

Managing and monitoring allowance for new second homes in the Rondane Region, Norway

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Abstract — The Rondane mountain region, in South-East Norway, is very popular for recreational purposes. The region is also the habitat for 4500 wild reindeer (*Rangifer tarandus tarandus*). The reindeer are hunted in controlled forms as part of the area management and harvesting of nature. This rural region suffers from decreasing population figures, reduced agricultural activity and declining economic activity in general. Boosting economic activity by increasing tourism, especially in second homes, is thought to be one way of mitigating this decline. Increased recreational activity may however negatively influence a sustainable development of the wild reindeer herd. In order to manage this possibly conflicting interest, local and regional authorities in 1991 set up a regional development plan, covering relevant parts of 14 municipalities in the Hedmark and Oppland counties. Research indicates that taken actions to some extent have managed to balance increase in tourism and protect vital space for wild reindeer. Still, the exact localization of existing and new second homes, and hence the development of new interventions, was until some years ago, not possible to analyse at an aggregated level. Such monitoring is important. A Norwegian real estate register, mapping the exact geographic position of buildings and their year of construction, has however become an important means for such monitoring. By the end of 2005 there were about 18,000 second homes mapped in the region. Increased GIS knowledge has now made it possible to develop detailed analysis of localization of second homes, i.e. distance from the wild reindeer core area, and analyse the development by statistic tools. This is a breakthrough and is anticipated to influence the management of the region and strengthen the potential for balancing economic activity and maintenance of biological diversity.

Index Terms — Common pool resource, regional planning, Rondane, second homes, wild reindeer.



1 THE RONDANE REGION AND THE REASON FOR REGIONAL PLANNING

The Rondane region is one of 23 wild reindeer management areas in Norway. The region is 150 km north – south, and the total area is 12600 km². The Rondane region is a mountain plateau between 600 metres in the southern part and 2000 metres on the sea level in the northern part. In

that part Rondane National Park, Norway's first national park, was established in 1962. Rondane is one of the most popular areas for outdoor recreation in Norway, which has caused a number of privately owned second homes at the fringe of the region and a number of hotels. At the interior part several cabins and a system of marked trails exist. Roads penetrate the region from east and west, but are generally not cleared for snow in the winter.

This region has for decades suffered form decreasing population, reduced agricultural activity and declining economy. Boosting economic activity by increasing the number of second homes is a municipal strategy to mitigate that development. None of the municipalities has their whole territory in the

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Rondane region. In total, around 150,000 people live in these municipalities. In the southernmost part of the area the population density is 23 inhabitants per km². In the rest of the area the density is 3.4 inhabitants per km².

By the end of 2005 17816 second homes existed in the region, most of them in the southern and western parts, see fig. 1. But Rondane is also the habitat for 4500 wild reindeer. These are some of the remnants of the original European mountain wild reindeer. The management is under local and regional control and a controlled hunting is done every autumn.

Wild reindeer are afraid of man, and may temporarily or permanently abandon areas where they frequently are disturbed by man. Increased human activity has therefore reduced the land available to the wild reindeer and increased the general stress when they are disturbed. Less available land means a smaller herd.

The wild reindeer is nomadic, which means they migrate and use large areas summer and winter. When moving in and between these areas the wild reindeer often use specific routes. Some areas are more suitable for winter or summer forage than others, but all together they are all important to the wild reindeer. The wild reindeer habitat is a common pool resource; human intervention in one part of the region influences the possibility to maintain the whole herd. This caused a conflict because some municipalities have planned for both a large number of second homes and have harvested the herd, whereas other municipalities have planned for fewer second homes and harvesting.

This turns the first kind of municipalities to free-riders. When trying to mitigate this challenge, and the incremental step-by-step reduction of wild reindeer habitat, people face the problem that the region is divided between two counties, Hedmark and Oppland, and 14 municipalities. The question then arises; how can a coordinated plan that preserves habitat and gives option for some further development be established? [1], [2].

2 THE PARTIAL COUNTY DEVELOPMENT PLAN

Amongst the ones who raised this question at the mid 1980's was the mayor of the Ringebu municipality, whom also was very familiar with wild reindeer management. One option was to enlarge the Rondane National Park, but this was anticipated too controversial¹. The alternative was to agree on a joint partial county development plan for the whole region, because the municipalities then to a larger extent could influence the rules and regulations set up in the plan – the rules they later would have to face. By regular revisions they would also be able to influence on the rules as they got more experience. Another advantage, emphasized by county agencies, is that although county plans in principle are only guiding for each municipality, they can be used as background for objections to plans.

The Partial County Development plan was approved by all municipalities and both county municipalities in 1991 and adopted by the Ministry of Environment in 1992. The basic structure of the plan is a defined core area, where new impacts are not supposed to be allowed if conflicting with wild reindeer, and a zone of influence, where new impacts are allowed, if they do not cause increased disturbance in the core area. The core area is 3200 km². The zone of influence is 9400 km². Detailed regulations are laid down for the core area and the zone of influence. In general the basic extensions of the zones are kept since the first plan, but some changes are decided on. A planning board, with an equal number of representatives from county agencies and municipalities in Hedmark and Op-

¹ Later, in the 1990s, a process leading up to enlargement of Rondane National Park, establishment of Dovre National Park, and several protected landscapes began. These areas, under the rule of the Nature Conservation Act (NCA), are within the outer limits of the County Development Plan. Protection of wild reindeer habitat was essential for enlarging the areas under rule of the NCA.

plan is set up in order to guide the implementation of the plan. One reason is to “calibrate” the decisions in both counties in order to get people feel that plans

are assessed on an equal basis. This is important for the acceptance, implementation and long term management of the common pool resource [1], [2], [3].

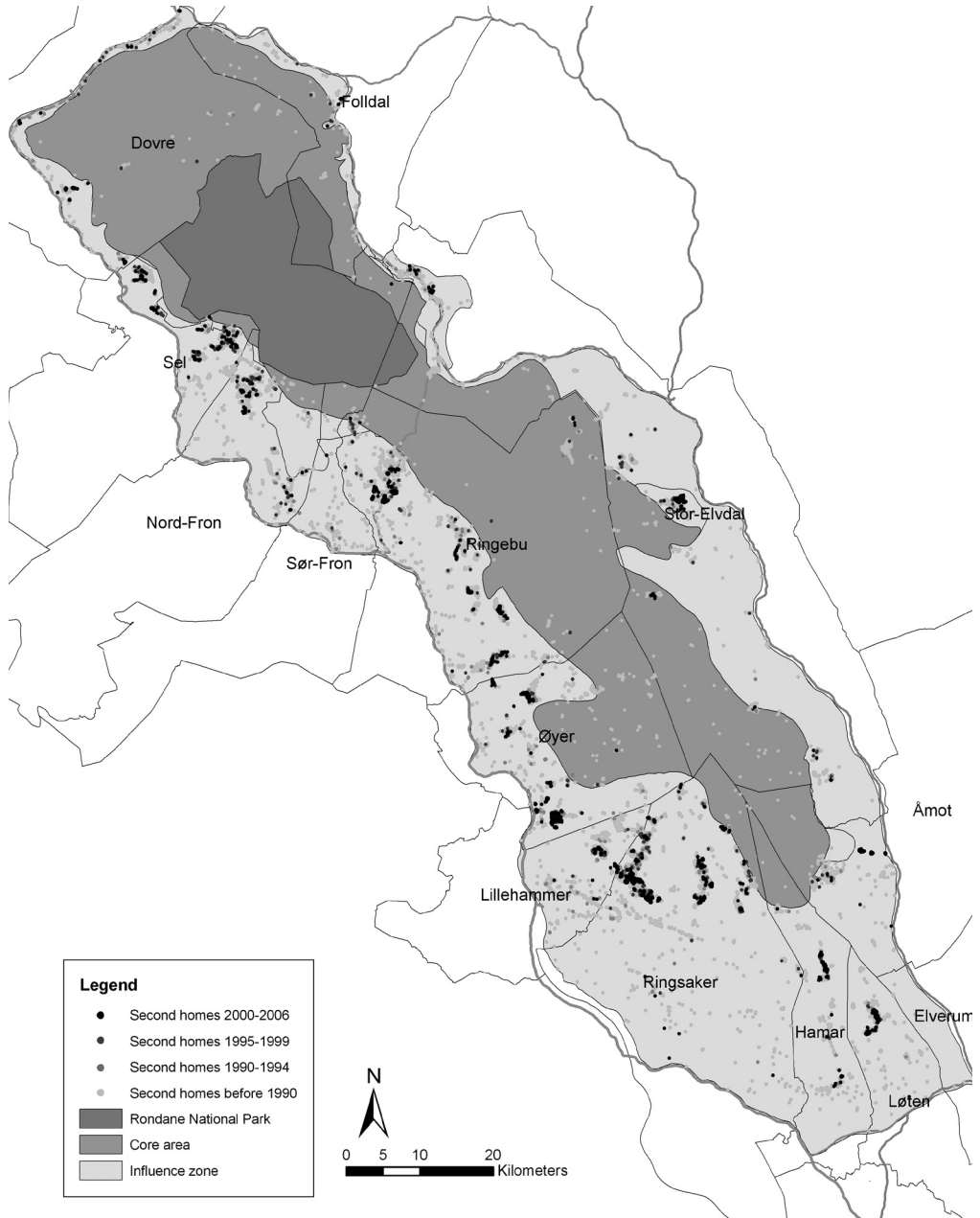


Figure 1. Second homes built in the Rondane Region. Source: [5], original in colour. The national parks and protected landscapes have been enlarged since the basic map was prepared.

3 OBJECTIVE AND METHOD

This paper aims to focus on the spatial and temporal evolution of the building of second homes in the Rondane region, especially in the influence zone. Furthermore how GIS and the Norwegian Real Estate Register may be used for a detailed mapping of the building of second homes. A joint and accepted knowledge, often detailed, is important for long term and successful management of common pool resources [2], [3], [6].

In the registers, there is not reliable data before 1980 about the year the second home has been built, which has affected the time period selection. Uncertainty also exists concerning when the partial county plan actually became effective, but it is reason to believe that its influence increased as time passed throughout the 1990`s. Setting up a new second home (which is the fact recorded) is influenced by the time needed to allow for a plot according to the plan, to sell it and to construct the buildings. On the contrary, it is known that i.e. the county governor used the coming partial county development plan as an argument against planning proposals already at the initial stages of that plan, causing some early effects of it [1], [2].

4 SPATIAL AND TEMPORAL EVOLUTION IN BUILDING SECOND HOMES

The real estate register shows that by the end of 2005 17816 second homes existed in the Rondane region, most of them built in the western and southern parts. The register shows an increasing number of second homes, from 13593 in 1980, to 14334 in 1989 and 16455 in 1999, and 17816 in 2005.

Consequently, in the time which the partial county plan is supposed to have had an influence the number of second homes is still increasing. Notwithstanding, analysis at a regional level shows that in the south and middle parts the annual number

of new second homes was ca 160-170 per year in the period 1990 - 2005, but decreasing. In the north part annual numbers of new second homes in 1990 – 2005 was about 27-28. [4].

The reason for this uneven development may be that the south and middle parts are closer to the larger cities and the Oslo-area, and because those parts host popular ski resorts. Another reason may be that there is more land not directly conflicting with wild reindeer habitat than in the north part. A slower increase in the North part may also be caused by the closeness to the national parks and protected landscapes [4].

The number of new second homes are influenced by the number and location allowed for in the plans. If the partial county plan had an effect that could be on the number of new second homes allowed for, where they are located and measures taken to direct human activity to less harmful areas.

An analysis of the number of new second homes in the core area contrary to the zone of influence shows that until 1990 a total of 770 second homes were built in the core area. Most of them were built prior to 1980, probably many years before. In the period 1990 – 2005 59 second homes were built in the core area. Compared to the 1980`s that is considerably more. As the growth in the core area has not slowed down since 1990, that indicate a weaknesses in the implementation of the plan [5].

When it comes to the development in the zone of influence a visual evaluation of the location of new second homes, indicate that in general new second homes are located more distant away from the core area. Still, a more detailed analysis is needed, and by merging different parts of the real estate register it is possible to record the number of new second homes per year at different distances around the core area.

Constructing rings around the core area, and electronic counting of the number of second homes built in each ring at a certain period, is one way of aggregating the data, both for visual presentation and statistical

purposes. This procedure shows that in general the number of new second homes in the first kilometre is reduced, but that is also the long term tendency before the partial county development plan existed. A slight increase is recorded in the 1-2 km ring, but especially in the 3-4 and 6-7 km rings. This mixed picture may be caused by the fact that the available land for new second homes varies due to the topography. In some areas there it is not possible to set up second homes further away than 1-2 km, whereas in others there is ample land. Although the number of second homes increases close to the core area, the annual growth in % is larger in more distant rings [5].

In order to acquire a more detailed picture, we analysed the development in the rings in each municipality. In general these data shows that in municipalities with ample land more distant from the core area the new second homes are actually located more distant from the core area [5].

5 CONCLUSION

An analysis based on the real estate register, especially the recent merging of different parts of it, gives valuable and detailed data. It does enable us to analyse the development from a statistical point of view, detecting the more hidden patterns of development. The data indicates that the partial county plan functions according to its goals; it is supposed to both allow for new second homes and preserve the wild reindeer habitat. Still, some questions can be raised concerning the development in parts of the core area and the closer rings. This knowledge has been passed over to the county agencies, where it hopefully will be considered at the ongoing revision of the plan. In any case we now have a tool that easily can monitor the ongoing implementation of the plan. That kind of knowledge may be an advantage for the future management of the common pool resource.

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