography allows viewing for thematic the orography, the different types of vegetation, water sheds formed by the lines of streams and rivers, for example. It is also possible to know quantitative information as the altitude of the higher peaks. This information is made from digital maps by GIS. This system provides high crossing of information with associated data to all the elements and components of the maps. The use of this information allows generating a proposal.

Examples of inspiration and guidance

For one part, this project has been inspired by three projects about locate land artworks in large scale. All of them have a similar experience. They have the idea to create a set of land artworks using the territory (landscape) as a gallery. These three cases have occurred in Norway, Spain and Sweden. Those projects were promoted for the impulse to see art, art in the nature, in the landscape. Likewise was when in the 60's began a revolution from the artists whom were guided for ecologist tendencies. Seeking for new models they went out of the galleries and used the landscape as a frame.

Albeit, the most significant fact seeking by the project are the relation of the work and the landscape where it has been made. The piece of art cannot be understood without its context, the landscape. There by, the three projects show how, from an idea, to become successful projects. They present a collection of works with identity and expression of the sense, encountered by the experience of the artists with the site. And not only that, but they has been successful for the tourism, the culture and the heritage. However, the projects present an input for the landscape which it is an interesting part to study further on.

On the other hand greenways examples and case studies discussed in the literature had been made in USA and in Europe. Those have given a holistic perspective in how to approach the greenways subject. In spite of that, Fábos Conference on Landscape and Greenway Planning 2010 has contributed to a new reflexion over the current cases. Those were more approximate to the case study in Sjöbo.

Reflections

The methodology of this project has followed a basic scheme following the standard of the final projects done in the Swedish University of Agricultural Sciences.

In the practical part, to reach and methodology of the project has depended of the case study. Every case has the same approximation to the physical, social and cultural characteristics of the territory (Ahern, 2002; Hellmund & Smith, 1993) an analysis of the landscape combine similar techniques, but the different is on the objectives of the project. In this project has got a structure done in the three steps. It has taken based on the main objective for Sjöbo Municipality in the Öreferie project. The process taken for this project could be generalized always that the objectives were the same.

Usually, landscape planning requires a deep knowledge of the sites and an interdisciplinary group work. But, in spite of that, the figure of a landscape architect combines the techniques and the knowledge to have a deep study of the individual characteristics of the landscape, to understand and to get a holistic perspective and reading of the landscape. Therefore it may be possible to reach a coherent proposal just by one person instead of an interdisciplinary group like it is suggested by Ahern (2002) and other authors (Ahern, 2002).

Indeed, in a process of planning the plan should have a public participation. That is missing and it is a important phase in planning due of the implications that would cause to the citizens. It should have done a public consultation trying to make a well done project (Walmsley, 2006).

BACKGROUND

The first part of the project treats to bear a deep base on which to stand a proposal. The reading of the literature left to contrast, define and clarify terms, notions and methodologies of work that guide the development of this project. Some of the first questions arising at the beginning of the project have been elucidated after the readings, some other have aroused after that.

The background has been divided in three parts. To start and to achieve an easy understanding, it has tried to be brief and concise in the definitions of the concepts and in the explanations of the contents. It is expected to help and give congruent to the scope of the planning.

The next two parts are a compendium of the literature has been read about the two subject objects of the project, Land Art and Greenways. The compendiums are a fundamental part of this project and work as a tool in the development of the case study.

3. THEORETICAL AND CONCEPTUAL COMPLEMENTS

Site

A site is a physical location, a surface or point in the land that can be exactly geographically referenced. But it also can be an act of the imagination making, or something constructed by the past of the time (Hogue 2004). To this occasion, *site* is also a location for an intervention, project or performance, and can be unfinished in perceptive and interpretative ways (Figure 2). *Site* will be understood as a geographical reference on the territory defined and with limits but it will be interpreted individually. It



Figure 2: Location of a site over aerial photo.
(Image: Gabriel Sebastián)

means that it was an area represented as structure on a map but it will be not experienced, and on the other hand, it will be constructed as an idea or perception in the experience of the visitors. Exemplify, in words of Martin Hogue: "Site is conceived not as a clearly delineated place, but as a structure for experience in the form of a process (to walk in a straight line) or map (to walk in the landscape the radius of a circle as drawn on a map)" (Hogue 2004).

Space

Space could be considered as an area or volume that can be measured in height, depth and width. The perception of space is different for everyone as it depends on their culture and learning from past experiences. It is different and varies with cultural groups because abstract notions of space are formed by spatial experience that is defined by the presence of other people (Tuan, 1974).

Thus the personal perception of an individual, for example a geographer with a mathematical abstraction of space, could assimilate experiences of location and the human relationship with the physiographical environment. It would be difficult, however without prior training to absorb and understand the feelings and relationships that produce land art work, as the aesthetic content of the artwork itself and in relation with the environment in which it is situated. Otherwise, an artist will frame views of significant visual value that allows to make a representation with aesthetic value or, otherwise, artistic.

Place

Geographically *place* is a location, it is a simple and more uncertain definition that can be confounded with *site* or *space*. But *place* is a term that leads to a more convinced designation thus it could say that it is a space with significance, that it has a meaning, a substance just perceived for the human being. To be more specific, agreeing with Yi-Fu Tuan (1974) there are three characteristics that give meaning to *place*:

Spirit, which is experienced in sacred places where a substance without form is perceived in a certain place;



Figure 3: Valle del Jerte, Cáceres, Spain.
(Photo: Gabriel Sebastián)

Personality, which involves the human strokes and physical characteristics that make a place unique, i.e. in the Jerte Valley (Figure 2) the cultural cultivations of *Prunus avium* in terraces make the place unique. Personality has two aspects: *Commands awe*, when something is sublime and objective, both natural and artificial, directly influencing land in some artworks as Smithson have done with his artwork *Spiral Jetty*. It evokes nature and monumental art; on the other hand, there are

places that *evoke affections*, where character is imparted by the person who experiences a place, yet in time it acquires a personality that is uniquely its own. Thereby, a place that has history with people takes on certain familiar aspects.



Figure 4: Two streets of the twelve streets in the Cultural landscape of Aranjuez. Unesco 2001. (Gabriel)

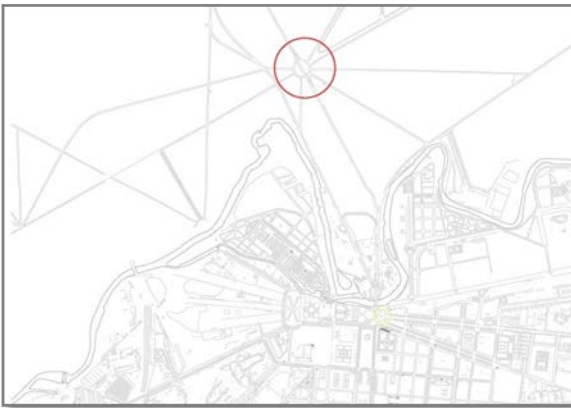


Figure 5: location of the twelve streets in the Cultural landscape of Aranjuez. Unesco 2001.

(Photo: Gabriel Sebastián)

In a strong relation human and nature, it is presented the cultural landscape in Aranjuez, Spain. The image (Figure 4) is taken from the center of a big round-about. Since the XVIII century is a square with a big great geometrical expression (Figure 5). There converge twelve streets which were designed as part of the process of landscape planning 300 years ago. Currently, the function is the same and still has the sublime impact of the power of the twelve streets. Thus It is introduce the third character that Tuan defines is *A sense of place*, when a place takes on a spirit or personality that only human beings have *A sense of place* is perceived when humans apply their moral and aesthetic discernment to sites and locations. This character getting in the place is called *Genius loci*. "A place owns its character to the experiences it affords to those who spend time there- to the sights, sounds and indeed smells that constitute its specific ambience. " (Ingold, 2000).

Landscape

The consideration of the term landscape in this project will be far of the simple visual perception and either the pictorial representation of scenery. *Landscape* is a complex and dynamic system, where different natural and cultural factors develop and interact in a set. This set is determinate for the global structure resulting of a particular physical and biotical configuration of the land to which mach up a determinate character. This character is consequential of ecological, cultural, sensorial and socio-economical dimensions (Candela D'Abreu, 2004). It is close of the interpretation from European Landscape Convention(Council of Europe, 2010) which establish a holistic view on how one perceives the landscape in the western culture, so "Landscape is defined as an area, as perceived by the people, whose character is the result of the action and interaction of natural and/or human factor" (Europe, 2000a, chap. 1, art. 1). Just like Olwig (2006) explained "Landscape is more than an area, it also expresses the perceptions of an area that people share, value and use". It can be added that landscape is a palimpsest which presents the mark of the past as a symbol of the ancient culture.

4. GREENWAYS IN LANDSCAPE PLANNING

Introduction

The human depends of the ecosystems. These are the source of biotic and no-biotic resources. The human needs food, energy, water and diverse material to survive thus as place for recreations and to locate all the structures required for the current society.

Humans are able to change the natural system in a short time. The European current landscape is an image of this enormous transformation. The increment of the population in certain areas and the raise of the needs have induced an intensification of the production of the land and the urban expansion. These are induced to lose the traditional patterns, homogeneity of the agricultural and forest production, and an isolation of the protected areas. Thereby, there are more risk to create dysfunction and no equilibrium with difficult reverse due to the lost biodiversity and the fragmentation of the natural areas (Warren, 1998).

In the final of the XX century arose the landscape ecology based in strategies and methods concerning of the natural resources. The preservation of the human life begins for the sustainability in its environment. Thus the International Union for Conservation of Nature and Natural Resources (IUCN, 1980) said that "Sustainable development is the progress of the human life which ensures the needs of the present and for the futures generations. This development has to guarantee the maintenance of the fundamental ecological processes and of the essential systems for the human life, the preservation of the genetic biodiversity and the use of the perpetual form of the species and ecosystems." The way to guarantee a sustainable use of the necessary ecosystems for the human is through the spatial organization of the landscape (Ahern, 1995).

Greenways appear as product of the landscape ecology (Hellmund & Smith, 1993) and as a strategy in landscape planning for the local and regional development (Ahern, 1995). The needs to link fragile and isolate natural areas, the protection of natural resources against lack of diversity, the control of the irregular and fast changes of the land use, and the seek for a social infrastructure to support recreational functions has induced that greenway is a current and popular movement to global scale (Fabos& Ahern, 1995).

What is a greenway?

"It is a linear open space. It is a corridor composed of natural vegetation..."(Hellmund & Smith, 1993). Taking this short definition as most simple, it can be extended saying that greenway is a linear proportion of land which links two or more isolated part of the landscape (Figure 6). It has the characteristic to be a source, habitat, conduct, barrier, filter and sink of the basic elements of the landscape: water, soil, flora and fauna (Hellmund & Smith, 1993). It is made to support multiples

function and the goal is to get the ecological, cultural, social and aesthetic feature. It is planned as a strategic for landscape planning, and designed and managed to be multifunctional, to be integrate in the current landscape, and to be sustainable (Hellmund & Smith, 1993; Ahern, 1995; Fábos, 2010).

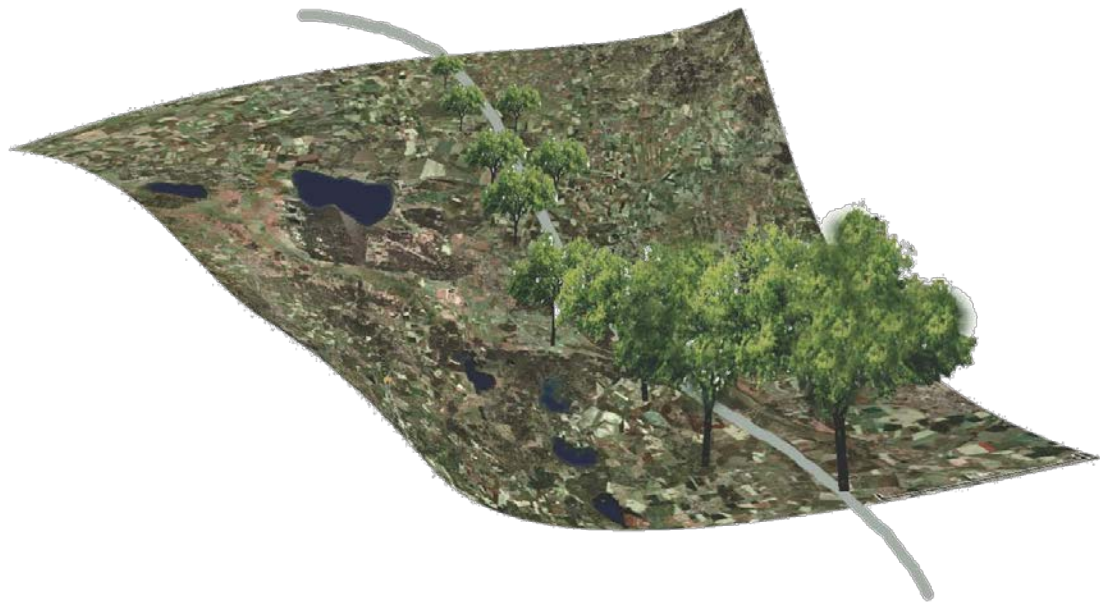


Figure 6: representation of a linear element on the territory: Greenway over Sjöbo. (Image: Gry Arvidsson)

It is linear for its spatial configuration which offers a way to transport and move the basic elements of the landscape due to its ecological character (Hellmund & Smith, 1993; Ahern, 1995).

“It is a open space connector linking parks, nature reserves, cultural features or historic sites, with each other and with populated areas” (Little, 1990; Hellmund, 1993, pp.10) Understanding that Open landscape is the land area left not built (Ahern, 1991), but it is also fields not forested, agricultural land, the land areas which the cover canopy is less than the uncover. Greenway is a linear element which goes from a site to other, so it is a linkage. When there are several links which connect different sites, it has established a synergy system, a network. “Greenways are network systems which include linear corridors and large areas of protected land that there are physically and functionally connected” (Ahern, J. 2002). This can be happening to multiple scale levels on the territory being an important spatial characteristic of the greenways.

The multifunction is acquired by the compatibility of different uses. Thus it supports recreational activities and maintenance biodiversity preserving habitats for flora and fauna. It is a way of movement of people and leisure in the nature. With its multifunction want to achieve the compromise of the greenways, to reach the ecological, cultural, social and aesthetic goals (Ahern, 1995)

Greenways are a new strategy in landscape planning. It should be a part of a compressive landscape planning. It will protect other areas and to provide support for the society leisure, society movement,

society recreation and society education. No doubt it follows a development in a crescent gradient for its nature protection to be sustainable also for the economic resource.

The four characters of the greenways are a landscape strategy option against the stronger changes in the landscape occurred in the last decades. Promote the involvement of the community, the cultural and natural heritage, environmental protection and sustainable development.

Why we should create greenways?

Currently, the importance of the environment is protection and conservation, and the development a health society brings focus in new strategies. Thus, the subject who here is written supports the next goals: "Greenways contribute too many ecological and social goals. They help maintenance biological diversity, protect water resources, conserve soil, support recreation, enhance community and cultural cohesion, and provide species dispersal routes during climate change" (T.T. Forman in Hellmund & Smith, 1993). The necessity come from the aggressive use of the land, its degradation, loss of biodiversity and so on.

Last six decades the European agricultural landscape has undergone the homogenisation of the crop induced to the intensification. It has also induced the reduction of the biodiversity and reduces the attraction for the landscape. One way to stop this is to use greenways introducing connection between isolated areas, dividing fields to facilitate the movement of fauna and bring in variety of species creating biodiversity (Fábos, 2010)

Complex pressure on the South Swedish agricultural landscape from various stakeholders is growing (Peterson, 2010). The need for multifunctional strategies will also increase (Antrop, 2006, and Brandt and Vejre, 2004, in Fábos 2010). Avoiding the expansion of negative factors over the landscape through the introduction of areas protected with high social and ecological value has been the solution against economic value of the land. (Walmsley, 2006)

Lost natural areas for a change of land use bring to the fragmentations of the landscapes. A consequence is to isolate those natural areas. In a social term Hellmund said: "Fragmentation of the landscape affect to the people in their connection with the natural world because it raise an alienation of their sense to decrease people's sense of the place and enjoyment of the landscape" (Hellmund & Smith, 1993). In an ecological point of view, the troubles are lack habitats, broke the natural spread of the native species, which leads to minimize the diversity. In this case, the isolated areas in small part create a poor suit to maintenance ecological functions. Using greenways as simple lineal corridors would enhance the interchange and the connection among the isolated areas, as long as it has been done with the same biological terms presented in the isolated areas.

Thus Greenways could be planned as natural corridors, recreational places, connect lines and as an important methodology to landscape planning, as a strategy. The strategies are plans and methods to use for the changes of the use of landscape. “The strategies play the role to be instrument against the forces of fragmentation, land degradation, urban expansion and uncontrolled land use change” (Ahern, 2002). According with the four strategies targeted by Jack Ahern, greenway is:

- Protective: landscape and its elements are protected by planning policies. This tactic leads to a control against the negative processes that can be affect the landscape;
- Defensive: by proposition and implantation of protection areas around sensitive zones;
- Offensive: used of plans and programs which look for configure a required model of landscape;
- Opportunistic: extract the potential that a greenway has the possibility to give in a determinate situation.

All four strategies can be combined depends of the situations and the objectives to achieve.

But it is not only the ecological feature and functional strategy that motivates to work with greenways. The natural character of the lineal structure made on nature and with the nature provides the sense of beauty. Greenway is beauty for the simple fact that it is nature. This is a motivation that together with the recreational function, offers a kind of tourism, ecotourism. Greenway is a model of sustainable and responsible tourism that bring people to the nature (Figure 7). (Murphy D. & D., 2010)



Figure 7: Kids in a Greenway. (Image: Gry Arvidsson)

Brief history of the greenways

The origin of the greenways was found in North America with the sense of the environmental protection around the middle of 19th century. But it could be attributed the first experiences to Frederique Law Olmsted when in 1860s he tried to provide access to city parks by linear open spaces (Csepely-Knorr, L., 2010). The aim was to link parks which supported recreational and aesthetics functions at the same time establish ecological functions. Sometime after, in 1898, Ebenezer Howard showed his ideas in the concept "Garden City" following the same line that Olmsted, when alleys and linear ways connected parks and gardens. Similar examples came from 1640 when it was planted the "alley" of Les Champs-Élysées which connected the Tuileries Garden with the Louvre Palace. "Green belt" is also an urban concept for a park with the shape of the ring around the city which was very spread in the 1970s. Some of these ideas became reality when at the end of 19th the urban planner Arturo Soria designs Ciudad Lineal in Madrid. (Ahern, 2012; Hellmund & Smith, 1993)

Other concept with similar propose emerged to work to large scale, to regional scale, where the target is focused in an ecological point of view. The concept *Continuum natural* was born and will be explained in subsequent lines.

Also outside of the urban areas the beginning of the concept as greenways appeared in the Appalachian Trail (Ahern, 2002). It was created in 1921 as a hiking trail in a large scale. In 1991 CEC Program (Central European Countries) develops an open network with public benefits trails and natural corridors called "Ecotrails". But it was in 1994 the route or trail which connects Prague and Vienna that gave rise to the first greenway in Europe. Greenways were presented as a model of sustainable and responsible tourism (Charles, & Mourek, 2010).

Since the 19th, greenways have being extended in USA and Europe, due to the big changes in the use of the landscape and for the stimulation of an ecotourism. The concept of greenways has been widely adopted by landscape planners (Groome, 1990).

It was recently in Sweden, more exactly in Scania (Skåne), where the need of greenway use in landscape planning started. The natural areas and the public access to the countryside together with the low population density may cause the fact to produce late if is compared with the Centro European countries. (Haaland et al.2010 in: Fábos et al. 2010)

Theory of “Continuum Naturale” from Francisco Caldeira Cabral

The concept of *Continuum natural* emerges as a group of ecological theories which must exist in the habitats to maintenance and develop the biological cycles. It was the Professor Francisco Caldeira Cabral (1908-1992), promoter of the studies of the landscape architecture in Portugal, who theorizes the concept (Andresen, 2010). That concept of environment and landscape is “a live set of animals, plants and micro-organism, which dynamic equilibrium is condition of human, who is part of it.” (Caldeira Cabral, F. 2003; Espenica, 1997). *Continuum naturale* is a methodology applied to the landscape planning. There are proposed ecological ideas to design and maintenance a natural sustainable environment. It must follow four rules (Caldeira Cabral, F. 1980):

- **Continuity**, to ensure the continuity of the “mature ecosystems” (which present biodiversity in a close phase of its climax evolution) because the production from them given can be more. Thus it could maintenance the circulation of these biodiversity of flora and fauna. This network works as a ecologic corridors;
- To be an **elastic** and capable system. The fundamental elements of the landscape can be adapted to the variability situations that there is characteristic of the life;
- To have a **fringe effect**, increasing the interface effect between different landscape elements. It also has more perimeters to increase the energetic flows and to enhance the vital processes of the landscape. It is because the fringes are the area with more diversity in flora and fauna and more intensity of the biological processes,
- To **optimise compensated parameters** of ecological impoverishment areas. Where decrease the surface of the fundamental elements of the landscape have to correspond an optimised of the effect of the remaining area. It means that the presence of the elements could be rising again, like in the past.

However, this concept has been defined under the ecological landscape ideas. With it is required maintenance the fundamental elements of the natural landscape, preserving or constituting its continuity and functionality. This theory, based in ecological landscape principles, is fundamental to greenway planning (Ahern, J. 2002). The rules should be followed in the design of greenways to gain the ecologic character.

Values of greenways

A greenway in the landscape would give several vantages to the site, to the land and to the territory. The values of the greenways could be divided in two simple definitions, which are important for the environment and the society. To be a little bit more concrete, the values could split in an ecological, cultural, social and aesthetical.

- The ecological value is representing the natural character that the plants have. Plants are the basic elements of building greenways. Plants are responsible to release oxygen to the atmosphere, to transforming organic material in vegetal material, to catch water, ..., it is a refuge of fauna and provide them food, ..., is an important raw material for the human being, and so on. In just this way, a linear set of several plants will give a lot of benefits to the environment. But beyond that a greenway can be designed with an ecological objective. In some case it is a way where to move animals, or insect. Other is for save land from the erosion or works as firewalls, for example. Greenways are source of life and any case safeguard and foment the biodiversity and, indeed, it has a huge ecological value. (Ahern, 2002; Hellmund & Smith 1993; 2006; Fábos et al. 2010)

- The cultural value is related with the result of the intervention in the landscape. The relationship between the human being and the landscape provides a new use of the land. It is an adaptation against



Figure 8: Vineyards in Lanzarote, Spain.

(image: Gabriel Sebastián)

the process lived in the last years, where the traditional uses of the land have been lost due the profitability on the market. New challenges and adaptations to this new era, where the environment and the nature has reached a great importance in the society, has emerge greenways as a new cultural intervention. Consequently, it is possible that later this cultural action would be a cultural and natural heritage, like the vineyards on the island of Lanzarote in Canary Islands(Figure 8).

- The social value is around the benefits that the society gains with the use of the greenways. But, maybe the mean to create a place where the people walk, run, study and enjoy provides something else. It is a place to meet and to search and to feel the nature. It is a social place where the recreation has been the first enhancer of activities and the way to give to the greenways the consideration as places which evoke affection.

- The Aesthetical value comes from the natural character of the green structure, as it was commented before. Seen from an overview of the territory, greenways represents a mark in the landscape, a lineal structure that with trees or without which symbolizes a way, a “branch” of a network interconnected a land mark of human’s. Its presence brings back to the romantic pictures of the ninetieth century, feeling a bucolic character. From another view, inside of a greenway there is another world of sceneries. Just for the broad variety or typologies of greenway there are multiple different sceneries, that there are also characterized for the landscape around them.

Types of greenways

“Linear Open space established along either a natural corridor, such a riverfront, stream valley, or ridgeline, or overland along a railroad right of way converted to recreational use, a canal, a scenic road, or other route”. (Little 1990 in: Hellmund & Smith, 1993)

Even the typology of the greenways can be extremely wide because it depends of a lot of factors. It would commend some aspect and an exceptional simple example that would be interesting for the study case.

A specific location in the world institutes what species of plants should be done the greenway. The site can tell how the plants will develop in its structure.

The wide of the greenway has importance in the effectively for the movement of the fauna, for the development of the plants and for how many recreational activities it can contain. The question is to keep a functional and effective width. No doubt, that the wide is not possible to keep along all of the greenway, it also depend of the orography of the land.



Figure 9: Beträdor on a field in Sjöbo.

(Photo: Gabriel Sebastián)

The most common idea of a greenway is a line of trees perfectly visible over the plain agricultural land but a greenway cross forest as an open corridor, or is a open way along the open land. So, as an example of that, in Sweden appears an ephemeral structure of the agricultural field margins called *Beträdor*. For its ephemeral character, the structure of the greenway can easily be cultivate and appear somewhere else (Figure 9). (Peterson 2010)

Greenway's functions

The most important characteristic of greenways is the multifunction that it has for the society. From the first industrial revolution and the last processes of change in the use of the land has become a lack of



Figure 10: view over a *Montado*.

(Photo: Gabriel Sebastián)

functions due to the productivity and the economy. It has been due of the intensive productions of the agriculture, homogeneous forest and the spreading of the urban area, most of the cases. Before, when the human activity was in equilibrium with the ecological processes of the landscape, several functions were located in a same site as for example the Portuguese's *Montados* (Figure 10). Diversity in harmony cheers a sustainable development to the society and to the landscape.

- Ecological function

Protection, preservation and conservation are included in the ecological function of the greenways. Ecological function is referring to all the biological cycles in site. For example the movement of the water and nutrients in the soil needed by plants, or in other levels, birds that use the branches and seeds of the tree to live are also involved in a biological cycle. By its ecological character lead to have an ecological function and the most important for that is maintenance equilibrium between its parts. (Forman and Thorne in Hellmund & Smith, 1993)

As proprieties of this equilibrium, a greenway establishes a linear characteristic that have a vantage and a negative issue. Greenways have great interaction in their borders involving a movement of both animals and plants given diversity. On the other hand, this interaction can exposed to bad influences in very narrow greenways. Hellmund & Smith explained it with six functions (Figure 11) that would clarify and complement of what Caldeira Cabral said about the four rules to design and maintenance a natural sustainable environment. Then the six basic functions as ecological corridor a greenway should have:

- Habitat: space where different species interact and form a harmonious organic system;
- Conduit: space for where the living organism (animal, fungus, micro-organism, plant) can move freely;
- Barrier: it can stay as an impenetrable space for other organism;
- Filter: it allow to transfer only some specific living or dead material;
- Source: autonomous organism can leave the system;
- Sink: new organism can entry in the system.

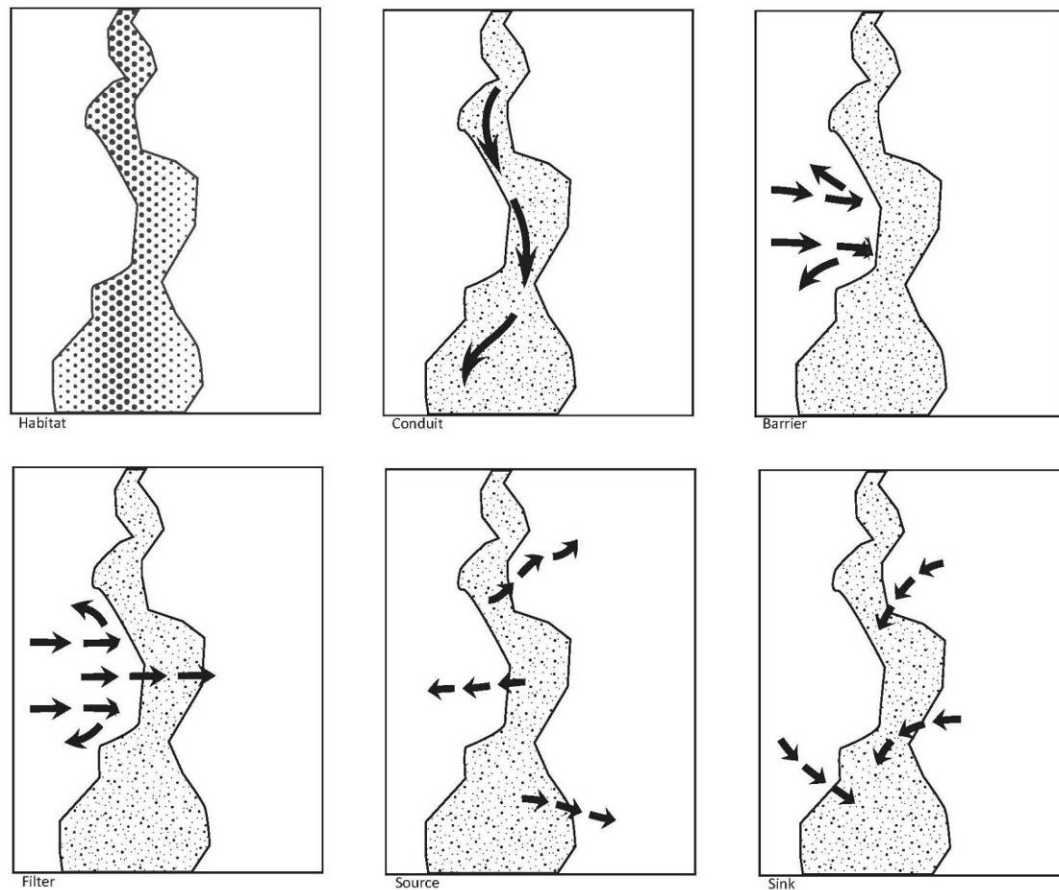


Figure 11: Six basic functions of a corridor. (image: Gabriel Sebastián)

It is supposed to promote the ecological integrity (Forman and Thorne in Hellmund & Smith, 1993) that it is characterized by natural levels of plant productivity, a high level of native biological diversity, natural rates of soil erosion and nutrient loss, clean water and healthy aquatic communities.

These characteristics should be part of every greenway and are important to keep more functions (Ahern 2002):

- ° Protective: safe areas, elements or organism that could be in distress;
- ° Conservative: to keep a safe habitat that it is already damage;

There is other important ecological function that could be mention, like the regenerative function. It is due to the dynamic evolution of the system that provides sometimes a reconversion to the climax condition in a habitat that has been damaged.

- Recreational function

It sets all the leisure activities that the human being can enjoy. The greenway provide: hiking trails, bike paths, horseback riding trails, and areas for outside activities.



Figure 12: Fences for cattle which allow the access to the public. Sjöbo. (Photo: Gabriel Sebastian)



Figure 13: Tourism and sports activities in the nature. Sjöbo. (Photo: Gabriel Sebastián)



Figure 14: picking berries. West coast of Skåne. (Photo: Gry Arvidsson)

The recreation function has to do with the social character. It is an important investment of the greenway planning, thinking that it is not to many areas for outdoor activities, and the Swedish Right of Public Access is limited (Peterson et al., 2010). Health, leisure and sport has led to increasing the concern for provide new functions to the landscape (Figure 12). Mostly, around the cities this predisposition is higher and is needed to be resolve. The connection city-countryside is the key to open new possibilities, and in that case greenways bring both. In greenways there are interactions between people and nature; it is the way to guide people until the countryside

The tourism attraction that greenways evoke gives a new use and challenges to the countryside (Figure 13). The beauty that can present a promenade on the greenway is a value that the tourism hold, the people looks for serenity, beauty and relaxation. "Experience in the nature: attractive, athletic recreation, passive viewing and contemplation, intellectual observation and study; help people to gain a sense of appreciation and respect for nature" (Leopold, 1979 in Hellmund & Smith, 1993). Selling the idea of producing recreation and pleased experience could be improve including cultural and biological objects with interesting attraction along the way (Peterson et al 2010) (Figure 14)



Figure 15: Walking through the forest. Maintenance the moral consciousness to the Nature.

(Photo: Gabriel Sebastián)

To get and keep the values of the greenways the way is the combination of the two main functions: ecological and recreational, the social and the environmental character, because it promotes the moral consciousness (Figure 15). "By doing so, we cannot only protect the integrity of natural system but also help people learn to know and appreciate nature" (Hellmund & Smith, 1993).

Creating a comprehensive greenway network

When the greenways were defined it became an individual structure. Greenways have a structure with different importance depends of the scale of the intervention which is considerate. Thus in a local scale, an individual greenway has ecological, cultural and recreational features, for example, it represents an important role for a population of a village, and have to be described in detail. But a municipality scale, a greenway has lost significance due to its potential capacity to support the ecological and recreational use in a large land. It is not only the lack of capacity for the dimension of the land, the connectivity is reduced. (Walmsley, 2006; Hellmund & Smith, 1993)

A territory present patterns or spatial configurations determinate by the elements of the landscape and the use of the lands establish for humans. (Hellmund & Smith, 1993)

The possibility to create a network increases the vantages that a greenway offers. Network system establishes new contact points multiply and the ratio of the flows (energy, species and nutrients) that in a greenway are produced. A network provides the possibility to created loops, is important to give the possibility to choose different paths for a recreational function. In those terms, the greenways network is a green structure where its benefits and value increase but not only as a sum of the result if not as a synergy system. (Walmsley, 2006)

Thus, it seeks to cover the terms of sociability, leisure, education, culture and aesthetical pleasure as benefits of a multifunctional ecologic network.

Balancing between recreation and conservation: Impacts and planning strategies

The multifunction of the Greenway leads troubles by incompatibilities of use. Some of them there are affective for the others. Some are weak, for example the habitat of a bird, and the others are straight as the path of the hikers. Such the conservation of the habitats that it would be preserves against external sources before to have to mitigate or restore damages caused by negative impacts.

When a greenway is supported of the two main functions, it tends to create conflicts of the use. Therefore, it is identified recreation and conservation in the focus of the biggest troubles. Recreation is a social function and conservation is about the ecological character of greenways. How much negative is the impact of a recreation activity on the nature depends of the following factors (Hellmund & Smith, 1993):

- Type of recreation: thus trails which support the pass of the people causes noise and trampling, or places to watch birds in which the people are studying nature quiet and in determinates moments;
- Where it is: The activity can be located in the boundaries or in the central bone of the greenway. It could be worse in weak habitats as a wetlands which are in determinates points with a specified type of fauna;
- For how long time: Thus it can be considerate the hunting season or a day for a race, but in other case are continuous like a pedestrian path which is used every season;
- How large area is affected? Thinking in the noise producing it supposed to be located in a specific point like a shooting arrows place or to be spread inside of the greenway like a orientation activities;
- How much is intensity of the action, thus trails close to urban areas are used for more people, every day during the all-day hours, while trails in the countryside are less used.

Sometimes two or more impacts happen at the same time or at the same area. This impact it is not the sum of them, it establish a synergic influence, it is a multiplicity of the impacts.

According with Cole (Cole, D.N. in Hellmund & Smith, 1993), the impacts created for the recreation to the nature can be synthesized in four landscape elements:

- Soil: most of the impacts come from the trampling. It causes compaction of soil which generates direct impacts like lack of permeability, and indirect impacts, like difficulties in the growth of the plants and modification in the fauna, flora and water.
- Vegetation: negative impacts are produced by people. The behaviour of the users makes damages in plants, like mutilation for cutting braches or marking on the trunks. The areas where have the possibility to be more affected, like the boundaries of the trails. An important impact could create by the introduction of exotic species. Vulnerable habitats could suffer the loss of native species.

- Fauna: probably the most affected for recreation activities. Animals change their behaviour and



Figure 16: Frogs in a wetland. (Photo: Gabriel Sebastián)

leave the place where they live if they are disturbed. Just for the only presence of humans, birds can be affected changing the nesting place (figure 16). Of course, the most impact of the fauna is done by hunting. In the next (Figure 17) taking for Hellmund (pp. 109, 1993) is presented the impacts of recreational use on animals.

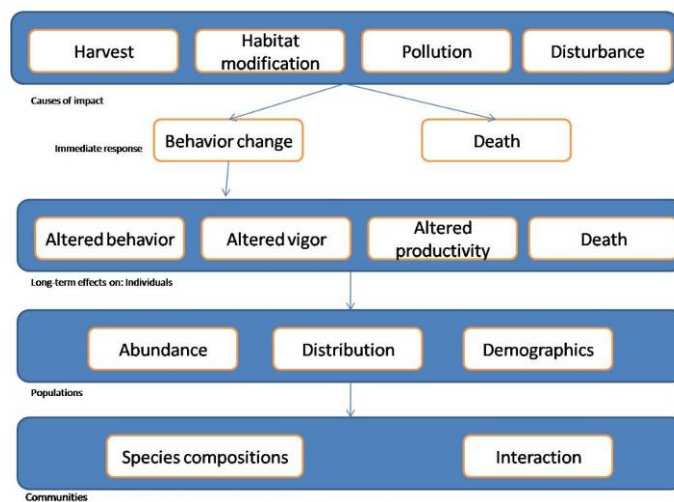


Figure 17: conceptual model of the impacts of recreational use on animals.

(Image: Gabriel Sebastián from :Cole, D.N.; Hellmund & Smith, 1993)

- Water: Against this element the negative impacts can be considerate as indirect for the impact on the vegetation and soil. Soils without vegetation cover are lost for erosion. But there is a direct impact for pollution. Human produce residues and rubbish, where there is concentration of recreational activities is possible to have contaminated water.

On the way to reduce the negative impacts of the recreation activities on the conservation areas must considerate the five factors described above. Create design strategies to adapt an equilibrated project where recreation activities can be subsisting without causing negative impacts on the nature. Thus it is described basic strategies depend of the characteristics of the use. Prohibit the use of the destructive activities. To locate a zone for the type of use or to close areas those are vulnerable.

- Limit the use of the activity. It depends of its intensity, time and area to use. Limit certain times or certain sites.
- Concentrate use of the activity to have just in a place the impact.
- Control the location and the time of use. In areas very vulnerable can be close a perimeter or close just at time when the area is more vulnerable.
- Shield the site from use with elements which help to protect or minimize for the impact.

These strategies are setting as management strategies indicate for Cole (Figure 18):

| Factor | Strategy | Tool |
|----------------------------|------------------------------|---|
| Use characteristics | | |
| Amount of use | Limit amount of use | Limit number of entrants |
| Type of activity | Limit destructive activities | Prohibit certain activities Zone by activity type |
| Visitor behaviour | Influence behaviours | Low-impact education |
| Use distribution Spatial | Concentrate use | Concentrate use at facilities such as trails |
| Temporal | Control timing of use | Close areas at certain times |
| Vulnerability | Control location of use | Locate facilities on durable sites Close fragile areas |
| | Harden sites | Surface trails |
| | Shield the site from use | Bridge vulnerable places Install toilets |
| | | |

Figure 18 : Gabriel Sebastián from: Cole; D.N.in Hellmund & Smith, 1993, pp.114)

In general terms, some solutions can minimize to choose a right use and the right site for it. But other strategies are found in the design of the greenway. Depend the width of the greenway, it can support an activity or not. Wide greenways are possible to use more space for different activities and they have the possibility of their impacts will be minimize. Sites where there are a big intensity of use it is useful integrate shields as a bridge of trails with hard surface. Greenways have to have quality and width to present more amount of use. (Walmsley, 2006)

All these strategies could be not enough if visitor behaviour is not adequate. This strategy is done out of the site. The influence of the behaviour is through education and interpretation of the nature. According with Cole (Hellmund & Smith, 1993), it is the greatest potential strategies for long –term success. The advertisements people are for signs, courses, radio and television spots, etc. The key point is to make people aware of the nature. They need to know the problems and how to avoid them. Clear information is one way to reach it, but people also need to get a sensibility for the nature.

There is other fundamental strategy to apply in every case. It is to work with the behaviour of the people that in the everyday life use or can use the greenways, such farmers and people who lives around the greenway. They must know the aims and use of the greenway, its value, its vulnerability and how to protect and maintenance it. In return they must also get benefit from the greenway. To know the use that they can get as an aid for the farmer's access to his fields (Peterson, A. et al, 2010) it is possible to achieve a protected interest getting great vantages.



Figure 19: walking in a trail forbidden to ride.

(Photo: Gabriel Sebastián)

Thus to pass into the natural reserves could be connected greenways with trails so that they wouldn't be suitable for cycling, horsing and don't dispose to the areas for picnic. Limit pass or diverting it could be a solution. Impacts for the recreation function could reduce the ecological value of the greenways (Figure 19). So to avoid that, it should know where different species could be affected. Then these areas could be "fenced".

Examples guidance

The most useful projects to provide examples have been gathered in the Fábos International Conference about greenway planning in 2010. It is contain actual works in relation with the greenways context. New perspectives appear for futures projects, as a tourism challenged against its design and multifunction. But they are two studies made by SLU which has given useful information about the integration of multifunctional greenways on the agricultural areas in Sweden.

In the first example, *Implementing multifunctional greenways in Sweden – Challenges and opportunities*, the process of changes to search for designs has brought to discover for challenges and opportunities in the multifunction of the landscapes. A greenway can be a study area for scientific researching due to the heterogeneity biodiversity in plants and animals can be generated. (Haaland et al., 2010)

The second case study, *Recreation in Swedish agricultural areas- public attitudes to multifunctional greenway designs* are referred to analysis and description of the current situation on the land with its different actors like visitors, landowners, public authorities and planners transcends in a study of interviews. Those actors give their own views which allow the searchers to reach indications how they could design greenways. (Peterson, A. et al, 2010)

A project, “Blue Necklade of Rossony”, presents similar features of the case study of this project. It is a Greenway route which connects two natural reserves of Krasnyj Bor and Sinsha. It is a backbone trail which links a wider network of local walking trails. The trails provide access to interesting natural and cultural heritage sites at total distance of 200Km. The greenways combines outstanding natural and cultural resources with numerous community based ecotourism initiatives. The progress has going on since 2005, and since then the greenways have develop into a widely popular concept appreciated and developed by local population, businesses and Government. The main greenway principles have become the foundations for the Regions Sustainable Strategy and Agenda 21. In 2009 the agenda improved the greenway as infrastructure and creates eco-museums.

5. LAND ART IN LANDSCAPE PLANNING

Introduction

To integrate land art as part of the landscape planning is a challenge due the difficulties encountered for the individual character that contemporary artists have at the moment to choose the site where to create their artworks and the acceptance by the inhabitants at those sites (Jaukkuri, 1996). That causes conflicts and a problem in consequence because of the treatments between stakeholders and the artist. The principal reasons for those conflicts are due to the propriety of the land, not complementary uses, accessibility and a touristic plan. Another problem of big importance is presented when the artwork is installed. Then the citizens are suitable to value the artwork. Sometimes this evaluation is a disaster promoting a rejection. To avoid problems and undesirable situations, in a project of this scale should develop a plan. An instrument as a master plan collects all the characteristic of the project, useful to be integrating in the landscape planning. A project of that magnitude affected directly or indirectly to the services sector, as the tourism, and to the first sector, as the agriculture and the forestry. Thus it should be carefully planned.

Therefore it will be examine in what way It could integrate land art in landscape planning. To reach that objective it should be to know and to understand Land Art. To know what is Land Art, its history, its concepts and its “typologies” (of categorization) serve as discussion of the subject. The main aim is to reflect about its functions and values for the site and reveal principal features to considerate at time to idealize a plan with the objective to make the practical part the case study. Indeed, to understand how could develop a project as part of landscape planning. Three project has been studied how examples.

The beginning of a new dialogue with the nature

The history of Land art begins in the mid-1960s. It was a time for social changes towards a consumerism, globalism and existential crisis after the two world wars. It started to appear kinds of art as a critic of the global process in crisis, the increment of the industrialism and its consequences, thus pollution. That was called “environmental art” (Matilsky, B.C. in: Jaukkuri 1996). Nevertheless other influences were also cause for the intervention outside.

Thereby, artists went out to work with unconventional material and, the most important, they were looking to leave the enclose galleries where the object had been isolated. Artists now aroused in a global scale performing in the landscape. They use the landscape as part of their works. Some of them use as scenery and others cached elements which they could work and turn into an artwork. Others, on the other hand, take the spirit of the place and fix it making their own interpretation of their feelings. Even though, it has emerged two principal styles: In North America was called “Earthworks”, because the artwork was made in huge scale and using machines. On the other hand, it was in Great Britain

where appeared softer interventions, more close to the nature due the only physical intervention of the artist and, some of them, with ephemeral character. (Maderurelo, 1995)

So, Land art begins as a new dialogue with the nature.

Conception, concepts, forms and significance.

Under diverse concepts, this project considerate Land art works sculptures or performance created as new forms or as adjusted to the panorama. To all the artwork based in a process, site and temporality. That uses the materials of the environment modulated by the artist and the concept of its creation make of the artwork part of the landscape and vice versa. Those artworks make place and they are intimately related with their surroundings.

Aesthetic value

It is largely known that art is part of the culture and has a high value for the society. It forms part of the communication of the human being through is expressed ideas and values, and it is reflexion of the society in a determinate moment. Therefore, Land Art is also highly valued for its contemporary artistic expression further on but it is the aesthetical value with has a precedent for other values and functions as ethical, social, economic, cultural and ecological even though they are strongly connected. It is due for the attractiveness of the artwork which engaging an economical value of the artwork and influence touristic magnetism.

Aesthetic value of the artwork comes from the **essence of Art** when it is idealized with this finality. The artwork is a material object and is perceived as something sensitive. Against this aesthetical quality of the artwork is the individual appreciation and feelings. This is relating to with the culture and the individual experience of the person. It is a quality of the Art, that it has the possibility to leave the public thinking and feeling whatever they want, but considering that not only is there an audience (Jaukkuri 1996)

Time ago Caldeira Cabral said: “the beauty must be the spontaneous reflection of appropriateness of the good work to the end proposed, as an intrinsic quality, and not, as is supposed, a solution of several accessories operations- and therefore extrinsic- called *embellishment*” (Cabral, F.C. 1943 in: Espenica, A. 1997). Cabral understood that an artwork don’t makes beauty, it has to be beauty for itself. It have to be perceived in its globalism to be able to feel the beauty of the artwork. A land artwork is not a piece of art locates in a site to make it beautiful, but its surrounding is part of the artwork and it cannot be perceived entirely without the site, the landscape is part of the artwork.

Nature is beautiful just for the character of the beauty that nature has. How Carlson's claims that wild nature is always beauty, aesthetically good, a landscape which has been modified by the man could not be beauty? In that case artists have never added aesthetic value to the nature, and constitute interferences on it. Considering that wild or pristine nature almost don't exist in the world and landscapes are beautiful due the close relationship that human had with the land and it had been the manner of seeing the landscape. Therefore, some of the land artwork express the positive contemporary relationship that human has with the nature and the landscape, introducing a key role to the aesthetic experience and aesthetic value (Brady 2007).

Ethical value

The ethical value leads a morality of the artists in relation with the environment where artist make their interventions. Land Art artists have an environmental consciousness expressed in their works with the use of materials found in the nature and rearrange, work with it and force it to get a sensory relationship with the landscape surrounded. Jeffrey (1998) said "the artists try to sought our emotional and spiritual relationship with the landscape" (Berleant, 2005) The sustainability and ecological importance of the artwork also have to be with the materials and process of making. It is a symbolic expression very much accepted in a current social situation and deserves a global moral appreciation by local population (Miles, 1997)

The aesthetic character of the natural environment engages moral consciousness of protection. The given value by the people when it is understood as part of the local identity lead to a sensitive appreciation appeared a linkage between them. This process means the same that the actual association taken with the cultural heritage. (Jaukuri, 1999)

Relation Land Art- Site

Michael Heizer asserted at the beginning of the 60's that "*the artwork doesn't put in a place, but it is the place*" (Brady 2007). This affirms the conceptual term that is determinate for Land Art. It is not in other terms which this project understood Land Art. In reference to Robert Irwin (Wagenknecht-Harte 1989) a work of land art can be consider into three categories of public, site and Art, in other words, the interaction between site and the sculpture:

Site-Specific Sculpture, the site is particular as to physical, cultural and historical characteristics, which complete the artwork. "*An artwork in or on the land in such a way that a part of nature constitutes a part of the relevant work . . . not only is the site of an environmental work an environmental site, but the site itself is an aspect of the work*" (Carlson, 2000, Braly 2007)

Site-Conditioned/Determined Sculpture, where the site needs to be read by the artist to generate an intimate correlation with the artwork and procures a directly communication with the people of that site. (Wagenknecht-Harte, 1949)

Perceptual/Phenomenal Art, it is an extension of the others categories but which includes the power of perception of the people. Needs the people to be part of the artwork to feel and perceived the place.

But these three categories, even though, are explained by Wagenknecht-Harte for the urban landscape, are very much easier to use and defined the relationship Art/Site. However, it is not establish that it can be the artwork that completes and gives significance and meanings at a place that it is not yet considerate as such. That can be occurred when there is an aesthetic alienation of the forest and agriculture landscape, moreover for the habitants surrounding. And an artistic intervention would be lead to evoke the essence of the place that could be captured and revalue the place for the population. A common expression of the process of the use of the land as grass packets on the agricultural land which bring to the mind a natural presence but aesthetic view. (Wagenknecht-Harte, 1949)

Identity of the local linkage: Place

“Our relationship with the land is complex. We see stability in its mute permanence and flux in its unending variances. We exploit and attack nature, wrestling from it the things we need to survive. Yet we are also aware of its transcendent imperturbability, its awesome uncontrollable power.” (Kastner, J. 1998)

Monuments and artworks create places because they can organize space into centers of meaning. *“Though a statue is an object in our perceptual space, we see it as the centre of a space al its own. If sculpture is personal feeling made visible, then a building is an entire functional realm made visible, tangible, and sensible: it is the embodiment of the life of a culture”* (Tuan, 1974) *“I remember with great clarity the sculptures’ space and many of the feelings I experienced while in these places. I remember these places with great affection; they are personal places to me”* (Wagenknecht-Harte 1989) Like it was how Wagenknecht-Harte told the feeling to see after some time, sculptures which they have evoked affection to him. A sculpture acquires *Personality* expressed feelings that transform the site to a place unique for the individual or for a group of people (Tuan 1974).

According to the *Personality* of the place, Tuan (1974) identifies two kinds of places: *public symbols* and *fields of care*. Respectively, the first is recognised from its exterior, its history in that place, giving prominence and significance to the locality. The second requires a deeper understanding, recognition from the inside to know their nature. *Fields of care* evoke affection; humans create networks of links with them in a physical setting. *“The field of care is indubitably also a place if the people are emotionally bound to their material environment and If, further, they are conscious of its identity and spatial limit”* (Tuan, 1974). But is also its repetition which is capable of establishing a sense of place, its own nature doesn’t show from outside of its essence, only from within. So, it can be said that they are places of habit, a *“habit field”* that needs time to become familiar with and to feel the place and the objects to make it up.

Land Art in the process of planning

The identity of a place generates a strong linkage with the people that is very difficult to broke, and because of that, it could cause discrepancies. For this reason to plan an intervention of the landscape is a risk that could be avoided with a deep reading of the landscape, with cooperation between planners-artists and the population and considering fundamental aspects regarding the culture and social features:

The process of analysis or reading of landscape would require a holistic view which grasps the area and all its components. The information to collect will be in more detail depend the scale of the work and the data has to be inter-related. That required information has to be accurate. It would be searched by a multidisciplinary team. All the information has to be linked and processed by planners. It is also a necessary overview by visit to the area and study of synthetic images, because the experience of the place is fundamental part in the landscape architecture work. (Caldeira Cabral, 2003)

After the analysis and processing of the information, it required a selection of the areas to integrate Land Art. Usually by individual and solitarian intervention, the artist is who to selects the site and the intervention have not to follow a plan. But in those cases in which there are more than one artwork and pretend to be an outdoor gallery, has other rules. Depending of the scale, galleries in a place present the only requisites of that places and the site located inside of it. On the other hand, project with larger scale that could scope different landscape are influenced for territorial rules.



Figure 20: Elogio del Horizonte. Chillida, Gijón.
(Photo: Gabriel Sebastián)

Nancy Holt (Hellström, 2006) presents tree models of collaborations in the process of elaborate plan and selection of the site between planners-artists (Wagenknecht-Harte 1989). Thereby, a *correlative process* where the artist has made the artwork and the planner decide its location or site, as an example the sculpture Henri Moore in Louisiana Modern Art Gallerie (Figure 21). The *cooperative process* which differs of the precedent in that the artist has a conceptual idea for an artwork and art place, and the planner find the site appropriate to the idea

of the artist making it works, so “Elogio del Horizonte”, Chillida’s sculpture, is part of that relation. The artwork was thinking as motive of the horizon and the relation with the sea. The sound of the sea hitting on the cliffs can hear situated in the center of the sculpture. The planner located the sculpture in a park close to Gijón’s down town (Figure 20). The *collaborative process*, meanwhile, is resulted of the engagement between artist and planners or designers with different backgrounds and different ways of

looking. That is approaching to solve a situation that will be unique, creative and something new (Figure 21) (Wagenknecht-Harte 1989).



Figure 21: Henri Moore sculpture, MA. Louisiana.
(Photo: Gabriel Sebastián)

“An artwork in a public space traditionally meant the *aspirations* or the political and cultural memory share by the community. That though continuing influenced in the way to look at the contemporary artworks, even those devoid of this type of meaning historical or ideological”(Jaukkuri, 1997). Consequently the elaboration of a plan leads to consider several situations that were commented as problems by Jaukkuri (1997), which are in relation with economic, political, artistic, cultural, and ecological success level:

Administrative level:

- The scale of the project: how many artworks; territory that the project scopes;
- Implementation costs: high budget which could be spend in social invest;
- Planers and consulting team: how to take the decisions; has it been done a public consulting? ;How decide what artwork, the artist and the sites?;

Cultural level:

- The Contemporary Art: Is it understandable and valuable for the populations?; which information and knowledge have they about that?
- The Contemporary design (very abstract works): Use material and ideas to produce a questionable artwork; it is an uncertain value of the piece of art;
- Lack of the knowledge of the components of the landscape, mostly concerning to appreciation of the local culture and local traditions;

Ecological level:

It is the possible impacts of the damage that the artwork can be causes and its direct and indirect consequences against the nature. (Jaukkuri, 1997)

Example projects

The three projects under study were the inspiration and source of experience for this master project. They were searching for new horizons opened from the 60's and the modern art. Land art have become a contemporary trend where the artist work on and with the landscape following lines of the ecologic and sustainable development as sensibility a new consciousness for the environment. And of this fact the utility, with which it has to used, has been to boost a territory.

The project has a similar experience of the case study; they grow with the idea to create a set of land artworks using the territory as a gallery. The scale of the project is different, working in a regional, province and local level respectively.

Artscape Norldland - Skulpturlandskap Nordland (Norway): *Art take place* (Jaukkuri 1999).

The project pretended given a dialogue between the sculpture, the landscape and the spectator. It started in 1992 and it was developed until 1998, period which 33 artworks were installed each one in a municipality of Nordland county. The extension of the geographical area is around 40.000 kilometres square. It was finances by the Parliament of Norway, Nordland County, sponsors, and other sources.

The idea has its root in the Artist Anne Katrine Dolven, 1988. The means was to create a public collection of artworks scattered across Nordland region, because it is a territory with few population and where the expression of the contemporary art is not extended. She said "whether the periphery of the artworld could become a centre by taking its starting point in the specific features that characterise the place itself, in this case Nordland with its scattered settlements and dramatic nature" (Anne Katrine Dolven, 1988, in: Jaukkuri, 1999). Soon critics of art and historians wrapped in the project and organized a program. They and the state of the region created a commission to take over of the project.

The artworks are sculptures which respond to art and landscape. There are disperse on a huge territory due it requires at least a week driving to be able to look at the artworks. Artwork like these must be permanents.

The selection of the artist was done geographically form the center spreading out to the limits of the municipalities. Then the Norwegian artists worked in the centre of Nordland, next from other Nordic countries then the rest. The idea was to give more attention to the local culture and identity. The other method to select the artist was about the artist's information and about their own artworks; some of the ideas to make a sculpture were selected by the commission. That commission has a background of a clear intention and in their requirements was the artist was able to choose a site but in a determinate municipality. The artworks must be permanent and in agreement with each Municipality (Jaukkuri, 1999)

Arte y Naturaleza, Huesca (Spain)



Figure 22: explains at *Siglo XX*, Ulrich Rückvien, 1995. Project Arte y Naturaleza. (Photo: Santiago Herrero)

It is a project which gathers a building and the landscape of the province of Huesca which contain of has an area of 161 km². The building is the center for exposition and information. It supports the touristic infrastructure of the 10 land artworks which are located in the landscape. Nevertheless, the project leads a big part of researching about all the themes that relate art and nature (Figure 22). Therefore, the artworks are part of the subject to research of them (Maderuelo, 1996)

It is assumed that the territory has elements with a common identity. In Huesca, where there is great landscape diversity, they wanted to introduce around ten artworks that all together make a coherent set with attractiveness to invite to do an itinerary for the Huesca's territory. Through the project "Art and Nature" has been created that interventions located in different areas on the territory of the province to bring the visitor to enjoy the diverse landscapes and make a relation with it. (Maderuelo, 1996)



Figure 23: David Nash 2005, *Three Sun Vessels*. Project Arte y Naturaleza. (Photo: Santiago Herrero)

The artists have been carefully selected. They are international artist globally known that make of the exhibition an authentic interesting experience focusing in a national and international projection. It leads to be more attractive for the tourism and an opportunity to study the relation of the artwork with its site. (Maderuelo, 1996)

The sites have been selected freely by the artist without any more prerequisites that which the land and the territory lay or the budget intended for the artwork (Figure 23). The artworks are independent on each other and they are created just for this specific site going to transform in a place. (Maderuelo, 1996) To visit this sites are required a car and a day to look at them.

The Foundation 's Beulas with support of the Municipality took out the project with the main aim to do a reference at the itineraries of the studies of contemporary art. It leads to the territory to get a contemporary look which reclaim international attention facing the tourism and the research.

Konst på Hög, Kumla(Sweden): A romantic view of the industrial ruins (Nilson, 2007).

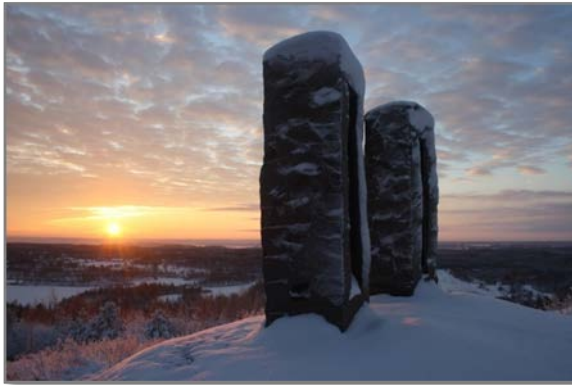


Figure 24: Pål Svenssons, 1998. *Ljusrum I och II*.
Sculpture. Konst på Hög. (Photo: Gabriel Sebastián)

The project is a set of sculptures of different well-known Swedish artist located on the top of an historical manmade hill. That hill is not only a support whether is also part of the artwork. Its historical character and features together with the sculptures have done a conversion to an invaluable cultural sculpture park (Figure 24, 25 (Anders Fasth, 2011).

The idea emerged from Anders Fasth and Olle Medin, both artists whom interpreted the place as a romantic view of the industrial ruins. They promoted and idealized the transformation of the hill Kvarntorp for the repulsive look to the magnificent of the place. New generations of artists used them as a framework which have given relevance to the former industrial places, sometimes as an ecological protest and other as a positive view to recycle, regenerate and reutilization the old sites. (Nilson, 2007)

The place is a heap of ashes, slag of the leftovers made during the oil extraction of the mountain in the 40's and 50's. The hill of leftovers had reaches a height of one hundred meters upon the Närke's plain. It still has activity inside due the combustion of the ashes appearing smoke, zones polluted and strong smell of the sulfurous. After the industrial activity began to be used as a balcony open to the 360° view and slope for skiers. But the site is a place typified by its temporality and historicity. It is involved in its context given a special melancholic character of the classic landscape ruins. It is a place in itself which was forgotten has a part of the history and has acquired a romantic expression, sense and significance. The new use of the place has not done more than to denote even more its romantic character and given an artistic presence full of contents and meanings.



Figure 25: Waaal, Lars Vilks , 1998. Sculpture in Konst på Hög.
(Photo: Gabriel Sebastián)

The promoters were Fasth and Medin whom, with effort and some contributions, financed the first artworks 14 years ago. Then was Kumla Municipality which adopted the project and regional companies, institutions and foundations which supported the role of the project, but it is now Anders Fast who leads the project and the Municipality who manages.

The selection of the artist was just because the project leaders known their works, material used and conceptual ideas. For the selection of the artist he used the following guidelines: to be Swedish; to be well-known to catch importance; to be from the region (Figure 24, 25). In every case they were invited to participate. The method of work consisted in the cooperation with the artist but the selection of the place was by Anders because he knew the artwork already done or he has known the artists and his artworks. In some case the selection of the place was made by the artist in a determinate area on Kvarntorp Hill. (Anders Fasth, 2011)

The project has been the engine for the artistic initiative to invest in artworks improving the good looking of the town. Kumla is now known in a great scope to decide look for art as identity. Currently the affair is an important deal for the inhabitants of Kumla. They catch the “Art on the Hill” as their own place. If they are some intervention that somebody don’t like, they are others which are attractive for them. It is when the story continues towards new horizons.

Reflections

Land Art is a step in the new era of the use of the landscape. It has been a successful artistic work for several motives by:

- its character expressive and reclaim;
- Easy communication with all type of public;
- Consideration and beatification of aggressive transformed landscapes;
- Generate a local linkage;
- Establish a relationship with the site and place;
- Some case can cause sublime;
- The nature of the artwork.

Further permanent artworks are part of the cultural heritage for future generations more that ephemeral art that are for a moment of the present. The way to take and to have a popular acceptance of the project is important to create a public symbol evoking affection by the dialogue that the artworks cause to the public. Therefore, the natural aspect and the way to reach it, appear important to get aesthetic and ethical values that are considering as points of popular value. In spite of the aesthetic value, the most important of the artwork would empathize the *Genius loci* and to create a close communication with the local people. The lack of knowledge that foreign artists has about the territory, local traditions and local culture, would be resolved through workshops or informative sessions between artist and local population. Likewise the relation artist corresponds to the collaborative process artist planner that was commented before. Also it is necessary to involve to the population in the process of selection of the artworks by public consulting.

Where it has been a positive cultural fact, indeed, there are some action lines that would be fixed. That is related with the selection of the sites which present problems. The work has to be in a close relation with the site because the site is part of the work. Site involves the artist in a idea representing as a artwork. So Site states and determinates the sculpture or intervention. As main question in this project: how to integrate Land Art in the process of landscape planning; emerge the questions: which can the procedure be of selection of the site? That concerning in the essential consideration that will depend of the scale of the project and where is located, guidelines, and so on. But it would suggest indications or suitable requisites to select possible site, such as:

- The natural component lead not to search in urban landscapes, instead in the rural landscape looking for feeling of the nature;
- Use a plan as a strategy around the nature protection and conservation, and stimulate areas devaluated or less known;
- It requires a network of service to provide to the visitors in the way to be organized and planning, and not disturb to the local population and their normal activities.
- It should not affect recreational activities as hunting, fishing, instead it should benefit and foment others activities;
- Accessibility and good communication by foot or by bike, avoiding cars.

6. GUIDELINES

Every intervention over the land has to follow rules, advertisement and laws. Corresponding to the subjects Land Art, Greenways and its incidence in landscape plans and programs, affect to the main question, Nature. So it must be considerate instruments in relation with the landscape planning, nature protection, management and conservation. In accordance with the European framework following instruments could be found:

- European landscape convention (ELC): 20 October 2000 in Florence (Italy) emerge a treatment to promote the protection, management and planning of European Landscapes;
- World Heritage list: to preserve and value the cultural, natural and historical heritage;
- Habitat and Bird Directives of EU: To preserve and protect habitats of European community interest and to protect the birds;
- Network Natura 2000: it is the Conservation value habitat in the European Union. It has been selected to the network to planning for the areas be preserved and managed;
- Agenda 21: Agenda 21 was adopted in the UN Conference on Environment and Development in Rio de Janeiro on June 1992. The agenda provides goals and guidelines for achieving a sustainable development, eradicate poverty and eliminate threats to the environment. Its implementation is long and extends to the 21st century.

PROPOSAL/ CASE STUDY

This master project could be considered as part of the project “Öreferie- sustainable tourism in the landscape of the Öresund region”. Öreferie is focused in the developing municipalities which have a great potential towards new touristic opportunities. Its challenge is promoted plans and programs made for the cooperation of all the stakeholders (Municipalities, universities, landowners, *inter alia*). The goal is to foment those touristic activities, places and sites already existed but not at all explored while seeking new opportunities for the tourism. (Lardner, 2010)

This project seeks to emphasize the aesthetic qualities of the landscape, provide wildlife corridors, being part of tourism infrastructure and be part of public space.

7. APPROACH OF A POPOSAL



Figure 26: homogenization of the forest. Sjöbo
(Photo: Gabriel Sebastián)

Land art and greenway planning in Sjöbo” could be a part of the Comprehensive Plan (Översiktsplan 2008) of Sjöbo. It is a fundamental piece to support the global development of the municipality against the constraints imposed by general and partial urban plans. This plan could be a priority consideration due of the need of multifunctional

strategies on the landscape when production, recreation and protection play the biggest role (Haaland et al., 2010). Thus a lack of any

binding national and regional planning systems in Sweden and of necessary resources and knowledge to plan for biodiversity have been identified as problems in green structure planning (Haaland et al. 2010). The protection against the accelerating urban sprawl into agricultural land; to homogenisation process of the landscape (Figure 26); the accessibility in the peri-urban agricultural areas; the increasing of the biodiversity; foment of the cultural heritage preservation are the objectives of this greenways strategic (Haaland et al, 2010; Andersson et al. 2010)

The proposal is a plan which indicates the position over cartography of the areas for land artworks and greenways. This project develops a rural strategic plan which has as function to contribute for coherence and balance spatial relationship between the recreation, conservation and production of the landscape.

8. SJÖBO

Regional location



Figure 27: location of Skåne in Sweden
(Image: Gabriel Sebastián)



Figure 28: Øresund regions
(Image: Gabriel Sebastián)



Figure 29: location of Sjöbo in Skåne
(Image: Gabriel Sebastián)

The case study is done in Sjöbo Municipality. It is located in the center of the Skåne, southern region of Sweden (Figure 27 and 28). It is the region in which in the last decades have more increased the population and it has been the first to suffer the changes in the landscape (Översiktplan 2008, Sjöbo Kommun).

Skåne is situated in a strategic position. It has very high availability for its proximity and good connection with Denmark, Germany and Poland. It acts as an international gateway to Sweden and as distribution merchandise to whole Sweden. It presents a diversity of life style (peacefully countryside and the stressful city), variability of landscapes (open agricultural fields, rolling hills, forest, and sea coast line) and a high rich of cultural heritage (art, valuable environments, cultural history towns, churches).

Furthermore it can be identify economic, cultural and recreational opportunities and potentialities. This is due to its natural wealth, its strong agricultural and livestock sector, the concentration of big industries, the presence of the cultural heritage from the past and the current cultural expression for the future (Översiktplan 2008, Sjöbo Kommun).

In others terms, Skåne belongs to Øresund regions (Figure 29). This region is created as economic and social development between Sweden and Denmark. The region is determinate by its location and history. It is constituted a strategic market flow connection by the Baltic Ocean, and it has had a high importance for the culture of the two countries. One of the most impressive characteristic is a biggest metropolis area which presenting 3.7million inhabitants, 1.2 millions in Skåne, living there and developing most dynamic region in Europe (Länstyrelsens,2011).

Territorial location



Figure 30: Sjöbo

(Image: Gabriel Sebastián)

Sjöbo Municipality is located on the inside of Skåne. The territory has a surface of 49.500 ha. Its administrative boundaries limited with the following Municipalities: Hörby to the north, Tomelilla to the East, Ystad and Skurup to the South, Lund and Eslöv to the West. (Figure 30) The Municipality is in turn divided in four small municipalities: Center, North East and in the West, with its services centers Sjöbo, Vollsjö, Lövestad and Blentarp respectively (översiktsplan, 2008)(Figure 30).

Socio-economic context

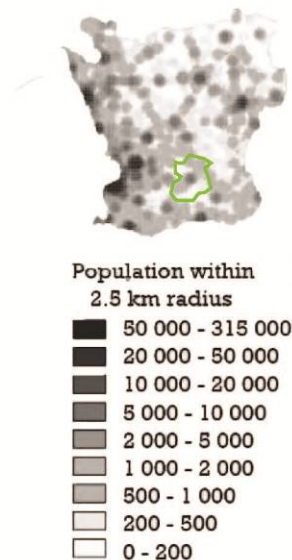


Figure 31: Population of Sjöbo

(Image: Gabriel Sebastián)

In Skåne has been generated a populate concentration on the coast lines (Figure 11). Thus, for one part, Malmö is set the main industries, services and tourism whereby Malmö is an attraction point for job and recreation. In the other hand, the south and eastern coast of Skåne is the set of the recreation activities mostly in summer time.

The population in Sjöbo municipality are 18.000 inhabitants (Översiktsplan2008). This is 0,36 habitants by ha. Which compared with the density of population in Sweden (0,2 h/ha.) can be a sensation that it is high but comparing with Malmö (17,7 h/ha.) is very low.

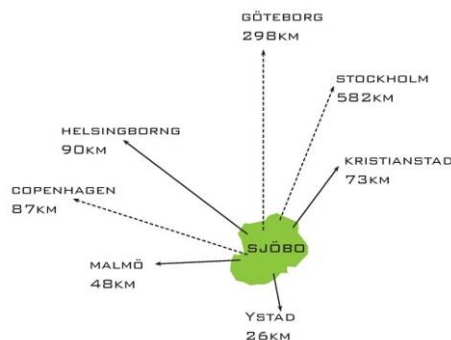


Figure 32: Distances from Sjöbo

(Image: Gabriel Sebastián)

Sjöbo is into a ratio of 100km are Copenhagen, Malmö and Lund (Figure 32) consequently it causes the translocation of 5.500 persons to the cities assuming an investment in infrastructures and public transportation (Översiktsplan,2008). That position is a potential for a tourism attraction.

Historical and cultural context

The identity of Skåne plays an important role in the character of its municipalities. The agricultural use of the land was motivated for the fertility of its soils and the best weather conditions in Sweden. The Open agricultural land shows the long tradition of this use of the land. Ancient farms bring to the image time passed with a society just basic in the agricultural production. Alley with pruning trees marks boundaries between proprieties trails and drainage systems, although mostly are disappeared. But also the history and the culture appeared in the traditional architecture, in churches and houses, and in the slots of the ancient manors, magnificent legacy form the XVIII and XIX century (Översiktsplan för Sjöbokommun 2008).

Moreover, Sjöbo has its own identity. Its cultural heritage came from centuries ago and not so long time ago. There are old traditions as the handicrafts, maintenance of small industries and several potteries that it came a hundred years ago when Sjöbo was a main center in Skåne. The Museum of agricultural tools, kilns for limestones and medieval churches are other pieces of heritage. Historical industrial limestone quarries and interesting geologic formations set with wealth fauna and flora have given a natural heritage to Sjöbo. (Översiktsplan för Sjöbokommun 2008).

Annual expositions in museum, ancient farms and galleries are complemented with temporal festivals activities, like the art expositions during Easter and the Maker “Sjöbo fair” in Summer time, as an attraction in the area (Sjöbo, 2010).

Perhaps the outdoor activities attach more influence gain the tourism attraction. Horse and horse riding has become an important role for the municipality authority and for the owners. The horse business has been influenced for the ideal conditions of the area. The variety and beauty of the landscape together with a network of bridleways make it possible. Further 60 km of rambling trails, Sjöbo golf club, lakes for fishing and bathing. (Sjöbo, 2010)

Characterization of the landscape in Sjöbo

Sjöbo in broad terms is characterized by its natural wealth. The physiographic configuration creates a narrow valley with diversity of ecosystems, plants and animals further three lakes add to the landscape more attractive. There is large extension of forestland complemented by the natural reserves and areas over the Natura 2000.

The characterization of the landscape has been done of a systematic form. The systematic or holistic approach is very important to get an understanding of the integral perspective of the landscape. The information should be done in a global integration with the objective to foment the understanding of the structure and its motion. This is due to the inherent problem that analytical parameter can be came to a mistake, despising some fundamental characteristic. (Zonneveld, 1985 in: Cancela D’ Abreu 2004).

Thus it will avoid loss of the information and will make easier the analysis of the information and its representation. The study of the landscape is done using cartography at scale 1: 250.000 to embrace the entire municipality. The components of the landscape system influential for the project are: geology, orography, water, vegetation, fauna, use and function of the territory.

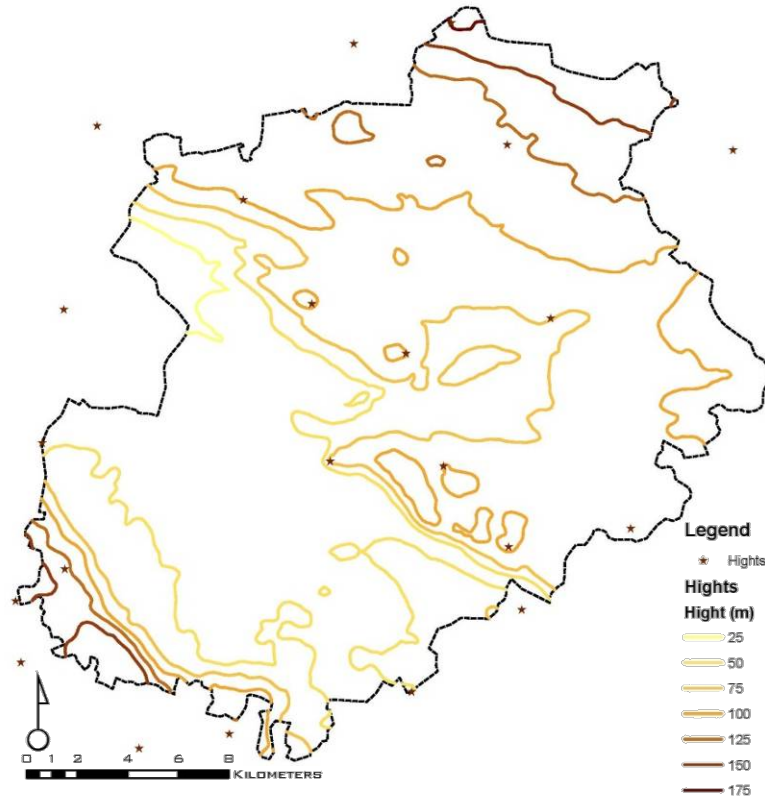


Figure 33: topography of Sjöbo

(Image: Gabriel Sebastián)

The **Geology** of Sjöbo is composed by a basement of granites and gneisses converts with sedimentary rocks. The bedrocks represent two periods, first one around 2000 years ago and the second for the last glacial period. Due to the glacial, a bedrock moraine makes the most significance geology formation. Thus to the southeast of Sjöbo begins Fyledalen appear a valley with wealth variety of rare minerals. (Översiktsplan för Sjöbo Municipality, 2008)

Physiography: The orography of Sjöbo is very varied. It presents an undulating terrain. The topography is characterized by ripples. It gives a big character in comparison with other municipalities around. In the south is located Romeleåsen with 188m of slop from the ridge to the valley (Översiktsplan för Sjöbokommun, 2008) (Figure 33)

Water: The ground water resource presents more resources than the surface, but for this study case the surface water is more important. One difference that Sjöbo has with the other municipalities in the south of Skåne is its lakes, Vombsjön and Snogeholssjön mainly, and the wide watersheds of Åsumsån and Fyledalen (Figure 34) (Översiktsplan för Sjöbokommun, 2008)

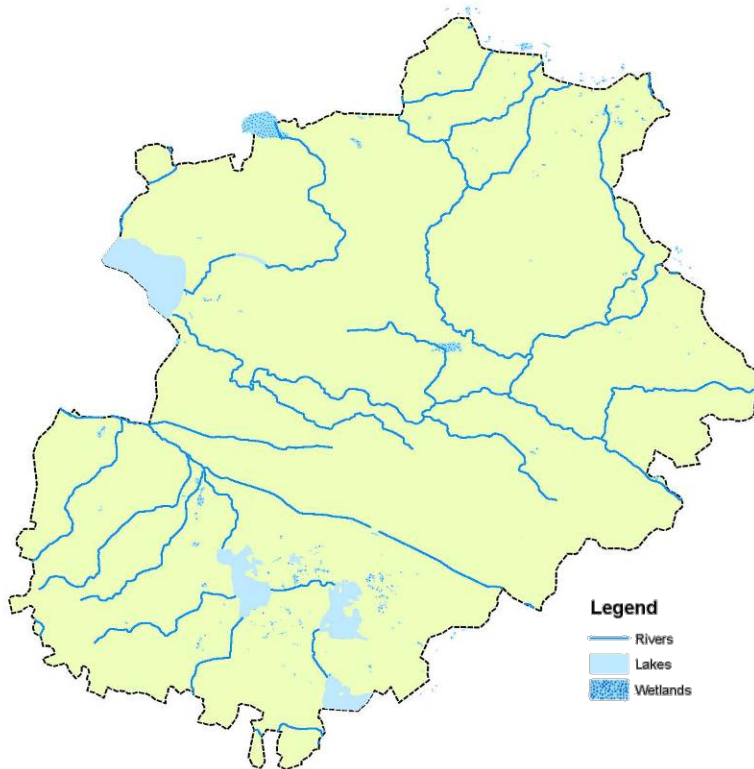


Figure 34: hydrology
(Image: Gabriel Sebastián)

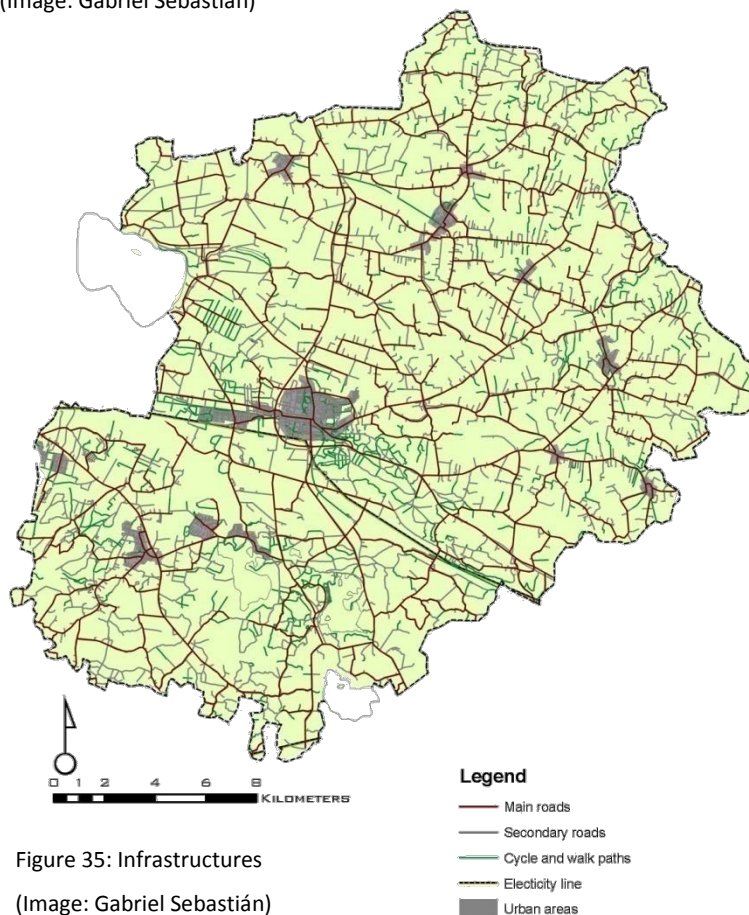


Figure 35: Infrastructures
(Image: Gabriel Sebastián)

Fauna: The fauna is rich in species, but the most interesting is the avifauna. The birds more representatives are: cranes, geese and ducks on the lakes; and eagles on the forest. Fish: European perch, pike, pikeperch and eel, all of them allow for fishing activities. Big mammals roe deer and red deer, *inter alia* are part of the hunting species that can be found. (Översiktsplan för Sjöbokommun, 2008)

Infrastructure: The most significance is the wide network of road that covers adequately the accessibility by car. The main road connects Malmö and Lund with Ystad so it can see the influence of traffic. The bicycle network continue increasing with new plans, but it is appreciated a lack on connection between the urban areas and a discontinuity between them. Nevertheless, Skåneleden cross south and east part of the municipality given a fantastic and enjoyable path for the bicycle activities. (Figure 35) (Sjöbo, 2008).

Part of the infrastructure is also the electric lines existing big lines which cross the municipality. Its way establishes an interesting open line space that in case is no productive.

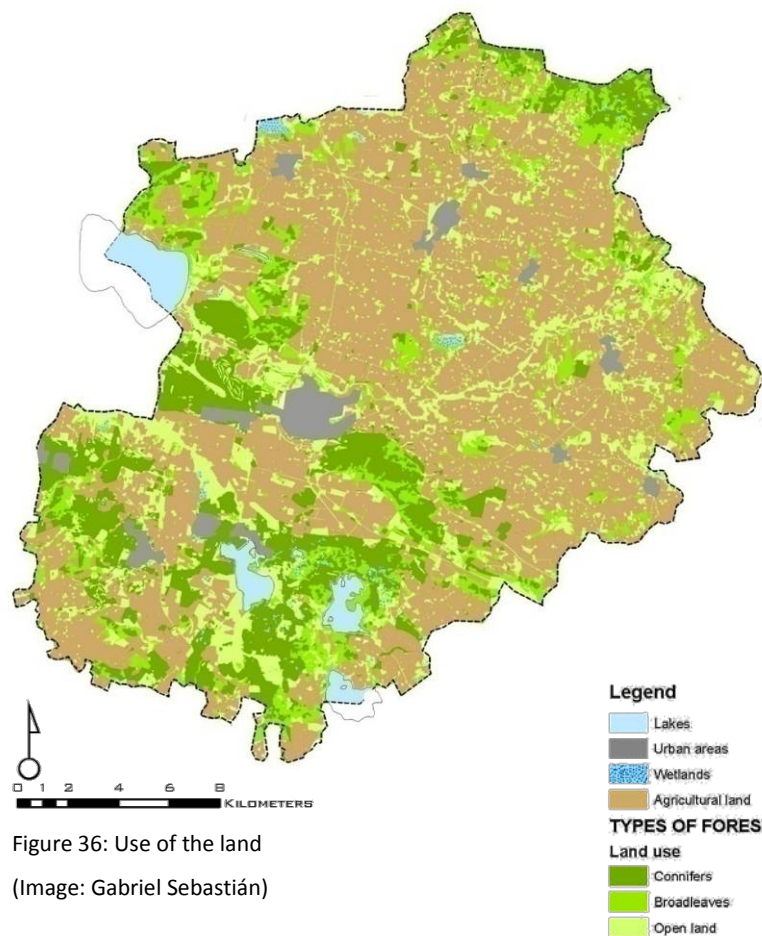


Figure 36: Use of the land

(Image: Gabriel Sebastián)

Use of the land: Sjöbo is a typical agricultural region. 54% of the municipality area is occupied by agricultural fields and 8% of the land is for pasture. Therefore, it is cultivated grain and hay, but other areas are used for sugar beet, oilseeds and potatoes production. There are large forest areas, particularly on the ridges and around the large lakes. That concentration of the forest is in the north and south of the municipality. The conifers (mostly spruce) present around 60% of the forestland, leaving the rest in broadleaves (mostly beech forest and mix).

Perhaps the forest presents a great value for the outdoor recreation more than for production (Figure 36) (Översiktsplan för Sjöbokommun, 2008). Sjöbo present seven defined urban areas being Sjöbo the main and biggest, located in the heart of the municipality.

Aesthetic: Known that is a subjective and individual perception, that the range of the municipality is wide and that it would require a study in more detail, it is described briefly which sensation could be felt in Sjöbo. Its undulate physiography has places from which to contemplate a wide view and other when the feeling is density and darkness. Spruce forest is in contact with broadleaf forest where it can witness a strong change of feelings, lightness, colours and smells are radically appreciated. In mix forest the equilibrium is founded and just it is comparable with the open landscape of agricultural land and meadows. Perhaps the most grateful contrast is founded between the lakes and the greenery of the surrounding. As not in other way in Sweden, the identity of the country and historical settlement are the architecture of its building construction with red and white colours. Perhaps Sjöbo is one of the most beautiful and contrasting territories in the south of Sweden where the touristic outdoor activities can be a perfect option to enjoy the nature.

Guidelines

After in the point 6 have been indicated the general instruments below this project are, it appoints the guidelines that influence the project located in Sjöbo municipality, Sweden.

1-National instruments:

- Swedish Environmental Code 1998: implementing the Habitat and Bird Directives of EU legislation, protecting valuable areas like nature reserves and national parks;
- Swedish Rural Development Programme 2007-2013: Subsidies for managing and protecting the biodiversity of the agricultural landscape, information and education in order to preserve and enhance the management of biological, cultural and historical values. (Jordbruksverket, 2011)
- Right of Public Access (Naturvårdsverket, 2011)
- Swedish environmental objectives (human health, protecting biodiversity and cultural heritage, conserving the production ability of ecosystems and maintaining good sustainability of natural resources (Naturvårdsverket, 2011);

2-Regional Plan.

3-Municipal Comprehensive Plan (Sjöbo Översiktsplan 2008)

- a. Horse riding project
- b. Planned urban complex
- c. Simrishamn line

4-Agenda 21:

Sjöbo adopted in 1999 local objectives;

5-Naturmiljö:

- a. Natura 2000: Björkaån
- b. Habitat Directive (SIC areas)
- c. Birds Directive (SPAs)
- d. Riksinteresse naturvård; Naturreservat; landskapsvildsskydd; värdefulla vatten;
- e. Risk Friluftsliv: Trafikplan, 2001.

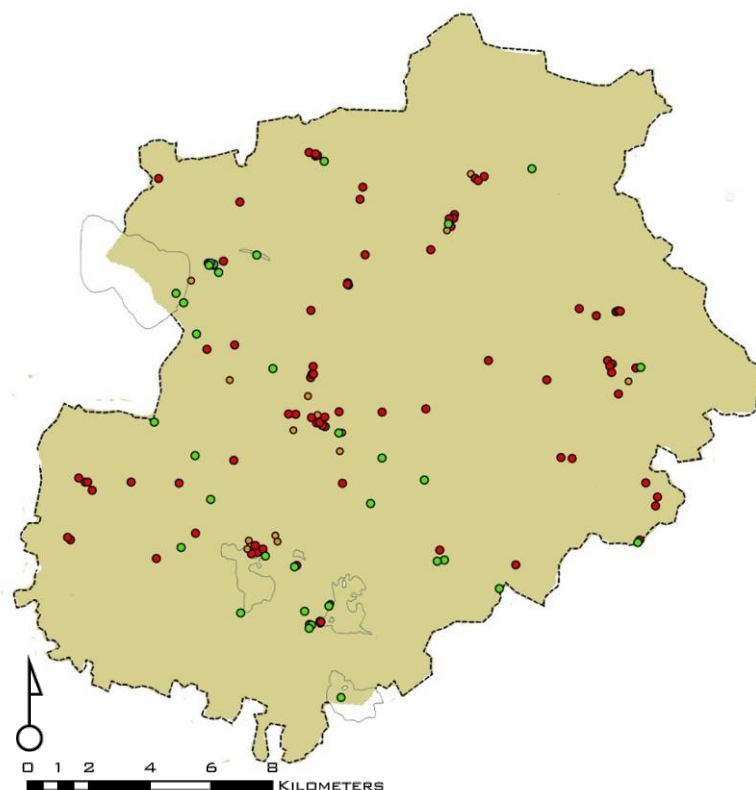
10. HOTSPOTS

The aim is to locate touristic Hotspots. For this project, Hotspots are areas to encompass most concentration of touristic elements, spaces and sites which contain the necessary services to support the visitors for one or more journeys. The located Hotspots lead a tourism strategic plan due to its magnitude at the municipality scale.

Demand for quality tourism precise basic services. Thus for the arrival is needed parking for vehicles, a good communication with the main towns by public transportation, and places with information to start the visit. To continue the journey must provide place to eat and where to buy food like restaurant and food stores. Marks, signals, and thematic panels will provide all the information required to all type of tourist.

Moreover, the selected hotspots are the nucleus, the nodes, with which it is designed the greenway network. Greenways will be the elements which linking the Hotspots. These will develop a controlled and sustainable tourism.

Selection process



To achieve where to locate the hotspot it is used a digital cartography and geo-referenced touristic data (inventering_2010) (Figure 37). The data is provided by the project Öreferie and Sjöbo Municipality. It contains all the information about the different places and elements which have a touristic interest in Sjöbo Municipality. That database is processing by GIS. To adequate the searching for the Hotspot has been done a categorization of the touristic points such as culture, nature,

Figure 37: Touristic points setting in categories in Sjöbo municipality.
(Image: Gabriel Sebastián)

The process of selection passes for several procedures to be able the processing by the GIS. The mapping and the selection of the hotspot have followed conditions or requisites. The requisites are the criteria which should have an area for to be a Hotspot. These criteria are used on the way to choose the Hotspot. To reach the objective, a hotspot will be a starting point and it must have a higher concentration of touristic sites and at least present the four selected categories and, in base of that, they will be which offer the best services. Accordingly it must be have the basic services to support tourism, and to understand that have been required to have a parking, a restaurant, store and a bus stop. To have a better explanation then it is described the procedures and stage to get the hotspots.

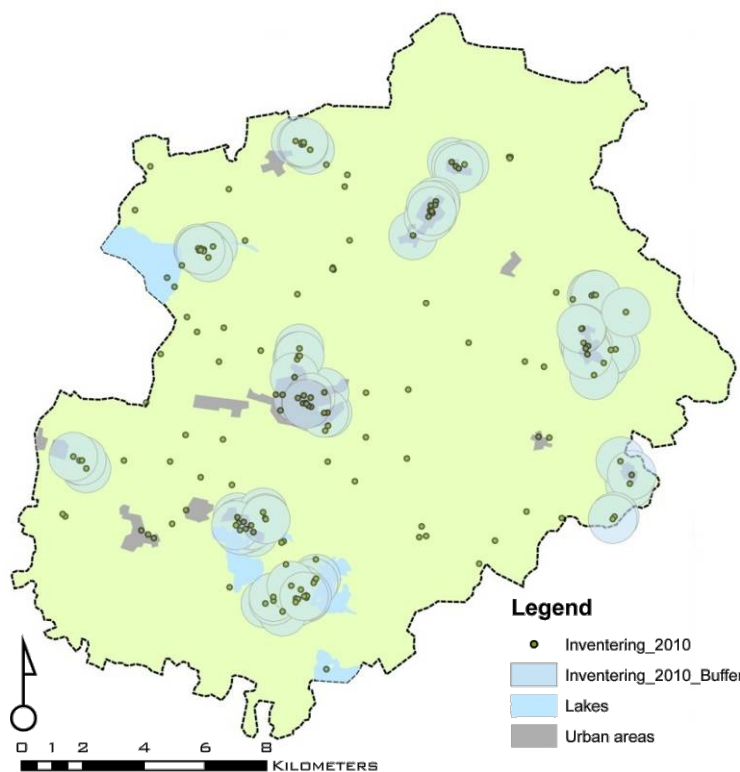


Figure 38: Requisite 1 and 2. Buffer 1km. 9 sites selected.

(Image: Gabriel Sebastián)

Procedure nº 1: Overlay of the Inventering 2010 database (Project Öreferie). All the touristic points and their geo-referential data are moving to a reference system SweREF99. (Figure 37)

Requisite nº1: The touristic points are analysed by tools of the GIS programme. It uses buffers with 1km of radio used as a middle distance to which it could go walking and can be achieved with the view. A map has been created with buffers of 1km from each touristic point.

Requisite nº2: Select the areas which have more than 4 touristic points inside of a buffer of 1km to rule out isolated elements. The result gave 9 areas. ((Figure 38)

Procedure nº2: Set the touristic sites for categories: culture, nature, recreation and accommodation. To get an understanding of the geographic distribution by the topologic of the points. The categorization is done by analysis of the proprieties of the data Inventering_2010

Requisite n°3: According with the 9 points, it is applied a new buffer of 1 km which grasps at least one point of each category. It is due to make sure an attractive and diverse starting point. Then the result gives 7 areas. (Figure 39)

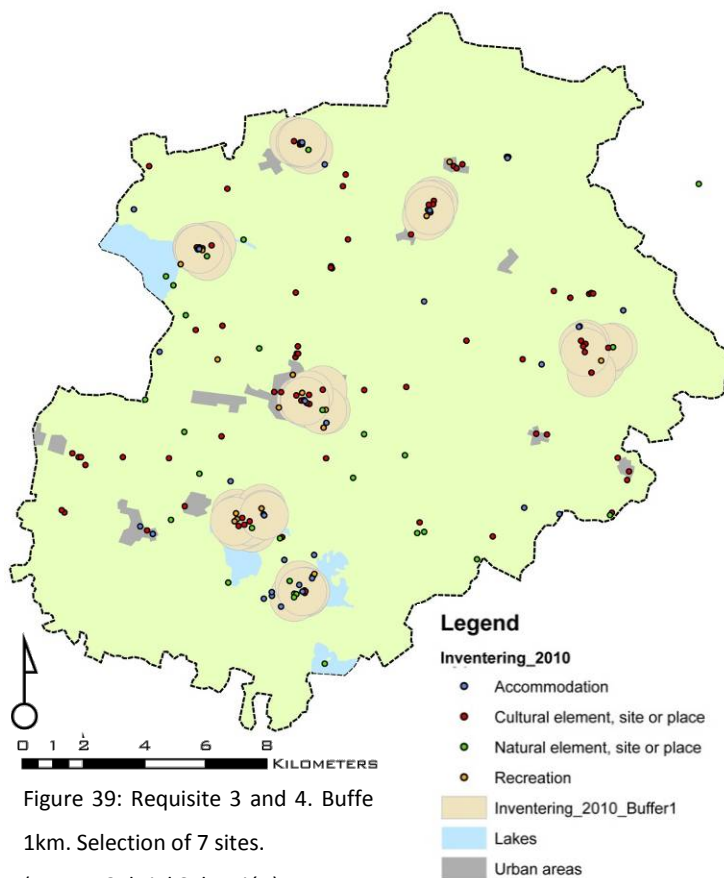


Figure 39: Requisite 3 and 4. Buffer 1km. Selection of 7 sites.
(Image: Gabriel Sebastián)

Requisite n°4: By the analysis of the 7 detected areas it has consulted data base given by the Municipality. It has been convenient to consult in that database and also by study in field where there are restaurants and sites provided with parking. Furthermore it was needed to know bus stops and food shops. Consequently those have been considerate basic services to provide the visitors. Then the next requisite to select the hotspots is that at least to have a restaurant, a bus stop, a parking area and a food shop. As a result are 5 urban areas which offer those services: Sjöbo, Svöde, Lövestad, Vollsjö and Bjärsjölagård. In consequence those sites will be the hotspots. (Figure 40)

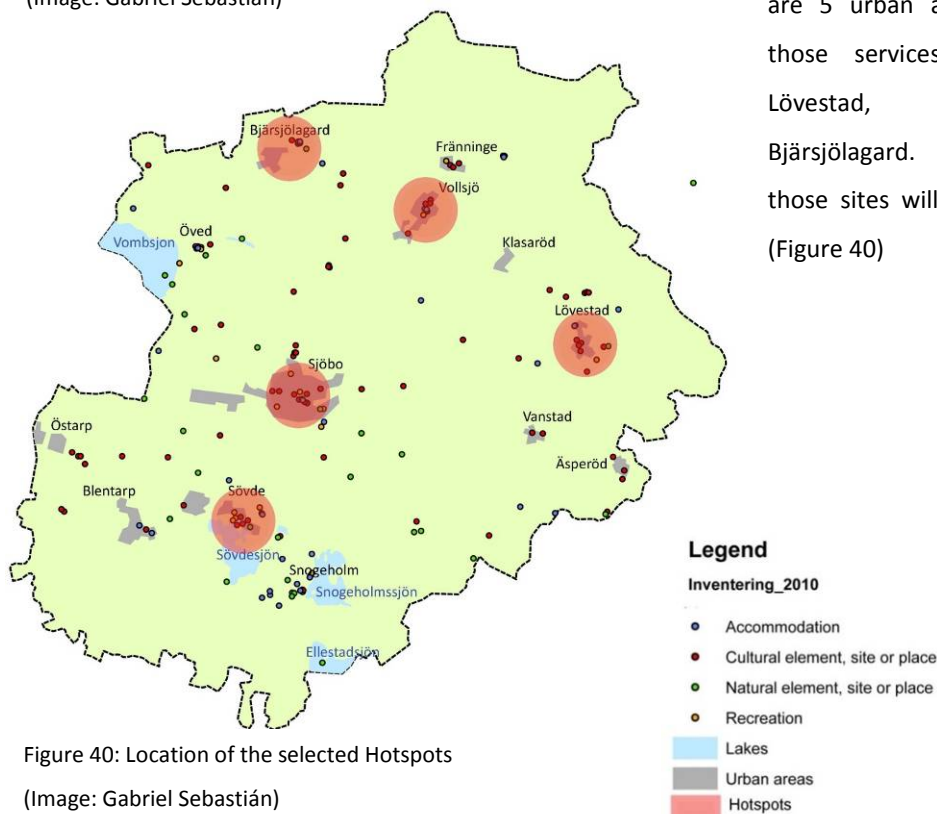


Figure 40: Location of the selected Hotspots
(Image: Gabriel Sebastián)

Reflection

Studying to the Inventering 2010 database, it can be understood that it have been added just sites already with an activity or interest in its background. As it can be seen in the figure 38, perhaps the areas more interesting and magnificent sweeping views due its highest in the territory, Romeleåsen and Linderödsåsen, present a lack in touristic points or sites. Hence it hadn't taken in consideration other attributes, like aesthetic, which it could be highly valued by visitors.

Otherwise, the touristic points are widely spread for the rest of the municipality so it gives diversity in the whole territory. Indeed, how it might expect, the bigger concentration of that points are in the biggest settlements. Besides, the settlements are able to provide the basic services for the tourism. However, it has not been in all the existing settlements where have passed the requirements.

On the other hand, the categorization would be deeper but it was not the objective to gain an efficient solution. Moreover, the requisite of a 1 km radio for the buffers it might be longer or shorter but considering the working scale it is correct for the dimension of urban settlements and dimension of the territory.

Somehow, the hotspots are in five sites perfectly located in the territory with the aim to settle a greenway network which connected all of them.

11. GREENWAY NETWORK

The greenway network in Sjöbo is a new challenge. It is a tool for the landscape change process. It is a landscape planning strategy for the conservation of flora and fauna, for the human recreation and communication, and an original way to use the territory. Those affirmations can be considered as conclusion and part of the main aim of this project but there are also four conceptual ideas what a greenway network is:

- Corridors
- Recreational places
- Ways of connection
- Strategies for the changes of the uses of the landscape.

Why integrate greenway planning in Sjöbo?

Greenways are focused in a goal, the realizing a sustainable multifunctional landscape so is going in the political way of the new changes for the European landscapes. As a consequence, the innovation of greenways is several uses that provide to the human life. So thinking in the goal that this project has for Sjöbo, the tourism, the greenway network will suppose to make part of the attractiveness of the municipality for tourism recreation. Greenways are supports of new ways of mobility, walking, riding, biking, or and other activities, then is not the only function it would be, in this case the beautiful of the nature provide a new way to promote the aesthetic experience to feel and enjoy of Sjöbo.

The magnified diversity of habitats of wildlife, the high presence of forested areas and natural reserves found in the current study case, leads to focus the greenways network on the tourism and its recreational use. Nevertheless, no doubt that ecological character is very important in the selection process. Thus natural reserves, areas of bird protection, areas Natura 2000 and wetlands are areas of contact which provide character of a corridor to a greenway.

Other of the possible use of the greenways in Sjöbo is the connection of touristic points opening new routes of accessibility of the land, forest and agricultural land. At the same time it is an instrument of landscape ecology which helps to conserve and maintenance the biological process, to control the new change of the landscape and to promote new sustainable uses of the land.

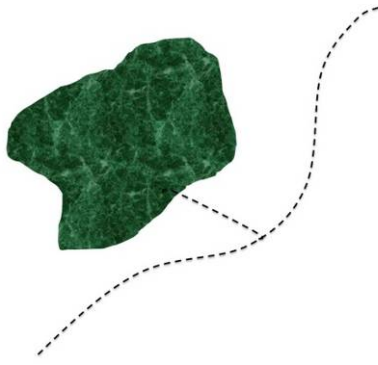


Figure 41: Greenways strategy
(Image: Gabriel Sebastián)

Even though the network will be created as part a tourism planning strategy. The Greenways network is proposed as a system and a framework of conservation (Walmsley, Mednick & Benedict, 2002, p. 115-118, 120 in: Walmsley, 2006). It is a resource planning, a plan which includes protective, defensive, offensive and opportunistic spatial strategies (Ahern, 2002). Those strategies can be used depending of the case. Sjöbo could be some of them due to its natural richness and its diverse uses of the land. In consequence, for example the wetlands could be areas which require a defensive strategy given by greenways. In this way, a taken model form Hellmund

(1993) allows that the greenway goes around the area with the purpose to protect with a buffer. Taking in consideration that one of the objectives of greenways is the recreation and the interaction of the people with the nature, a form to resolve the use is propose a branch from the main trail which brings people who are interested to see the wetland, avoiding the main flow of people (Figure 41).

Making a greenway network

On the way to propose a network in Sjöbo it has been done an overview to the land use map because it has helped to contemplate different features. As well as to study the pattern formed by the agricultural fields, which are much extended and leaves place to the forest around the lakes, rivers and on steep slopes. According with the taxonomy definition of the landscape structure (Forman and Gordon, 1986; Ahern, 1991), thus in this study case, "patch" will be conifers and broadleaves forest areas, lakes and urban settlements; "corridor" will be rivers, road and forest line structures; "matrix" will be open fields represented by meadows and crops. The network will be formed by linear structures, open land areas and nodes. The greenways will be the corridors, the conducts and the ways which connect the hotspot and the touristic points spread in the territory.

The technique used to select the areas is mapping by GIS software to synthesize the data and process in base to the criteria. It is a process in vectors basic data bases pre-treated and synthetic. Then the map with the greenways is drawn as compendium of the background and the analysis of the preceding map. Once it has selected the Hotspots it would be connected using the network because one objective of the study case is to establish a touristic network. It is elaborated three networks to choose one of them. The best network will be which reach the objective set for the project Örefeire.

Process of selection: assumptions, requisites and alternatives

Due to all the factors that can be determinants for the greenway network, it is selected three alternatives of greenways network. These alternatives correspond with the features of the greenways. They are based on a thematic approach to the tourism. Each alternative follow its own assumptions and requisites. But they have a common assumption that is the objective of this project, to connect the Hotspots. The comparative balance between them it is done through an identification and valorisation in a matrix.

1. Ecological features and values

The map showing below is a synthesis of the elements of the territory that affect the first greenway alternative, and over the one which would process to draw the possible network (Figure 42)

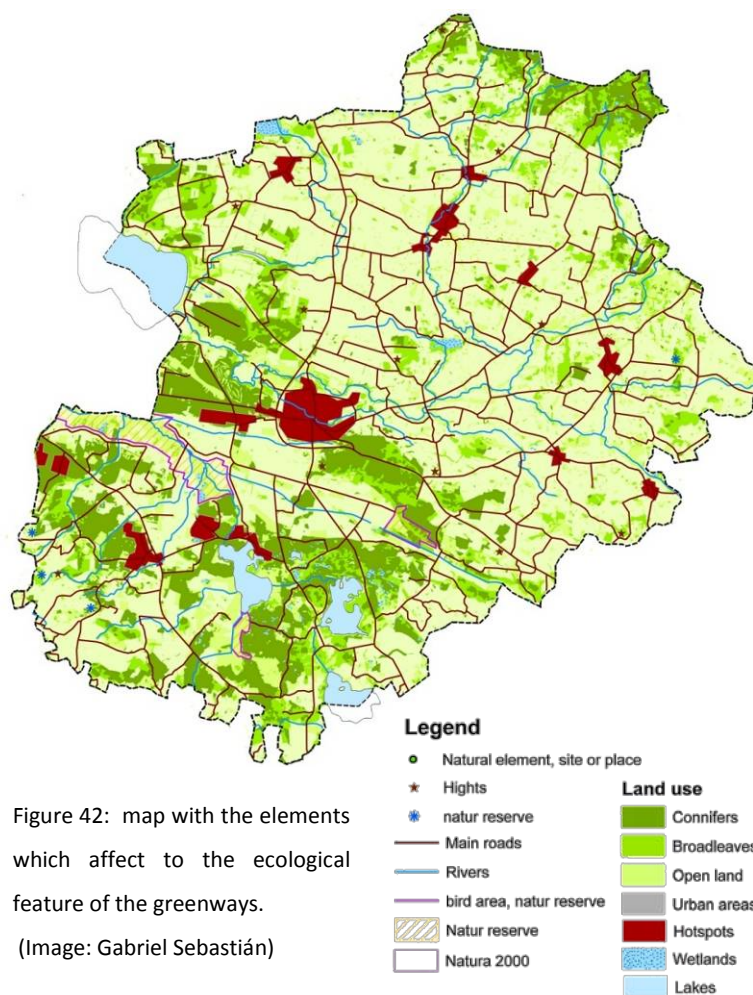


Figure 42: map with the elements which affect to the ecological feature of the greenways.

(Image: Gabriel Sebastián)

Requisites:

Attend to the natural character of the landscape: the network has to be adapted to the physiography and natural elements of the landscape;

Planning depending of the lineal natural elements on the territory (Rivers, peak line, valleys): Used as natural ways that have a network already done, the greenway will use the natural corridors;

Connect natural reserves, network Natura 2000, bird area protection: the greenways should connect those areas but preserving the use of areas Natura 2000;

Fringe protection for Natura 2000 against the negative external influences: the greenways in that around the areas Natura 2000 would have a conservative function, following a protective strategy to look for create a fringe effect.

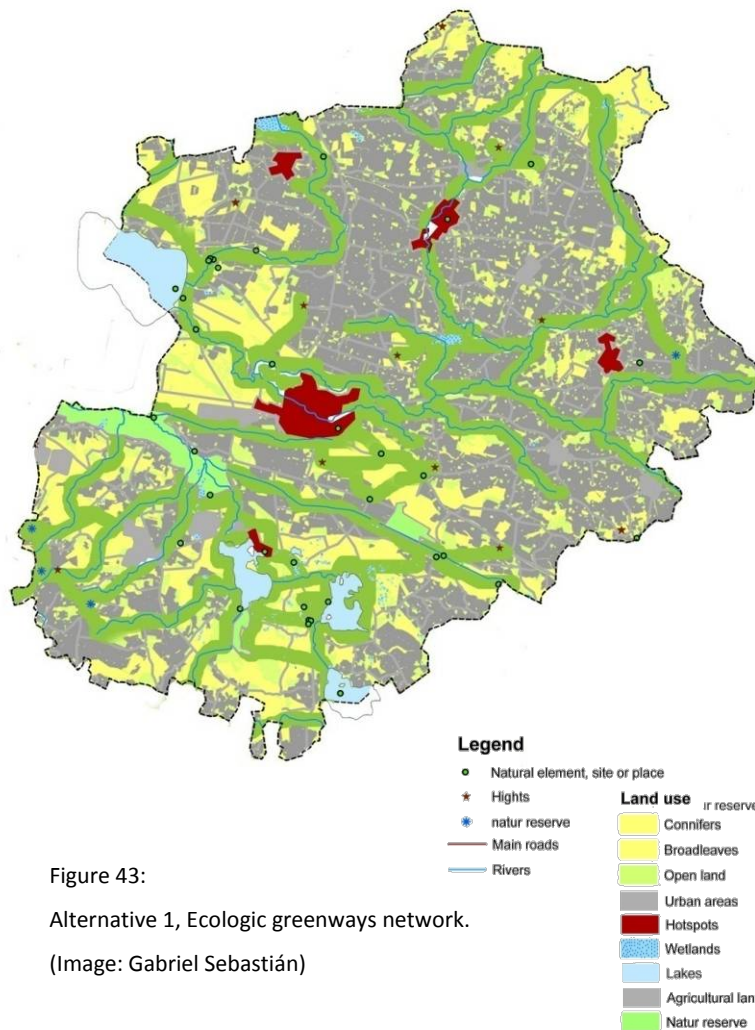


Figure 43:
Alternative 1, Ecologic greenways network.
(Image: Gabriel Sebastián)

Process of selection

(Figure 43)

- Into a buffer of 50m of the rivers: Rivers are the following ways to create the greenways;
- Connect the five hotspots;
- Natura 2000 areas and natural reserves are connected;
- Unit the touristic points related with nature. Also peaks and panoramic views are connected;
- At least it should be far than 50 m from the main roads;
- Not in agricultural land: Don't fragment agricultural land (Peterson 2010);
- At least more than 500 m from the boundaries of the Urban areas.

2. Cultural and recreational

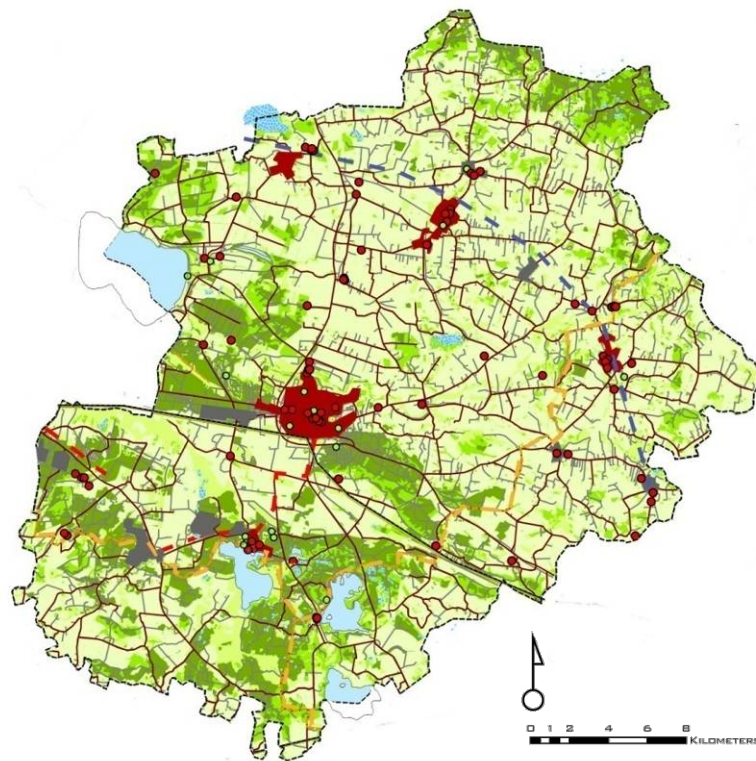


Figure 44: map with the elements which affect to the cultural and recreational features of the greenways

(Image: Gabriel Sebastián)

Legend

- Cultural element, site or place
- Recreation
- Skåneleden
- Old rail-way Simrishamn
- Natura 2000
- Main roads
- Secondary roads
- Electricity line

Land use

- Conifers
- Broadleaves
- Open land
- Urban areas
- Hotspots
- Wetlands
- Lakes

For this case is used a map of land use, the road infrastructure, Skåneleden, Simrishamn old rail way and the cultural and recreational touristic points (Figure 44).

- Focused to connect maximum of the cultural and recreational elements;
- Designed using the existed infra-structures lines. (trails, cycle path, railways, electricity line);
- Considered new plans. (cycle paths, and Simrishamn old rail-way);
- Promote new recreational and cultural activities given for the greenways;
- Cross through the villages so the union urban-countryside is fixed.

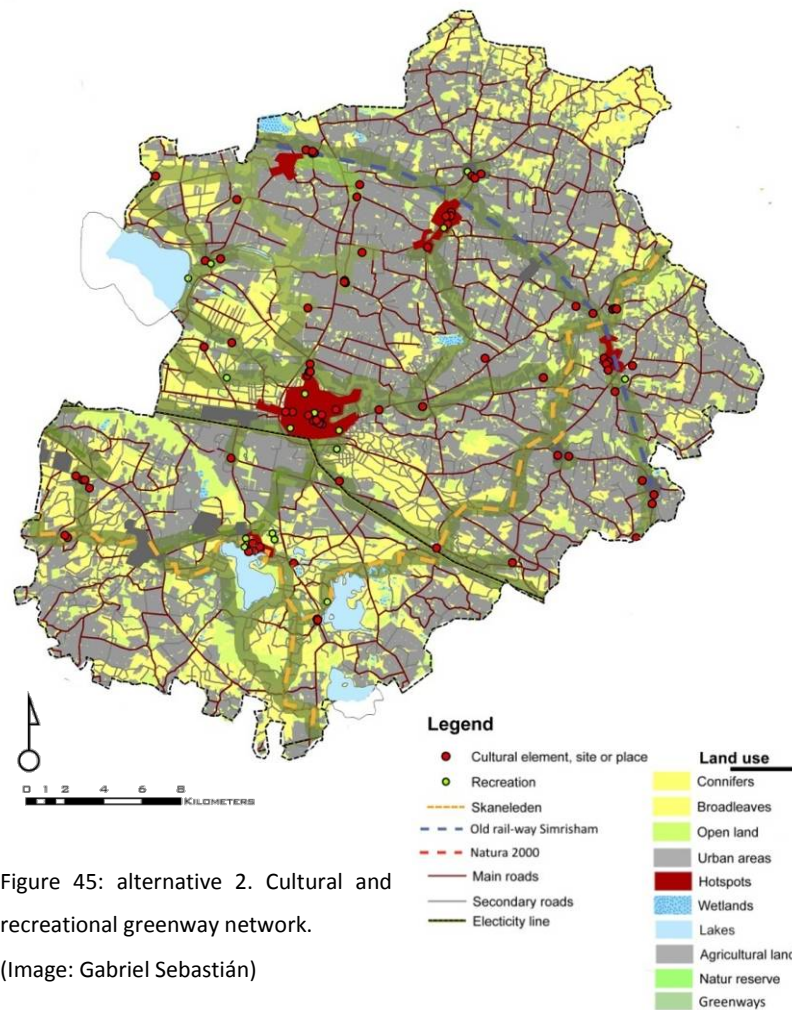
Requisites: (Figure 45)

Figure 45: alternative 2. Cultural and recreational greenway network.

(Image: Gabriel Sebastián)

- Connect the five hotspots;
- Connect maximum number of cultural and recreational elements, places and sites;
- Mark at least more than 50m from the main roads: can go following secondary roads;
- Skåneleden and Simrishamn old rail-way are part of the network;
- Not over agricultural land;

3. Ecological- Cultural- Recreational

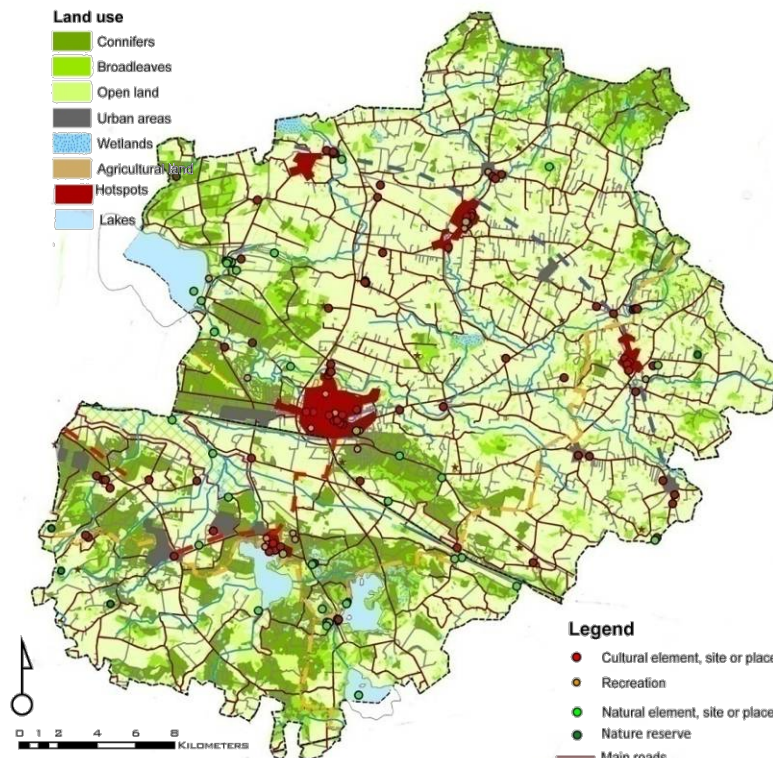


Figure 46: map with the elements which affect the selection of the alternative 3.

(Image: Gabriel Sebastián)

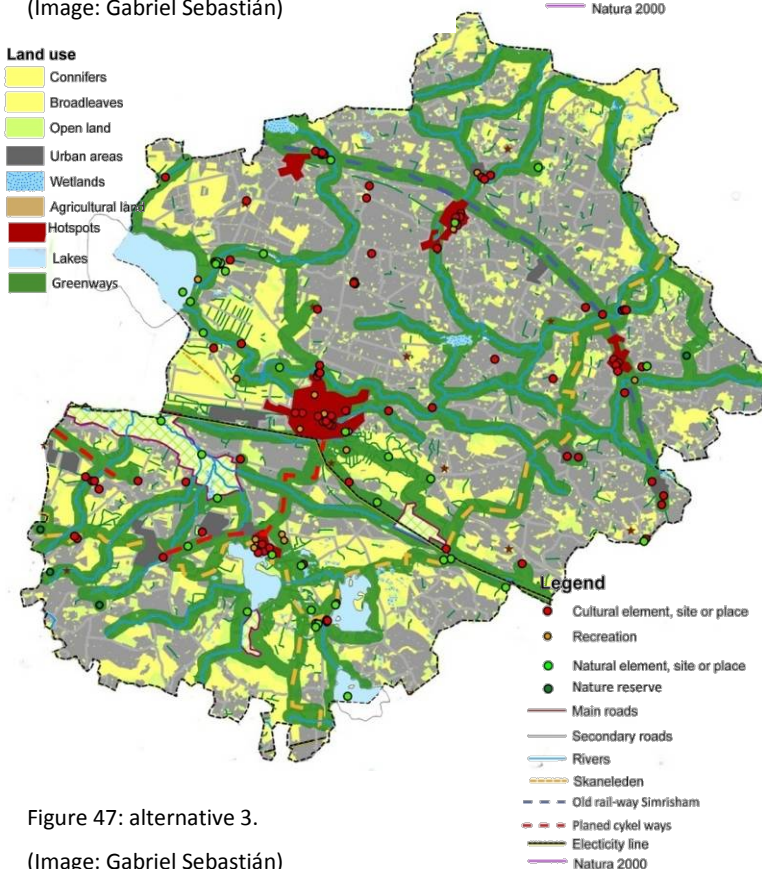


Figure 47: alternative 3.

(Image: Gabriel Sebastián)

- Focused to connect maximum of the cultural and recreational and natural touristic elements, sites and places
- Planned using the existed lines elements on the territory (Rivers, peak lines, valleys, trails, cycle path, railways, electricity line)
- Promote new recreational and cultural activities under ecological perspective in their designs and uses. (Figure 46)

Requisites: (Figure 47)

- Connect the five hotspots
- Connect the maximum cultural, natural and recreational touristic points following the river lines, the current structures and the planned structures;
- Fringe 20m protections in areas Natura 2000: to avoid any disturbance to the biological protected areas;
- At least more than 50m from the main roads;
- Into a buffer of 50m from the river;
- Don't pass for agricultural land;

Process of selection: Balance of the alternatives

The way to get an alternative that can achieve the objective of this study case is to making a balance in base of how the characteristics that a greenway network would affect to the cultural, socio-economy and the nature Sjöbo's features. The balance is valued just in positive or negative because it is very subjective method but indeed effective to know and to understand the impact of an activity.

The characteristics of the greenway networks are:

- Density: how many greenways will be placed in the territory?
- Functionality: Is the network practical and useful?
- Possibility: Which is the possibility to adequate the network in the municipality?
- Impact: Which kind of consequence leads the alternative?

| Network | Alternative 1 | | | | Alternative 2 | | | | Alternative3 | | | |
|----------------|---------------|---------------|-------------|--------|---------------|---------------|-------------|--------|--------------|---------------|-------------|--------|
| Feature | Density | Functionality | Possibility | Impact | Density | Functionality | Possibility | Impact | Density | Functionality | Possibility | Impact |
| Cultural | + | + | -- | + | -- | + | + | + | + | + | + | + |
| Socio-economic | -- | -- | -- | + | -- | + | + | + | + | + | -- | + |
| Nature | + | + | + | + | -- | -- | + | + | + | + | + | + |
| Value | 8 | | | | 8 | | | | 11 | | | |

- Alternative 1

The cultural feature is positive affected for the benefits that the alternative 1 brings. Thus the density and the functionality are perfect for the cultural scene, and its impact is for better. The possibility of the implantation leads down the cultural scene, consequently the cultural heritage, obviously important in the touristic attraction;

To the socio-economical level, the contribution is negative for the budget that leads the project and its not too much effective for the population. In a touristic sense and in the moral way the impact will be positive;

To the nature, it is a great value and contribution for the maintenance ecological values. So to this level the input would be positive.

- Alternative 2

The cultural benefits of this alternative are very positive to propose an input but the only thread that is not woven is the density of the network. The infrastructure is not enough to reach the whole territory leaving parts not connected;

The socio-economical is also benefits for this proposal due the less budget because the use of current infrastructure, small impact and all the possibilities;

For the nature, it is the less significance. Not so many greenways, limited in width and for their straight lineal form because is based on the infrastructure.

- Alternative 3

At the cultural level, this alternative promote the best solution in the complementation of the cultural scene involve with nature.

The socio-economical feature is affected for the cost and the difficulties that lead the proposal, so the possibility would be completely dismissed.

In terms of natural values, this alternative helps to improve the valorisation of the current environment. At the time that it is well-balanced because extend over the entire municipality and leads obtained quick and short links to the Hotspots.

After to estimate the balance of the subjective values of the tree alternatives, the final conclusion turns towards the alternative 3. (Figure 47)

The final map (Figure 48) presents the lineal sites where greenways should be design. The selection of the Alternative 3 is done by the higher value of the cultural, natural and socio-economic feature and for the positive values about the density, functionality, possibility and impact. The network connect the hot spots, the urban areas, the touristic points, the Natura 2000 areas and the natural reserves; and all this following the natural and artificial current lines, preserving the aesthetical and ecological values and promoting culture and nature resources.

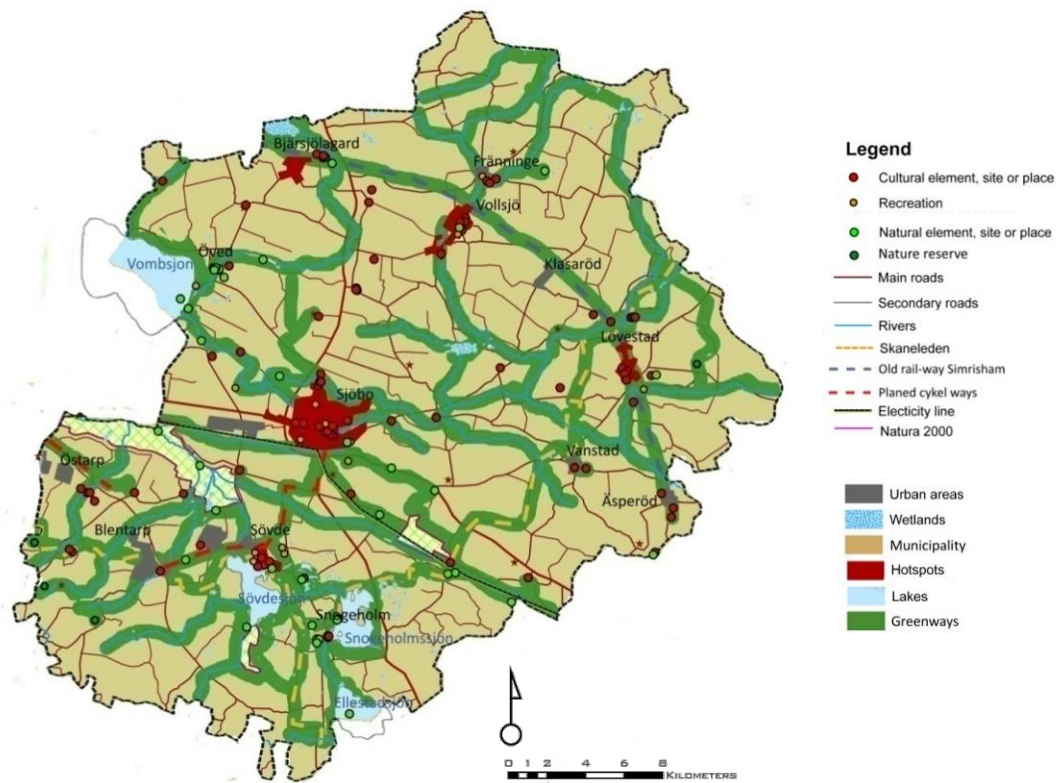


Figure 48: map with the alternative 3.

(Image: Gabriel Sebastián)

12. LAND ART

The elaboration of the proposal is made in base of the Greenways network. It brings the necessary infrastructure to the project. Good accessibility is fundamental to have the concept of gallery and public art, where everybody can enjoy the art. At the same time is an excellent complement for network because it adds cultural character, economical value, aesthetical elements, and on the other hand, it will stimulate the recreational character of the greenways.

It will be defined the better suitable places to integrate Land Art. The first objective will define the characteristic of the plan that will make possible and justified prerequisites for the selection of the areas. For its realization it will use the considerations, suggestions and advices setting in the background. The plan will mark the conditions and characteristics to constitute potential places to integrate the artworks. In seeking those objectives are proposed strategic locations spread based on the greenways. The sites shouldn't involve social, economic or ecologic issues and don't establish administrative conflicts. These places must have physical, aesthetical, poetical and/or cultural qualities that could give meaning to the artwork. These places will be proposed to the artist as frame to their works.

To respond to the project Öreferie, Land Art is idealized as part of the plan. Its strategy is to improve the touristic offers that Sjöbo already have, but integrating cultural features belonging to the present, in its special and peculiar nature, the best factor for tourism attraction.

Characteristics of the Land Art project: ideas and assumptions

To implement the study case it is considerate to devise suggestion to plan a Land Art project. It provides an objective which makes it easy to think about the requisites for choosing areas where to set the project. The project is idealized in a municipality level, which has a surface of 49.000 ha. It is a third part of the surface of the project "Arte y Naturaleza" and a tenth part of "Artscape Norland". That would give approximately how many artworks should be integrate, but considerate the example projects they are not a good examples due to their differences. This project considers that the number of the artworks would depend of the possible areas selected, but thinking in an attractive collection and due the density of the network, could be around 20 artworks as estimated number. The areas are stipulated to have a surface higher than 100 ha because: it is considerate to keep a minimum distance between the areas enough to maintain the integrity of the artwork; the artist has more scope to choose the site.

To select the artist would be appropriate adapt the idea of the Katrine Dolven (Jaukkuri 1999), to make participate national and international artist, taken 50% of each, thinking to stretch the name of Sjöbo for

the entire world without lost the appreciation for the Swedish artists. The lack of knowledge of foreigners would be rewarded for the Swedish authors, even would be advisable working with collaborations between both of the groups.

The concretization of the project, corresponding with Nancy Holt models (Jaukkuri, 1997) would be the collaborative process between the artists and the planners. But even more, it will be acknowledge the public participation. The public participation as public consulting, workshops, meetings and collaborations helps to make understandable the value and the roots of the project and its land artworks. It must be done in each pre-stage before the decision making but according with the project development. The public participation would be during the process of selection of the art work.

The artwork must be tangible and possible to experience, a sculpture or an intervention on the nature and with the nature. That means it can be a structure or form made with natural elements (stone, wood, land, plants, etc). Always it has to be in relation with its context and for its context. Mandatory with a permanent character or, at least, leads an appreciation for several years. As the ephemeral land art is very well-come and known, it would be planned as a complement in temporal expositions. The beauty of the artwork is very positive valued because it is one of the methods to choice the artist and the artwork. In other case, artworks made in materials that could be environmental damaging or aesthetically questionable will not be considered to be part of the project.

The method to distribute the areas will be according to the artist's choice which would be given detailed information about the area and about the regional and national context in the case the artist was from abroad. Each land artwork is going to be situated in an area selected.

Selection of the areas: requisites

The technique used to select the areas is mapped by GIS. The processing in vectors basic data bases is pre-treated and synthetic in the two preceding chapters. The synthetic maps used are physiographic, uses of the land and infrastructures. Besides it uses the categorized touristic points, the Hotspot and the greenways network.

To search for the areas is working synthesizing maps. The areas are reached by the accumulation of the prerequisites of selections. The criteria of selection are elaborated in base of the characteristic of the territory and the use of the land. The processes that it has been taken are:

- **Exclusion of areas ecologically sensitive:** Land art is a public art and, as touristic attraction, it could be leads crowd (i.e. during the fair Kronstrundan). The people can disturb and damage the nature,

like it could have seen in the page 31. To idealize this plan it has though as a conservation strategy. The strategy is to offer to the people ways to follow, avoiding the sensitive areas.

- **Exclusion of productive areas:** The necessary use of the land as a productive resource has high value for the society and in that case it cannot support a use of the productive soil. The right of public access forbid the pass for the agricultural fields.
- **Exclusion of the urban land and its surroundings:** Land Art is expressly related to the nature and requires an abstraction out of the day life landscape.
- **Escape of the noise:** it is looking for a site on the nature. To appreciate that it avoid the possible visual and acoustic impacts form the industrial areas and roads;
- **Establish a support by the infrastructure, services and complementary destination points:** that gives accessibility, ease of use, control and more attractiveness for the tourists.

Process of selection

To adopt the requisites written before is elaborate a set of criteria used in the process of selection by GIS. So these are listed and described below:

- **In a radio 2km from the boundaries of the urban areas or site which set more than two touristic points:** it require to leave access and services but still keep distance to be an individual element;
- **In a radio 2km form the sites which contains two or more touristic points**
- **Or in a radio 500m form the boundaries of the greenways network:** the network function as recreation and aesthetic complement to the network, and the network serves as an accessibility infrastructure for the land art sites;
- **At least more than 50m from the boundaries of urban areas:** to avoid the urban landscape influence, urban scenery and urban disturbance that may occur in some case ;
- **At least more than 50m form the boundaries of main and secondary roads:** to evade noise and possible view disturbance that may occur in some case;
- **At least more than 50m form the boundaries of areas Natura 2000:** to avoid any disturbance to the biological protected areas;
- **Not in areas Natura 2000, nor wetlands:** to protect the integrity and the ecological value of the areas;
- **Not in agricultural land:** to avoid other use of the soil losing the most important and basic resource of the human being.
- **Select areas with more than 1km² :** This decision is taken to have a considerable area in which the artist can choose a site for the artwork.

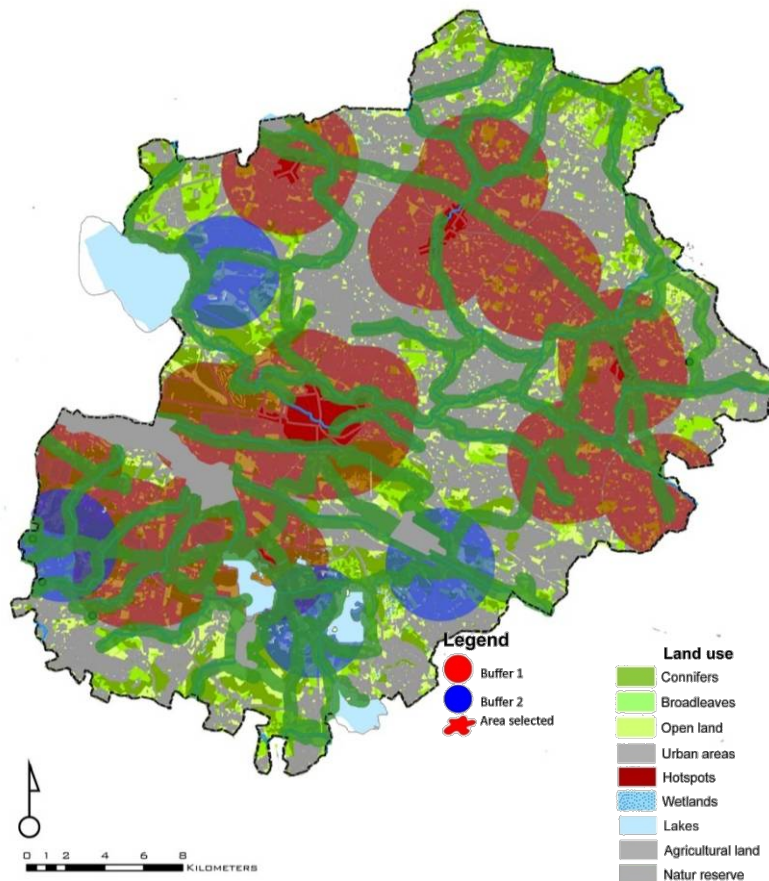


Figure 49: represented the criteria to select the Land Art areas.

(Image: Gabriel Sebastián)

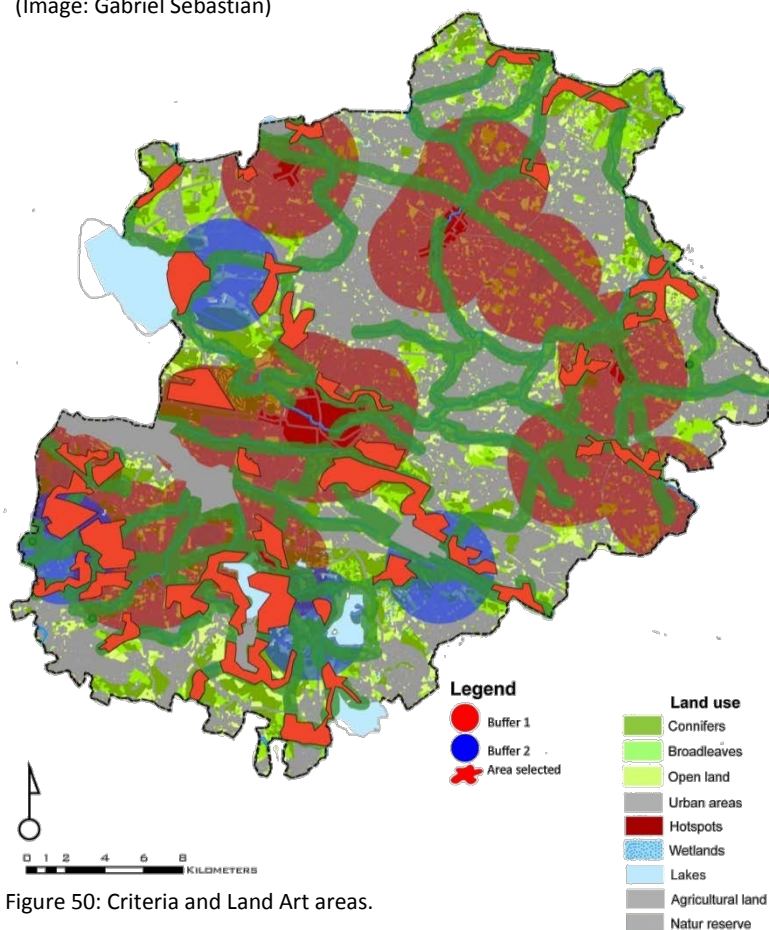


Figure 50: Criteria and Land Art areas.

(Image: Gabriel Sebastián)

In the first map (Figure 49) is presented all the criteria for the process of the data. The areas in grey are deselected: buffer from the roads, agricultural land, areas Natura 2000 and urban areas. They are able to be selected the areas with conifers, broadleaves and open field, thus as rivers and the borders of the lakes. In green are presented the buffer of 500m of the greenways network. The red spheres (Buffer 1) represent a radio 2km from the urban areas and the blues (buffer 2) are the site with more than two touristic points in a site out of the Hotspots.

In the second map (Figure 50), the criteria have been processing. The areas selected appear in red. The areas selected are those that have more that 1km² of surface.

The third map (Figure 51) presents the areas selected on a use of the land map. The total n of the areas possibles are 30. They are spread almost in all the surface of the municipality. As might be expected, the areas are located on largest forest land and on the open land areas.

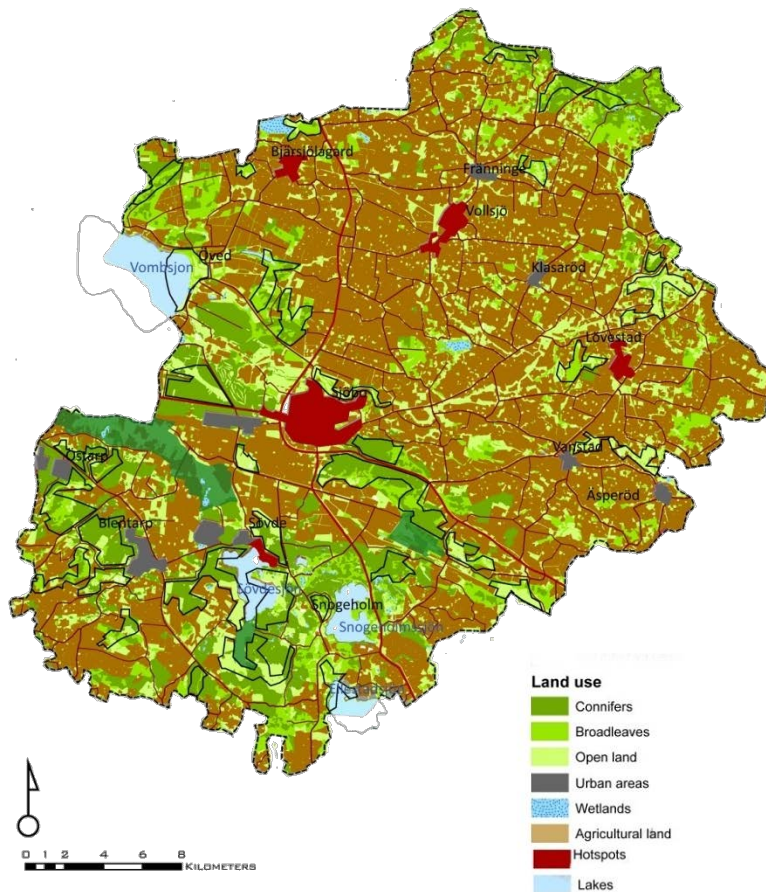


Figure 51: Areas selected.

(Image: Gabriel Sebastián)

The areas presented a high diversity of ambiances. There are areas around the lakes, on the highest altitude, valleys and rivers. The geologic variety, mixt forest and types of soil gives to the artist a multiplicity of material to work with and to make their creation.

The distribution grasps the municipality and it is a economic vantage due sharing the benefits all over the land. Perhaps is the most agricultural zone around Vollsjo which appeared whitout areas where locate artworks. The areas are good connected with greenways and most of them are very accessible from the hotspots.

Reflections

The objective of this chapter has achieved a desired result and a proposition for a possible Land Art Master Plan. The number of the areas and its distribution, thus the concrete areas out of possible issues occurred in the examples project, has been relegated by the process of selection. It avoids problems between stakeholders, citizens and artists, thus as possible ecological impacts. The process helps to the overview of plan taking a control over the tourism.

No doubt, other result could have been formed, perhaps using other methodology either to go deeper in to detail selection of the areas, but this methodology synthesizes and processes quickly the data than with other methods could leave more time. Further the terms between the artist and the stakeholders are reduced, it has been avoid environmental consequences in protected areas and elaborate a cultural and aesthetical enrichment in the entire Municipality. Somehow it would reach deeper information about the municipality to avoid cultural clashes with the population. For example to study the areas to circumvent sites which are already places and have significance, and consequently, when introduce an artwork, change its significance.

13. DISCUSSION

The most interesting that represent this project is the combination of greenways and Land Art and the application of the subject in landscape planning. The troubles that the current changes in the uses of the land are carrying on require actuations with new objectives, new values and new uses of the land for the occidental society. The project is a proposal which responds to the four lines: cultural and recreational attractions; scenic experiences and retreats. Those are the main points that Öreferie project is searching for Öresund region. Currently Sjöbo has a great cultural offer and natural wealth but something does not work. This project as a solution, indeed, would have other proposal but it is not doubt that this proposal react in the right line to the requirements for Öreferie project.

Thinking about the regulations of the greenways and land art sites as instruments of protection would lead to troubles in its implementation at the time to integrate some activities. Although it is necessary to have a protection figure to avoid other plans and programs that could affect to the natural integrity of the greenways and cultural integrity of land art sites. In that sense, instead to have an extreme protective rules or on the other hand, to be weak against other interventions, it should propose several models of protection depending on the mandatory strategy. Then, greenways should have several figures of protection divided depending the part of the greenways? How would the management plans be? Well, it could be a new figures of protection to be able an easy management.

When a place become tourism attraction and it is converted in a crowd space, and if this same place is an everyday life place for the population, might happens a conflict of uses? It makes sense whether people use the greenways to commute to their jobs, as a communication route, and the trail is use for a group of people enjoying the greenway in an aesthetic way and travel to see the land art. It is comparable with a small touristic city where the tourists invade the public space being annoying to use for the population. Albeit the greenway network provide an extraordinary net of services needed for a project of this dimension.

Other big questions are what will happen with the propriety of the land when a project of this dimensions implanted. This project was also though to resolve that situation. The lack of information regarding of the owners of the land led less defined project. To concrete the greenways on the land, its draw on the map follow rivers, and infrastructures that provide a public use already done. But in other case, it can be also applied in lines peaks as fundamental elements to be preserves, and either using historical or cultural ways that should be conserved. Example is the Spanish *Cañadas*, medieval ways already regulated by the king Alfonso XI in the XIV century for the transhumance of the livestock, which actually is used as a recreation sites although continue having its original use and it is highly protected.

For the case of the land art areas it happened something similar but perhaps wrong. The areas that are selected are not sure if there are private or public, so it would generate troubles for the implantation of the artwork even always if it could reach an agreement with the owner. But that brings a very important issue, the landscape surrounding to the area where was set in the artwork would change and detract its sense and the perception of the spectator. In that case, what could be done? Maybe to conserve the views or the elements of the landscape that has taken a relation with the artwork and gives it sense. To lose the *Genius loci* could occur not just in the area, but for a sensorial impact that spoil a sense of the place.

14. CONCLUSION

The current demand of outdoor activities and the cultural contact of the Swedish society where nature is deeply rooted in it by the Swedish Right of Public Access are translated in a conscious needed in multifunctional strategies. (Peterson et al. 2010)

With this affirmation, it would justify the objective of the study case to supply the recreation demand for activities in the nature and to foment a cultural interest. Greenways and Land Art are complemented in the relation nature and culture with recreation and functionality. It is a new way to develop a sustainable environment which provides the needed to the population and the visitors. This is an ecotourism which role is respect and enjoy the nature and increase the recreational values of the countryside. Thus the project reaches the objectives for the study case given, proposing a method to achieve a map with the greenway network and the areas selected in a municipality scale. Land art areas and the greenways network is presented as a final map, over the land use map (Attachment 1).

This project show the way that Öreferie started with the georeferencing of touristic data in Sjöbo. This is not more than the beginning of a project to foment the art, the culture, the globalization, the tourism and the sociability of the Municipality and of the Øresund Region. It can be part of a triangle formed among Wånas-Louisiana-Sjöbo, where the contemporary art has relation with the nature and the landscape.

The relationships art-landscape and greenway-landscape has high importance to the population. In conclusion, the project presents possible locations of public space in the countryside for community interaction pretending that those spaces are in extremely connection with the site. Due to that, the requirements in the selection of the areas, used as criteria in the GIS, were matured proposing to create the two kinds of places: public symbols and fields of care, who Yi-Fu Tuan defined. Places with personality that express feelings to people. Thereby, to create place that people care and make sense for their self. Cultural landscapes depicting important places for the people.

Valuating the methodology, the process has given an expected end result. The approaching of the methodology has emerged due to search for a relevant organization to the process of planning: To provide areas for Land Art is needed a network of communication and services. To organize a network in a territory is essential to have a point of departure and arrival and it is crucial to have a holistic analysis of the landscape. The main aim, it was idealized a kind of method to follow in the introduction of greenway and land art in landscape planning. The achievement by the tree steps integrating tourism, nature and art, has been successful to make by a geographic information System. It is a different way to look for new challenges of the most efficiency way to the landscape planning. Considering that a real plan the analyses of the elements of the landscape should be done by a multidisciplinary team. Likewise, to establish greenways and Land Art in landscape planning requires making a program plan to pass

below public consultation and be approved. Then it should be adopt regulations or policies so it would be part of the Master Plan of the Municipality. In other cases, the proposal would be absolutely meaningless.

The greenway network have been created with the possibility to be corridors of wildlife, to have recreational places, to serve as connecting network and to provide strategies for changes of the landscape uses. The multifunction depends of the ecological and recreational function, considering that got them in the final alternative. The network has been thought to keep the rule of the continuity in the whole municipality but greenway network should be continuing spread for the other municipalities to achieve a regional connection. Besides, it was thought using the current infrastructure lines and the rivers, which fortunately grasp the whole municipality.

The selection of the sites for Land Art was done with the objective to reduce problems and roughens between artist and planners. It is a methodology which includes prerequisites to consider before being able the integration of art in the process of planning. The vantage in comparisons with the examples of Land Art Galleries is the establishment over a network and hotspot which give facilities and complements to the plan.

Land art is more a value to apply or to consider when it is required saving the cultural and natural values. It is a new expression to understand the aesthetic of the nature. It uses the natural values not only as a material but as scenery. It should be integrate in plans of landscape planning as part of a and this is just because it is an art work and for its influence that it would have through the tourism.

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List of Figures

| | |
|---|----|
| Figure 1: steps of the method that was followed to reach a proposal. (Image: Gabriel Sebastián) | 12 |
| Figure 2: Location of a site over aerial photo. (Image: Gabriel Sebastián) | 16 |
| Figure 3: Valle del Jerte, Cáceres, Spain. (Photo: Gabriel Sebastián) | 17 |
| Figure 4: Two streets of the twelve streets in the Cultural landscape of Aranjuez. Unesco 2001. (Gabriel) | 18 |
| Figure 5: location of the twelve streets in the Cultural landscape of Aranjuez. Unesco 2001. (Photo: Gabriel Sebastián) | 18 |
| Figure 6: representation of a linear element on the territory: Greenway over Sjöbo. (Image: Gry Arvidsson) | 20 |
| Figure 7: Kids in a Greenway. (Image: Gry Arvidsson)..... | 22 |
| Figure 8: Vineyards in Lanzarote, Spain. (image: Gabriel Sebastián)..... | 25 |
| Figure 9: Beträdor on a field in Sjöbo. (Photo: Gabriel Sebastián)..... | 26 |
| Figure 10: view over a <i>Montado</i> . (Photo: Gabriel Sebastián) | 27 |
| Figure 11: Six basic functions of a corridor. (image: Gabriel Sebastián) | 28 |
| Figure 12: Fences for cattle which allow the access to the public. Sjöbo. (Photo: Gabriel Sebastian)..... | 29 |
| Figure 13: Tourism and sports activities in the nature. Sjöbo. (Photo: Gabriel Sebastián) | 29 |
| Figure 14: picking berries. West coast of Skåne. (Photo: Gry Arvidsson)..... | 29 |
| Figure 15: Walking through the forest. Maintenance the moral consciousness to the Nature. (Photo: Gabriel Sebastián) | 30 |
| Figure 17: conceptual model of the impacts of recreational use on animals. (Image: Gabriel Sebastián from :Cole, D.N.; Hellmund & Smith, 1993) | 32 |
| Figure 16: Frogs in a wetland. (Photo: Gabriel Sebastián) | 32 |
| Figure 18 : Gabriel Sebastián from: Cole; D.N.in Hellmund & Smith, 1993, pp.114)..... | 33 |
| Figure 19: walking in a trail forbidden to ride. (Photo: Gabriel Sebastián) | 34 |
| Figure 20: Elogio del Horizonte. Chillida, Gijón. (Photo: Gabriel Sebastián)..... | 40 |
| Figure 21: Henri Moore sculpture, MA. Louisiana. (Photo: Gabriel Sebastián)..... | 41 |
| Figure 22: explains at <i>Siglo XX</i> , Ulrich Rückvien, 1995. Project Arte y Naturaleza. (Photo: Santiago Herrero) | 43 |
| Figure 23: David Nash 2005, <i>Three Sun Vessels</i> . Project Arte y Naturaleza. (Photo: Santiago Herrero) | 43 |
| Figure 24: Pål Svenssons, 1998. <i>Ljusrum I och II</i> . Sculpture. Konst pa Hög. (Photo: Gabriel Sebastián) | 44 |
| Figure 25: Waaal, Lars Vilks , 1998. Sculpture in Konst pa Hög. (Photo: Gabriel Sebastián)..... | 44 |
| Figure 26: homogenization of the forest. Sjöbo. (Photo: Gabriel Sebastián) | 48 |
| Figure 28: Øresund regions. (Image: Gabriel Sebastián) | 49 |
| Figure 27: location of Skåne in Sweden (Image: Gabriel Sebastián) | 49 |
| Figure 29: location of Sjöbo in Skane (Image: Gabriel Sebastián) | 49 |
| Figure 30: Sjöbo. (Image: Gabriel Sebastián) | 50 |
| Figure 31: Population of Sjöbo. (Image: Gabriel Sebastián)..... | 50 |
| Figure 32: Distances from Sjöbo (Image: Gabriel Sebastián) | 50 |
| Figure 33: topography of Sjöbo. (Image: Gabriel Sebastián)..... | 52 |
| Figure 34: hydrology. (Image: Gabriel Sebastián) | 53 |
| Figure 35: Infrastructures. (Image: Gabriel Sebastián)..... | 53 |
| Figure 36: Use of the land. (Image: Gabriel Sebastián) | 54 |

| | |
|--|----|
| Figure 37: Touristic points setting in categories in Sjöbo municipality. (Image: Gabriel Sebastián) | 56 |
| Figure 38: Requisite 1 and 2. Buffer 1km. 9 sites selected. (Image: Gabriel Sebastián) | 57 |
| Figure 39: Requisite 3 and 4. Buffer 1km. Selection of 7 sites. (Image: Gabriel Sebastián) | 58 |
| Figure 40: Location of the selected Hotspots. (Image: Gabriel Sebastián) | 58 |
| Figure 41: Greenways strategy. (Image: Gabriel Sebastián) | 61 |
| Figure 42: map with the elements which affect to the ecological feature of the greenways. (Image: Gabriel Sebastián) | 62 |
| Figure 43: Alternative 1, Ecologic greenways network. (Image: Gabriel Sebastián) | 63 |
| Figure 44: map with the elements which affect to the cultural and recreational features of the greenways (Image: Gabriel Sebastián) | 64 |
| Figure 45: alternative 2. Cultural and recreational greenway network. (Image: Gabriel Sebastián) | 65 |
| Figure 46: map with the elements which affect the selection of the alternative 3. (Image: Gabriel Sebastián) | 66 |
| Figure 47: alternative 3. (Image: Gabriel Sebastián) | 66 |
| Figure 48: map with the alternative 3. (Image: Gabriel Sebastián) | 69 |
| Figure 49: represented the criteria to select the Land Art areas. (Image: Gabriel Sebastián) | 73 |
| Figure 50: Criteria and Land Art areas. (Image: Gabriel Sebastián) | 73 |
| Figure 51: Areas selected. (Image: Gabriel Sebastián) | 74 |

ATTACHMENT 1

