landscape is an extremely complex term and has multiple meanings. Sporrong presents a holistic approach when he states that “landscape is the entirety of the physical and cultural components, a combination of cultural preferences and potentials and physical conditions developed in a specific society”. When managing, governing, or studying the landscape, however, governmental agencies and researchers often concentrate on one or a few aspects, such as forestry or cultural heritage, and fail to see the landscape as a whole. This approach conflicts with traditional Scandinavian farming based on animal husbandry and the extensive use of outlying land, and creates several problems for Swedish and Norwegian “traditional farmers” still practicing small-scale transhumance. Some governmental agencies hope that this situation will change with the implementation of the European Landscape Convention.

Perspectives on the landscape

Different perspectives on landscapes arise from people’s different identities, backgrounds, and experiences. The perception of a particular environment is deeply rooted in the traditions of a society and influenced by the professions, education, and experiences of its people. Past and present social and cultural environments also guide how landscapes are interpreted. Studies of landscape preferences in Norway show that agriculturally modified landscapes with “old-fashioned character” (e.g., small-scale, non-industrial) are preferred by the general public.

The various authorities and agencies of Sweden and Norway have different perspectives on the landscape and on-going farming activities. The different agencies, such as the Board of Agriculture, the Board of Forestry, the Environmental Protection Agency, the National Heritage Board, and the National Food Agency in Sweden, and the Norwegian Environment Agency and Directorate for Cultural Heritage in Norway, have specific interests and regulations that affect the local farmer. This is sometimes called compartmentalization, and it influences the way authorities identify and appreciate values in the landscape, as well as how they propose different actions vis-à-vis the governance of the landscape as a whole. Even within a specific agency, different and sometimes contradictory perspectives prevail. In a single landscape, very different values or interests can be favored such as forest, fodder or food production, hunting opportunities, or biological, cultural, or recreational values. Even within the area of nature conservation, there are possible contradictions between the governance of the wild biodiversity of “virgin forests” and the biodiversity of anthropogenic biotopes. This is evident in the management of several Norwegian forest reserves, as well as in management plans for new nature reserves in Sweden that specify “free develop-
Compartamentalization also exists within academia and results in different perspectives on landscapes. There is, for example, a vast difference in how a biologist, an agronomist, and a historian will perceive a certain landscape, and among biologists, as well as historians, perceptions might differ based on which aspect of biodiversity or which historical time period they study. In a single landscape, one biologist might see shady forest habitats as a potential for biodiversity while another might predict good biodiversity with an open, semi-natural grassland habitat. The varying perceptions of landscape also influence how we view the effects of human activities in the landscape, such as animal husbandry. There is a continuous debate on whether present grazing activities are compatible with the historical land use that shaped the biodiversity and landscape structures valued today (i.e., the biological cultural heritage).

To the farmer, this situation of compartamentalization can become very confusing and unsatisfying. For instance, a civil servant or scientist giving management recommendations is most often considering only one or a few particular details. The administration and bureaucracy might divide the daily farming tasks between agencies, even though all of the activities are a part of the livelihood of the farmer and contribute to upholding the biological and cultural values of the summer farming landscape. Various requests from different agencies, and sometimes from departments within a single agency, often create conflicting situations and consequently threaten the continuation of traditional farming practices. This occurs both in Sweden and in Norway, but the problem is perhaps more prominent in Sweden due to the incompatibility between the EU and national and traditional views on land use. The urge for historical authenticity in these contexts might interfere with, for instance, a farmer’s ability to get environmental subsidies or to abide by regulations for animal welfare.

The farmers have, by necessity, a more holistic approach to the landscape. They have to relate to their farming as one entity, and all activities aim to create a viable situation for the farmer and the animals all year round. Farmers might refer to themselves as part of the entity, and often claim that they belong to the land rather than the other way around.

Nature conservation and cultural heritage conservation are no longer treated as unrelated elite activities, but are moving in the direction a more integrated view of nature and culture in the landscape. An example of this is the selection of twenty-two agricultural areas containing both natural and cultural heritage by the Norwegian Agricultural Authority, the Norwegian Environment Agency, and the Directorate for Cultural Heritage with the intention to maintain them through good management and through cooperation among farmers, municipalities, and county authorities. Some of these areas were summer farming landscapes. This seems, so far, to be a successful holistic model for the conservation of valuable cultural landscapes.

Forest and alpine ecosystems in Scandinavia have traditionally provided for grazing and winter fodder production. The importance of these ecosystems has varied with time and place, but in Norway, as well as in most of Sweden, traditional agricultural practices have depended on both outlying land and infields. For instance, a study of old forests in the northeastern part of central Norway (near the Swedish border) shows that about 70% of the winter fodder in this region was harvested from outlying land in the traditional farming system. The local term “hay forest” (høyskogja) underlines the importance of the forest for winter fodder production. Consequently, the summer farms, and the landscapes of which they are a part, are traditional areas for agricultural production. In Norway this is still seen as important, but in Sweden the stated goal of subsidization is to preserve and create cultural and nature values at the summer farms.

Today, outfield grazing is rare in Sweden and decreasing in Norway. This endangered practice requires immediate political and economic action to reverse the negative trend and preserve the biological, sociological, and historical values connected to active outfield farming practices. Based on these reflections, we can begin to analyze the different perspectives on the outlying areas. Should we identify these areas as wilderness or as anthropogenically influenced? Are they part of an agricultural landscape, a forested area, or a mountainous wilderness? Answering these questions partly requires acknowledging the influence previous generations of farmers have had in shaping our present-day biodiversity and landscape structures.

Development of Scandinavian transhumance

Animal husbandry has been a part of the farming systems in Scandinavia since their emergence five or six thousand years ago. There is evidence that agricultural practices arrived in Scandinavia with immigration that brought well-developed systems of dairy production and cereal production. The practice of grazing cattle in the forest is presumed to date back to at least the Iron Age, and probably to the beginning of agriculture in the New Stone Age. It is likely that the landscape, especially close to the settlements, already at that time had a grazed character. "Traces of intense grazing in the mountains in western Norway date from 500 BC, but archaeological and vegetation analyses of historical data show that extensive use of the mountainous areas probably originated even earlier. Although the utilization of outlying land has varied with the population density, extensive livestock grazing has shaped the Scandinavian landscapes over several millennia."

During pre-industrial times, the Fennoscandian boreal forests and a large part of the mountainous areas were influenced by several types of human activities. The forest was an essential part of the agricultural
practice that provided different types of resources and opportunities including fodder such as hay, leaf, and lichen; wood for construction, fuel, fences, and handicraft; hunting possibilities; slash and burn cultivation; and, most importantly, grazing resources. In both Norway and Sweden, grazing and fodder harvesting have shaped most landscapes and kept most forests semi-open, but today management authorities and biologists often overlook these anthropogenic dimensions of the forest landscape and its biodiversity. This often results in loss of nature types, biodiversity, traditional ecological knowledge, and valuable fodder.

Today, the remaining summer farms are of interest for their biological value, cultural value, and tourism. They are still important grazing areas for livestock and the production of local food products, especially in the mountain regions of Norway and in northern and central Sweden. The aim of this study is to draw attention to the conceptual gaps concerning perspectives of landscapes between academia and government officials and the farmers using the summer farming landscape for food production (small-scale animal husbandry) in Sweden and Norway. We will discuss the discrepancies in the views on how this landscape should be governed in order to maintain and enhance its value and potential.

The Scandinavian Peninsula is situated relatively far to the north, between N 55°35' and N 62°00', similar to southern Greenland. Due to the warm North Atlantic Drift, a branch of the Gulf Stream, the climate is considerably milder than in other parts of the world at similar latitudes. Most of Norway and the central and northern parts of Sweden belong to the coniferous and boreal deciduous forest. In large parts of these areas the conditions are seldom favorable for the cultivation of cereals and other important food crops. Consequently, the traditional lifestyle has, to a large extent, been a meat- and milk-based livelihood focusing mainly on animal husbandry with some trapping and fishing. In Scandinavia, two types of traditional transhumance still exist, reindeer husbandry and the use of summer farms (fådbodbruk or säterbruk in Swedish, seterbruk or statsbruk in Norwegian, also called summer shielings). Reindeer husbandry is a form of transhumance that is connected to the Sami people, Europe’s only indigenous people. In this article, we will concentrate on the use of summer farms. This is a traditional pastoral agricultural production form currently affected by several governmental agencies, policies, and interests. The reflections in this study encompass the entire area of Swedish and Norwegian summer pastoralism, but in particular the counties of Dalarna, Jämtland, and Gävleborg in Sweden, and Sør- and Nord-Tromsølen in Norway. Some of the reflections and conclusions in this article might also be relevant in reindeer herding contexts.

Norway is a mountainous land with restricted possibilities for large-scale agriculture. Mountains constitute about 45% of the total land area of Norway, and topography, local climate, and other factors strongly restrict the cultivable area and the possibilities for large-scale agriculture. However, the outrlying land areas are extensive and offer many different possibilities for grazing and fodder harvesting. From the Iron Age, when permanent infields were established, until the twentieth century, Norwegian farming has utilized both outrlying land and infield pastures. The animals grazed primarily on outrlying land and, in many parts of the country, most of the winter fodder was also harvested there. The subalpine areas were especially important for the traditional farming systems, and summer farms made it possible to utilize remote grazing resources. In the middle of the nineteenth century, there were 70,000–100,000 active summer farms in Norway and in 1939 there were 26,400. Today, about 1,100 of the farms are still in use.

In contrast, southern Sweden has relatively large areas highly suitable for increased intensification of agriculture. During the modernization and rationalization of agriculture in Sweden that took place after the Second World War, the central and northern regions of Sweden were considered unsuitable for modern farming. Thus, farming in those areas was more or less abandoned with a few exceptions. The number of active summer farms decreased from several thousand in the late nineteenth century to approximately 200 in 2012.

Four main sources of empirical information were used in this study: experiences from previous research projects, qualitative interviews, field studies at summer farms, and written documentation.

Experiences from previous research projects include studies of landscape values, grazing impacts on biodiversity, habitat preferences of different breeds of animal, and connections between cultural values and biodiversity. The interviews were “semi-structured life world interviews” as described by Kvale. Interviews with key informants and focus group discussions, as well as field studies, were conducted 2013. The written sources surveyed and analyzed in this study consisted of articles in scientific publications, conference proceedings, monographs, policy documents of government agencies, and statistics obtained from the Vilskadecenter at the Swedish University of Agricultural Sciences.

From a Norwegian farmer’s perspective, the outrlying landscape and the summer farming landscape is still important for grazing and fodder production, and thus for the Norwegian farm economy. In 2011, 2.2 million livestock animals grazed outrlying pastures. Grazing is seen as important for the maintenance of common goods and as positive for animal welfare, and the Norwegian government promotes grazing of outrlying land and active summer farming through subsidies. In 2011, 85% of all ewes, lambs, and goats and about one in four cattle grazed on Norwegian outrlying land for more than five weeks. Utilizing fodder resources from outfields is still important for the Norwegian farmers and economy. However, the fodder potential in Norwegian outfields is estimated to have a capacity for as much as twice the present number of livestock.
animals grazing there. In Sweden, the rationalization process of agriculture has progressed much more than in Norway, and the number of livestock animals grazing the outlying land is consequently much smaller.

Studies from Norway also show that summer dairy farming in species-rich semi-natural pastures in mountain regions improves the nutritional quality of milk and milk products. This creates a win-win situation; mountain pastures improve the food quality and, in return, cattle grazing contributes to the maintenance of both biodiversity and open landscapes.

In high-cost countries such as Sweden and Norway, it is often difficult to sustain a reasonable income from small-scale husbandry that includes utilization of outfield fodder resources. Therefore, many farmers improve their livelihood by developing tourism and local value-added food products. Non-urban environments are among the preferred destinations for post-modern tourists, and farms with small-scale food production represent a lifestyle and a set of values that have been shown to be important elements for tourists seeking natural and cultural experiences. Bertella concluded that any policy regarding food tourism should be based on the particulars of the specific region, the terroir. Successful food tourism can also lead to other benefits such as sustainability of the local environment and preservation of cultural heritage. The combination of tourism, culture, and local food is shown to be responsible for substantial business activity in rural areas in Norway and provide opportunities for development and growth. At the same time, tourism is not the original purpose of summer farms, and if the prerequisite to receive subsidies is to work in a traditional way there might be an inherent problem.

Biodiversity values and forest and alpine grazing

In Norway, grazed forests are now, according to the red list for ecosystems and habitat types, defined as belonging to the red list category near threatened (NT), and semi-natural grasslands are vulnerable (VU). In Sweden, grazed forest habitats have decreased the most during the last century. Grazed forests are sparse. As a result of continuity over many years and the existence of old trees, sun-exposed wood, litter-poor soil, flowering bushes and trees, and border zones, they are species rich. In the traditional husbandry systems, grazing animals were able to move over large continuous areas, resulting in dispersal of plants and animals between remote areas. The large areas that animals covered created a gradient in grazing time and pressure, and resulted in a mosaic with early and late grazed areas. This also created a gradient in grazing and trampling pressure, with the most intense effects just outside the infeld (fådovallen in Swedish or settervel in Norwegian) of the summer farms. These semi-natural patches are still valuable areas for biodiversity, and studies show that remaining patches are preferred as grazing areas for dairy cows both in the Swedish and Norwegian summer farming landscapes.

The species richness of grazed forests and alpine areas varies with climate, soil conditions, supply of nutrients and water, and the intensity of grazing and trampling. Biological traces of former land use, such as grazing, in forests and alpine areas are, however, often difficult to verify, and the degree of “wilderness” of a landscape is often discussed in connection with biodiversity, conservation, and forest management. Field layer vegetation established in grazed forests and alpine areas is more or less the same as vegetation found in other semi-natural pastures at the same climatic gradient. Plants associated with traditional agricultural practices have been part of the scenery for at least 2,500–3,800 years, but the number and variety of plants are declining due to overgrowth processes in both lowland and upland areas. In Norway, more than 80% of all threatened species are found in forest, agricultural, or semi-natural habitats.

In days past, a shortage of hay in the winter resulted in many semi-natural habitats needing additional food sources such as leaf fodder. Both in the infields of both the homesteads and the summer farms as well as on outlying land there were often pollarded trunks of goat willow (Salix caprea), rowan (Sorbus aucuparia), and downy birch (Betula pubescens) as well as coppiced hazel (Corylus avellana), alder (Alnus spp.), and downy birch. Pollarding increases the longevity of trees, and old pollarded trees are important habitats for a variety of species, including mosses, lichens, insects, and birds. Today most are threatened due to the end of this type of farming, overgrowth, and afforestation. Light and age are two especially important factors contributing to the conservation value of pollarded trees as well as other trees and bushes in semi-open forests. Typically, sun-exposed stems and branches become thicker, and the trees survive to a greater age, which promotes the formation of substrates such as sun-exposed dead wood that are rare or lacking in forests.

Many different mushrooms grow in grazing lands, not only threatened red-listed mushrooms such as Gomphus clavatus and Sarcosoma globosum, but also the commonly used food mushrooms such as chantarelle (Cantharellus cibarius), parasol mushroom (Macrolepiota procera), and Agaricus spp. Mushrooms prefer ground trampled by animals, and many species also depend on cow dung.

Many plants, for example Nardus stricta and Lyco- podium clavatum, also grow well in grazing and trampling grounds, often by competitive exclusion of more palatable species. Other species prefer the more sunny forest resulting from grazing, such as Botrychium lunaria, Platanthera chlorantha, and Pyrola spp. Some species, such as Rhinanthus spp., are dependent on trampling because their seeds cannot germinate in litter-rich soil. Examples of red-listed species in the summer farming landscape are Nigritella nigra, which is endangered in Norway and Sweden, and Pseudorchis albida (near threatened in Norway and endangered in Sweden).

**Continued forest grazing** is also important for many insects. For instance, dung beetles require cow dung free from anti-parasite drug residues in a continuous supply year after year, and they also depend on good soil quality. Furthermore, the outlying soils are often sandy mineral soils unsuitable for cultivation, but they are needed for the ground-nesting wild bees now threatened in all of Europe. The outlying land is definitely to be considered a cultural landscape shaped by various extensive human activities.

**Market economy or full-cost subsidies?**

The agro-environmental measures in Sweden imply that funding is given to farmers that manage specified types of habitats in a certain way. Farmers are compensated for the costs of managing an area calculated from a general formula. In some regions, this might be a fair deal for farmers because the actual cost is...
lower than the calculated cost, and the animals are, in most cases, relocated to less productive pastures instead of using arable fields for grazing. The farmer is then compensated for the potential lower growth of the animals. The situation is more complicated for summer farms. The distance from the home farm is often great, which could cause problems when legislation dictates that all animals have to be counted and examined each day but the farmer is simultaneously required to harvest hay or crops at the home farm. Farmers both in Norway and Sweden might also, for economic reasons, need to have a part-time job far from the summer farm.

The present level of compensation in Sweden is €2,050 for an active summer farm plus €80/ha of grazed area. Many farmers complain that the payment is much too small, and the fact that the payment has decreased substantially for many of the farmers since 2006 is very frustrating. It is easy to understand the frustration of the farmers because the compensation for forest grazing in other parts of Sweden is €205/ha, and €275/ha is paid for grazing “species-rich open grasslands”. These types of pasturelands are fenced, whereas summer farm grazing is not, and the animals are often situated fairly close to the home farm, which reduces the cost and time spent looking after the animals. In Norway, eleven out of twenty County Governors now offer an active summer farming payment through Regional Environmental Schemes. Ten of these County Governors request dairy production on the summer farm. Also, the Norwegian government promotes grazing through various other payment schemes. One of the most discussed parts of the agro-environmental measures in Sweden is the five-year commitment. This is certainly a difficult requirement for managing a summer farm. Farmers both in Norway and Sweden might also, for economic reasons, need to have a part-time job far from the summer farm.

The number of summer farms and utilized outlying pastures has decreased dramatically over the past century. This is, among other factors, highly dependent on the structural changes and intensification of farming and increased competition both nationally and globally. Despite the fact that just a fraction of the summer farms and outland pastures are still in use, few political initiatives have been introduced to increase this number. The latest suggestions for regulation of the subsidy system in Sweden aim to decrease the economic support for summer farms, at least for those with a large number of animals. Although it costs more per cow or sheep to keep fewer animals on summer farms compared to keeping a larger herd, there are several factors to consider. Managing a summer farm includes the need to be away from the home farm during a long period in the summer, which may be difficult for a full-time farmer because other farm tasks must be completed, such as harvesting winter fodder. This aspect of farming increases with the number of animals. The management of summer farms can be hard to coordinate with other employment, at least during parts of the year, and especially if the farm is far away. This is a reason for at least offering the same amount of subsidies for large farms as for smaller. The large farms have more opportunities to be active and survive in regions where other types of employment are scarce.

In Sweden, small-scale pastoral farming is subsidized mainly for preservation of natural and/or cultural heritage values rather than for production of agricultural products, but in Norway the subsidies serve a multifunctional purpose. The supporting policies, at least in Norway, are intended to help maintain rural settlements and secure the strategic capacity for independent food production. Investigations in Norway show that maintenance of cultural landscapes and common goods are parts of the agriculture and agricultural policy that are appreciated and supported by people in general.
Conflicting interests: the issue of large carnivores

The biodiversity found in open semi-natural pastures, summer farms, grazed forests, and semi-natural alpine habitats depends on continued extensive grazing and trampling of livestock, and in alpine areas reindeer grazing and trampling is also important for biodiversity. This extensive practice of utilizing the outlying land makes the free-ranging animals more vulnerable to attack, especially sheep. On the other hand, free-ranging livestock have more possibilities to escape the attack. When attacks occur in fenced areas, the injury and death of livestock are often greater. The carnivore situation has gradually become more problematic for the farmers during the last decade. In Sweden, many summer farmers have stopped moving their sheep to the summer farms or have given up having sheep altogether because of the inability of sheep to protect themselves. In Norway, the situation resembles the one in Sweden about five years ago; most farmers have, so far, not experienced any problems, but some attacks have occurred.

Large carnivores have a high conservation value because they are threatened in most countries both within and outside Europe. Today in Sweden and Norway, the populations of large carnivores are growing. Conservation of large carnivores is very costly because carnivores move over large areas where they affect the everyday life of livestock owners. Every year, large sums are paid as compensation for damage and mitigating measures. However, many farmers have large indirect costs that are not compensated, such as lower milk production and lower fertility in affected livestock, long hours spent searching for animals escaping from attacks, and sleepless nights from worrying about animals. Swedish studies have shown that people living in carnivore-dense areas feel that they do not have any influence over decisions and management because the decisions are ultimately directed from the EU government authorities. Without acceptance, effective management is inhibited as shown in both historical and social sciences studies. Resolution of conflicts between stakeholders regarding carnivore management is essential in order to reach acceptance. The most important questions are related to effective management of problem animals and acceptable and well-functioning damage compensation systems.

Conclusions

Different people view landscapes and their values very differently. In this article, we have focused on the outlying grazed land of the Scandinavian transhumance systems. Through narrow professional views, the governance and management of these landscapes is divided into separate elements without holistic strategies. Different professions focus on “their” specific elements, objects, or phenomena in the landscape. Some focus on cultural aspects, while others focus on biological values. Central in this landscape of perceptions are the farmers, who strive to run a viable farm while trying to manage the interests of most of the other groups that perceive different values in the landscape.

The compartmentalization concerning the management of the landscape and its resources results from the lack of coherence among governmental institutions. This not only has negative effects on biodiversity and cultural values but also increases costs for the affected farmers. This is particularly the case with regard to the increasing population of carnivores that threaten the livelihood of today’s summer farmers as well as the biodiversity that is dependent on continued grazing.

The economy of small-scale farming in Sweden and Norway has not grown like other sectors of society. Today, compensation for conservation of ecological and cultural functions and values is a necessary element in most summer farm enterprises in Sweden. However, the compensation for summer farming is relatively small compared with support given to other farmers. Active summer farms are now very few in number compared to 100 years ago, and in Sweden, little is done on a national level to actually increase this number. On the contrary, the latest proposals for management compensation indicate that the support levels might be even further reduced. In Norway, summer farming is supported in most counties, but here the subsidies are also generally too modest to make summer farming attractive to the next generation. Adequate compensation for continued management of summer farms and the grazing of outlying land is crucial if this customary practice is to continue in the future.

The outlying grazing land and summer farms represent a meeting point for different interests and business ventures. For the long-term viability of summer farms in Sweden and Norway, it is essential to establish a genuine dialogue between the administrative authorities and the different stakeholders, particularly the farmers, because their management, often based on generations of local and traditional knowledge, is the very basis for upholding the many values connected to the summer farming landscape. To be able to make a living on their summer farms and, at the same time, contribute to the preservation of cultural and nature values, the farmers need regulations and subsidies that are well designed and stable. However, a large proportion of today’s landscape governance and rural policy is characterized by “short-termism” and “projectification”. Consequently, there is a need for increased and open dialogue with the farmers, a more holistic view of landscape governance, and fewer fluctuations in management policies.

We believe that the separate perspectives of different authorities and scholars on the Scandinavian transhumance landscapes can meet. The summer farms and the landscapes of which they are part can serve as the base for high-quality food production, and can contribute with sources of a wide range of valuable knowledge and skills rooted in pre-fossil energy-based agricultural systems, while at the same time conserving and developing biodiversity and the cultural and recreational values of the landscape. For this to happen, the sum of the conditions for the farmers must be supportive of continued use of the summer farms, and the farmers need to be part of, and able to influence, the policymaking and management of these landscapes. The summer farm landscapes, like all landscapes, need to be managed from within a holistic, long-term perspective.

Finally, we will conclude and summarize with the following points. There is a need for:

- holistic and long-term perspectives on governance and management of landscapes with a focus on the farmers’ situation;
- increased dialogue between authorities, scholars, and local farmers and communities, as well as increased participation of local farmers and communities in decision-making processes;
- increased dialogue between and within different authorities and research institutions; and
- identification and evaluation of conflicting targets, and genuine efforts through dialogue to reconcile these.

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references

1 See for example Carl Troll, "Landscape ecology (geoecology) and biogeosociology — a terminological study," *Genfora* Volume 2, Issue 4, 43–46 (1971).


5 Pauline Palmcrantz, "När helheten går förlorad", [When the big picture is lost]. *Biodiveris* 181 (2003), 23–25.


7 Riksrevisjonens undersøkelse av mynfjetters arbeid med kartlegging og overvåkning av biologisk mangfold og forvaltning av vernetområder [Investigation of the authorities’ efforts to survey and monitor biodiversity and to manage protected areas]. (Riksrevisjonen, Dokument nr. 3/2, 2006).


24 Urban Emanuelsson and Carl Erik Johansson, *Båtopre i det nordiska kulturlandskapet* [Båtopre in the Nordic cultural landscape]. (Stockholm, Naturvårdsverket, 1989); Bele and Norderhaug, "Traditional land use".