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Integrated Coastal Zone Management in Forests by the Baltic Sea

Bo Thor and Nina Gad Burgman

Regional Forestry Board of Östra Götaland

Abstract

In several of the Baltic Sea Region countries, woodlands are essential parts of the coastal zone environment. The land coastal zone based high diversity values are to a large extent situated in the woodlands. Forestry operations are common in the coastal woodlands. For tourism the coastal woodlands are an essential part of the positive experience. The archipelago along the Swedish and the Finnish coasts are unique environments. Incomes from forestry and tourism are essential parts of the economy, which contributes to the possibilities for living in the coastal zone. Large parts of the Scandinavian coastal zones are dealing problems related to a decreasing population and outmoded infrastructure. Nine Swedish partners in SE Sweden are demonstrating how ICZM can be applied on the coastal woodlands, developing better methods for surveys, extension and information. How should the different interests be balanced? How do you identify and protect the high biodiversity values? What do threatened species need? How should coastal zone and river basin forestry operations be carried out to minimise the negative impact on the biodiversity and the water quality of the Baltic Sea? In ICZM of coastal forests how do you contribute to the creation of environmentally conscious attitudes? An international Expert group is going to contribute to the project with experiences form other countries, for the development of recommendations for management of the coastal woodlands.

1 Introduction

1.1 Background

The coastal landscape and the archipelago in southeast Sweden are unique in many ways.

The coastal zone as a boundary between sea and mainland is constituted of many different nature types and biotopes thus contenting a high biodiversity.

The sea coastline is a nursery chamber for life in sea.

The land biodiversity is to a high extent situated in the woodlands but also to meadows and pasture. Often the biodiversity of this landscape depends of former land use and management, and are still depending of similar methods to remain. The forest has earlier been managed in a multitude of ways, often small scaled. Browsing of the forests used to be very common until half decade ago. Polling was also very common.

The management and land use has changed with time and today a different landscape is taking form. Meadows are overgrown by trees, larger areas of older forests are clearcutted and browsing is decreasing. This change depends to a high extent of the decrasing number of inhabitants living here all year around.

The last fifty years the ownership of properties has changed, in the archipelago as many as 60 % of the owners do not live at their properties but in other places. Many of these are using the properties only for summer recreation, and do not have the possibility, time or interest to manage the properties. Knowledge of managing methods is also disappearing with the old generation. Summerhouses are increasing in number and so the use of the forests for recreation. In areas with many summerhouses there is a need for an adapted forestry.

People who live in the coastal zone is often dependent of an outmoded infrastructure and of works that are situated on a long distance form their homes. To be able to earn ones living at the properties you have to be inventive.

The unique landscape and the possibilities to freely be visiting the nature in Sweden make the archipelago and the coast attractive for visitors and the tourism is increasing.

Forestry and tourism have become an important part of the economy for the inhabitants in the coastal zone.

Many interest thus has to be taken care of in the coastal areas, there must be a balance between forestry, high biodiversity values, nature conservation, tourism, inhabitant interests, properties owners and summerhouse keepers. A common strategy is needed. Integration between different decision makers, the inhabitants and the public is necessary.

Some of the main tasks to work with are:

- Possibilities for inhabitants to stay and get a reasonable economy in the neighbourhood
- Identification of high nature values and conservation, preservation
- Forest actions in balance with nature, nature conservation and tourism
- An overgrowing landscape that needs management for keeping the nature values
- Dissemination of knowledge, creation of environmental conscious attitudes

Figure 1: Browsed deciduous forest, St Anna Archipelago, Östergötland, Sweden (Photo, S. Björklund 2003)

1.2 The Coastal Woodland project

The Coastal Woodland project is a LIFE-environment demonstration project with the aim to develop useful models for integrated management and nature conservation for forests in the coastal areas.

The main tasks of the project are:

- Establishing of an Expert Advisory Group for the ICZM strategy and demonstrations. Establishing linkage to other ICZM initiatives in the Baltic Sea region.
- Demonstrations of models for integrated inventories and conservation actions.
- Demonstrations of models for more effective use of existing methods and legislation for nature protection and principles for sustainable management.
- Demonstrations of models for integrated local participation and influence.
- Demonstrations of models of models for integrated forestry methods and systems.
- Demonstrations of models for development of environmentally conscious attitudes towards land use.

The project area is the archipelago and parishes adjacent to the coast in Kalmar and Östergötland county (Figure 2). The total area is 169 000 hectares. In this area there are 3400 properties with 4900 owners. The archipelago contents 5900 islands, about 1000 of them are covered by forest. The mainland is to a large extent covered by forest.

There are nine project members representing public authorities, municipalities, forest industry and environmental organisations. Contacts are taken with local organisations and individuals to make a broad attendance.

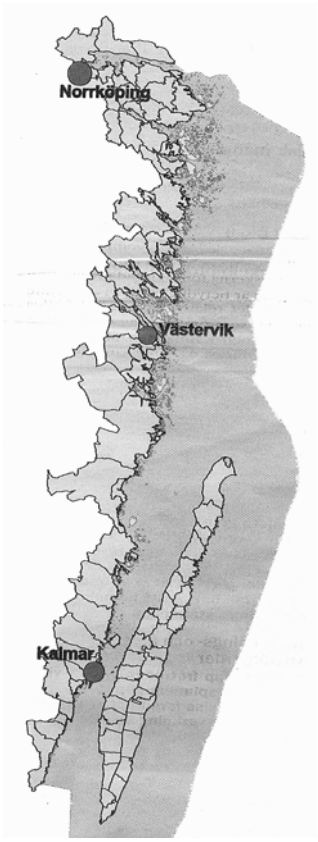

Figure 2: Project area of the Coastal Woodland project. (SVS archives, Bo Thor 2004)

2 Activities

To achieve the objective of the project there is a spectrum of activities going on. Some of the activities are of a larger scale, some are smaller projects. Inventories and reports that are made underlie the further work with nature conservation and forest management. Information and dissimilate of knowledge is a very important part of the project. There have been meetings with local organisations and inhabitants where the project is discussed. A larger seminar about ICZM was arranged with about fifty participants representing forest owners, sawmill industry, municipalities and local organisations. Exhibitions and information signs are other ways of dissimilating information within the project. Below a selection of the present and completed activities are described.

2.1 Key Habitat Inventory

The Key Habitat inventory was made to get knowledge about the interesting sites of high nature values within the area. These kinds of inventory were made in the bigger part of Sweden during the years 1993 to 1999. (Skogsstyrelsen 1999) The results underlie decisions about nature conservation and managing of forests and are part of the environmental planning of the landscape. The inventory was not made in the archipelago formerly.

A woodland key habitat is a part of the landscape where endangered, vulnerable, rare or care demanding species of animals or plants exist or can be expected to exist. The term serves as a stamp of quality for valuable woodland.

The inventory was made as a cooperation project between Skogsvårdsstyrelsen Östra Götaland and The County Administration, the later inventorying valuable meadows and pasture. There were several advantages with the integrated form, in the archipelago there are big areas of old wooded pasture which contains values for both inventories. The surveyors were able to calibrate the methods and to avoid collecting data from the same places.

All property owners were offered to come to meetings for information and to discuss the inventory both before the inventories and after, when also the results were presented. These meetings showed to be a very important forum between land owners and the authorities.

The inventory serves as a base for planning both for authorities and property owners and is central in the Coastal Woodland project.

The results from the inventory shows that there is a very high percent of key habitats in the archipelago, about 10% at a total, some islands has more than 50 % of their area covered by Key habitats! As a compare the whole region of Kalmar and Östergötland county has a Key habitat content of 1,3 %. (Regional Forestry Board, Östra Götaland 2003)

2.2 Conservation and Preservation actions

There are three main forms for nature conservation and preservation that are used in Sweden. Nature reserves, Biotope Protection Areas and Voluntary Nature Conservation Agreements.

When valuable areas have been identified and described, priorities can be made. The landowner or the authorities´ takes contact about an area with high nature values and a negotiation is started with the landowner. If a decision is made about Nature reserve or Biotope Protection the state offers the landowner compensation for the lost possibilities of land use.

If an agreement is made about Voluntary Nature Conservation the landowner is offered some compensation and an agreement of management of the area for fifty ears is made.

One of the objectives of the project is to increase the amount of conservation and preservation agreements within the project area and to make existing methods for it more effective.

There has been an increase in protected areas; above all the voluntary agreements have increased. This might depend on the increase in contacts between landowners and the authorities that have been made but also of, “rings on water” effect between landowners that have made agreements.

By meeting the landowners and making them aware of their valuable biotopes, informing about species found and to give advice about possible managing, the awareness is increasing. The process is getting more effective and more initiatives are taken by the landowners.

2.3 Models for management of coastal forests

Forestry management in the coastal zone has to be adapted to the special conditions that are found there. The landscape is a mosaic of fertile and very poor conditions. There is a high percent of Key Habitats, big areas are old woodland pasture-some that are still browsed. The woodlands in the coastal zone have a high percent of mixed deciduous forest with oak as the main species, this is the eastern part of the famous Oak Landscape in Östergötland. Pollard trees of all species are common. There is a large problem with overgrowing meadows and the deciduous forests turning into conifer dominated forests. There are also many cultural leavings which need special care.

Within the project area demonstration objects and demonstration trails are planned and designed. Cuttings and restoration work have been done in several properties along the coast. The demonstration objects are going to be used as examples and for inspiration for other forest owners.

Features of the made cuttings are; small clearcuts-often part of a restoration of old pasture, both meadows and woodland pasture. Cuttings to expose old oak trees, also exposing of old pollard trees which are pruned again. Cuttings to expose walls and cairns have been done in some cases.

Figure 3: Pollard tree in Gryt archipelago, Östergötland, Sweden (Photo, Stefan Björklund, 2003)

2.4 Analysis of transports of wood in the archipelago

A great problem for the foresters in the archipelago is the transports of wood. There are few quays that can take heavy machines and barges that are fetching the wood and there are no harbours that have the capacity to store wood. Barges in use are often too small to take the quantities needed. If the forestry in the archipelago should have a possibility to expand, and the problem with overgrown land be solved with necessary cuttings, a better transport system has to be planned. A group of forest owners, representatives for the industry and the County Administration are working with different solutions. Larger barges, or better processing of wood before leaving the islands is possible solutions. The later solution could have economical effects in form lower transport costs, more jobs for the inhabitants and environmental advantages. Today all transports to paper industry goes by lorry on the mainland, which is not a good environmental solution, with the development of one or two bigger harbours with more capacity to load and unload and to store wood there would be an environmental profit in transporting more wood by the sea.

2.5 A new policy

One of the main targets of the Coastal Woodland project is to develop a new policy for forestry and nature conservation in the coastal areas of Kalmar and Östegötland counties. This work has just started. With the experiences of many different inventories and surveys that has been made in the archipelago the last ten years, new inventories made in the Coastal Woodland project, models for forestry, landowners experiences, the legislations for Swedish forestry a policy is going to be worked out. There is also a former policy for the archipelago in Östergötland made fifteen years ago as a cooperation project between thirteen organisations and landowners, which will have influence on the new policy (The County Administration 1988).

2.6 Exhibition in Kolmården

It is important to disseminate knowledge, and make people understand the possibilities and problems of the coastal zone and the archipelago. At Skogsgården, within the boundary of Kolmården Zoo which have almost half a million visitors a year, an exhibition about the coastal zone is ready to open. It is directed to both grown ups and children. Making children aware of the unique environment that the coast is, is a great investment for future. Here they can feel, taste, listen and learn a lot about the coastal woodland. It is an exhibition for all senses.

2.7 Planning in populated areas-The Händelö project

Norrköping municipality is one of the partners of the project. The municipality is very ambitious in environmental questions and they have a very extensive programme for nature conservation and preservation**.** Within the project the have made an inventory-The Händelö project-this is different from other inventories made as it is made in a high populated area; Norrköping City.

Händelö is an island situated close to the city of Norrköping. It is an island with great values of nature and at the same time a place of many important industrial activities.

Here you can find large areas with very old oak trees, part of the areas are included in the European network of protected nature-Natura 2000. The old oak trees have an exceptional fauna and flora and as many as 35 species that are rare or threatened has been found in the area.

The combination of a vulnerable nature and industrial activities demands a good planning and a balancing between interests. An analysis of part of the ecology of the oaks and threatened species has therefore been done. The structure of ages, the geographic spread of the oaks and the demands for the different species to be spread has been investigated.

Karl Olov Bergman Ph D at Linköping University made the analysis. In his report he describes the prerequisites of the area today, he also describes some targets that are necessary to be working with and what has to be done in the future to make the area remain as valuable as it is today. He finds out that larger coherent areas has to be created, this can be done by making corridors between the areas which today are separated in different smaller areas. Planting of new oak trees, clearing and management has to be done to keep the continuity and the unique flora and fauna.

Norrköping municipality are about to make a new plan for the area, the planning will be made with respect of this report (Bergman K-O. 2003).

3 Discussion

The objective of the Coastal Woodland project is to develop useful models for integrated coastal forestry management and nature conservation, to show good examples for dissemination and use in a wider perspective.

The responsibility for a long-term durable land use lays on a multitude of decision-makers.

The great amount of properties owners, which is almost 5000 in the project area, makes their attitudes and awareness very important. Other actors in the coastal woodlands is for example forest and tourist entrepreneurs, employees of forestry-from industry and the public authorities, the municipalities and visitors. Their knowledge, awareness and attitudes are also important to catch.

Making possibilities for the inhabitants to stay, earn their living in the neighbourhood and to take care of their special knowledge of forestry and land use in the coastal zone is of great importance. The high biodiversity, both in forests and in meadows and woodland pasture, is to a large extent depending on active management. A living forestry and agriculture is needed.

Some areas needs preservation to maintain their high values, this can be done by different agreements and by making protected areas. It is the beautiful mosaic of the managed landscape and the unspoiled countryside that make the area so interesting for tourism.

With an integration of the management there can be large profits for the inhabitants, the nature- and cultural environment and for the forestry.

Only active work with information and dissemination of knowledge from all parts can create environmental conscious attitudes. This is also the fundament purpose of the project.

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Address

Project manager Mr. Bo Thor
Coastal woodlands
Regional Forestry Board of Östra Götaland
Generalsgatan 4
SE 582 73 Linköping, Sweden

E-mail: bo.thor@svsog.svo.se

Nina Gad Burgman
Skogsvårdsstyrelsen, Östra Götaland/Norrköpings distrikt
Tullhusgatan 14
SE 602 28 Norrköping, Sweden

E-mail: nina.gad-burgman@svsog.svo.se