

# UNDERSTANDING THE VISITOR

## A PREREQUISITE FOR COASTAL ZONE PLANNING

Rosemarie Ankre

Blekinge Institute of Technology

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School of Technoculture, Humanities and Planning





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## PREFACE

A licentiate thesis is a process which proceeds for several years and it would be impossible to reach the finish line without the encouragement and ideas from many people. Thank you! Luckily a preface gives the opportunity to thank some of you in written, if I have not done this in person.

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## ENGLISH SUMMARY

The Swedish coastal areas and archipelagos are attractive to visitors, which create an interest for the development of tourism and outdoor recreation (Segrell, 1995; Turistdelegationen, 1998; Nilsson & Ankre, 2006), but these areas also consist of important natural values, extensive bird and animal life, and culture (SOU 1996:153; SOU 2000:67). To plan for tourism and outdoor recreation together with the conservation of nature and culture, and with consideration of other land and water use, is problematic. Because of the sensitive nature and culture areas, the archipelagos become arenas for a variety of different stakeholders, whose needs, interests and experiences in some cases go in different directions. This may cause conflicts of, for example, conservation, accessibility, usage, development and management of the coastal landscapes (Morf, 2006). To be able to introduce tourism and outdoor life better in the comprehensive plans, it is important to be able to identify these conflicts.

Conflicts in Swedish coastal areas are the point of departure for this thesis. Based on a visitor survey, the thesis is part of the work of receiving knowledge about visitors and second home owners for planning, together with analyses of zoning as a method to handle conflicts in Swedish coastal areas. The analyses are built on the results from a questionnaire survey directed to visitors and second home owners in the Luleå archipelago in 2003. In the thesis, it will be discussed if and how planning of tourism and outdoor recreation in coastal areas could improve with knowledge of visitors' attitudes, experiences, activities and geographical dispersion. The thesis has the following sections:

- i) A discussion of the Swedish planning system, the conflicts in the Swedish coastal areas and different planning frameworks with zoning,
- ii) an overview of the Luleå archipelago, its conservation of nature and zoning,
- iii) an account for the empirical material which was collected in the Luleå archipelago through a questionnaire survey in 2003,
- iv) an analysis of zoning as a method for noise-free areas with restrictions against motor boats in the Luleå archipelago,
- v) an investigation of the visitors' place identity in the Luleå archipelago, together with a discussion regarding whether knowledge of place identity is of significance for planners and managers of the area.

The results of the questionnaire survey together with the analysis of the attitude to silence in the Swedish planning show that the possibility for people to be able to experience silence, peace and quiet is an important aspect. Nearly 85 percent of the respondents declared that experiencing peace and quiet had been of great or very great importance when deciding to visit the Luleå archipelago. Not many of the respondents had experienced noise, but when they had, motorboats were particularly specified as the source. The respondents who had been riding motorboats had experiences as equivalent to those of the respondents of other activities, with the exception for the respondents who had been sailing. Sailing can thereby be estimated to create a group of users whose motives and expectations of the visit in the Luleå archipelago make them more sensitive to noise from motorboats. This result emphasizes the relevance of knowing more of the visitors in order to understand which groups are sensitive of, for example, noise, and why conflicts take place. Zoning with noise-free areas might be useful to handle conflicts, but one difficulty is that the motorboat is a means of transportation, an important implement in the fishing industry, and a popular outdoor recreation activity in the archipelago.

A conclusion is that in the Swedish coastal areas, protection of silence in the work with development and conservation is of significant matter; silence is an important reason for visiting the coasts and archipelagos. Even if county administration boards and municipalities do not view noise as a problem at the present, there should be an awareness of the value of silence for the visitors. How and where silence could be kept in archipelagos is, however, a complex issue since noise is a subjective concept (who is disturbed and where, by what noise and in what situations?), and because of the archipelago's incoherent (discontinuous) landscape.

Humans are not rational; we are guided by our feelings which also are mirrored in our attitudes to a place. As concluded in the thesis, planners and managers could benefit from knowledge of the visitors' and second home owners' place attachment for an area. 61 percent of the respondents felt a strong or very strong place identity with the area. The Luleå municipality would like to have the highest number of visitors in the inner part of the archipelago (where the visitors are directed to different zones due to a municipal goal of conservation), but according to the survey results, they have not succeeded since most of the respondents had been to the outer zone. In addition, the outer zone had the highest numbers of place identity. Having a residential connection as a second home was an indicator of strong place identity. The returning visitors had a strong and very strong place identity, whilst the first time visitors' place identity was measured with lower percentage. The results of this study indicate that through knowledge of the visitors' emotional bonds to a place, the planners and managers of the Luleå archipelago would improve its tourism and outdoor recreation planning and management, its zoning and the handling of conflicts. However, how to attain the knowledge of visitors' emotional bonds needs to be developed. Place attachment should be considered in planning since it could give an understanding of different individuals' negative or positive reactions to, for example, changes or the presence of other people in an area. Knowledge of place attachment could by this means help when handling conflicts in a coastal area.

In this thesis, zoning as a method to handle conflicts has been analysed. The planning framework ROS (the *Recreation Opportunity Spectrum*) has mainly been used in wilderness areas, for example Fulufjället in Sweden (Fredman et al, 2005), to be able to direct visitors to different areas, balancing the land and water use with conservation and the visitors' various wishes for activities and experiences. The planning framework is also a tool to decrease and control conflicts, concerning, for example, noise (Clark & Stankey, 1979; Driver et al., 1987; Emmelin, 1997; Manning 1999; Stankey et al., 1999). To apply zoning in dividing an area into larger zones from the inner to the outer part when planning for tourism and outdoor life development in Swedish archipelagos is, however, a challenge, since the archipelagos consist of discontinuous landscapes.

In the Swedish planning, there is a need for understanding and knowledge of the different interests for land and water use. Knowledge of the visitors' and the second homeowners' experiences, activities and effects on the environment may contribute to the decreasing of conflicts. To achieve an appropriate and effective management of nature areas for tourism and outdoor life, a good knowledge of the visitors is required (Emmelin et al., 2005). The decisions of planning may improve by comprehensive knowledge. The problems (such as conflicts) that the planners are trying to solve and handle should be established in the users' reality and not only in the planners' conceptions. In that way, knowledge of the visitors may show if the authorities' perceptions of conflicts are the same as the users'.

## SVENSK SAMMANFATTNING

De svenska kustlandskapen och skärgårdarna är attraktiva för besökare vilket skapar intresse för utveckling av turism och friluftsliv (Segrell, 1995; Turistdelegationen, 1998; Nilsson & Ankre, 2006), men dessa områden består också av stora naturvärden, omfattande fågel- och djurliv samt kulturminnen (SOU 1996:153; SOU 2000:67). Att planera för turism och friluftsliv tillsammans med bevarande av natur och kultur samt med hänsyn till annan mark och vattenanvändning är problematiskt. Det beror på att dessa natur- och kultur känsliga områden är arenor för en mångfald av olika aktörer vilkas behov, intressen och upplevelser i vissa fall går i olika riktningar. Detta kan skapa konflikter om exempelvis bevarande, tillgänglighet, användning, utveckling och förvaltning av kustlandskapen (Morf, 2006). För att kunna introducera turism och friluftsliv bättre i översiktsplanerna, är det viktigt att kunna identifiera konflikter.

Konflikter i svenska kustlandskap är utgångspunkten för denna licentiatavhandling. Utifrån en brukarstudie, utgör licentiatavhandlingen en del i arbetet för kunskapsförsörjning om besökare och fritidshusägare till planering, samt analyser av zonerings som metod att hantera konflikter i svenska kustlandskap. I licentiatavhandlingen diskuteras om och hur planering för turism och friluftsliv kan förbättras genom kunskap om besökarens attityder, upplevelser, aktiviteter och geografiska spridning. Analyserna grundas på resultaten av en enkätstudie riktad till besökare och fritidshusägare i Luleå skärgård år 2003:

- i) En diskussion om det svenska planeringssystemet, konflikter i svenska kustlandskap och olika planeringsverktyg med zonerings,
- ii) en överblick av Luleå skärgård, dess bevarande av natur och zonerings,
- iii) en redogörelse för det empiriska materialet som samlades in i Luleå skärgård genom en enkätstudie 2003,
- iv) en analys av zonerings som metod för bullerfria områden med restriktioner för motorbåtar i Luleå skärgård,
- v) en undersökning av besökarens platsidentitet i Luleå skärgård, samt en diskussion om huruvida kunskap om platsidentitet är av betydelse för planerare och förvaltare av området.

Resultaten av enkätstudien tillsammans med analysen av förhållningssättet till tystnad i den svenska planeringen, visar att möjligheten för människor att kunna uppleva tystnad, lugn och ro är ett centralt behov. Nära 85 procent av respondenterna ansåg att möjligheten att uppleva lugn och ro hade varit av stor eller mycket stor betydelse när de bestämde sig för att besöka Luleå skärgård. Inte många av respondenterna hade upplevt buller, men om de hade gjort det angavs särskilt buller från motorbåtar som källa. Respondenterna som hade åkt motorbåt hade liknande upplevelser som de övriga respondenterna med undantag för de som seglade. Segling kan därmed bedömas bilda en grupp av användare vars motiv och förväntningar inför besöket i Luleå skärgård gör dem mer känsliga för motorbåtsbuller. Detta resultat betonar betydelsen av att ha mer kunskap om besökarna för att kunna förstå vilka grupper som är känsliga för exempelvis buller, och varför konflikter uppstår. Zonerings med bullerfria områden kan vara användbart, men en svårighet är att motorbåtar används som transportmedel, är viktiga inom fiskeindustrin och populära som fritidssyssla i en skärgård.

En slutsats är att det i de svenska kustlandskapen är av betydelse att skydda tystnad i arbetet med utveckling och bevarande; tystnad är ett viktigt skäl att besöka kusterna och skärgårdarna. Även om länsstyrelser och kommuner inte anser att buller är ett problem för närvarande, så borde det finnas ett medvetande om värdet av tystnaden för besökarna. Hur

och var tystnad ska bevaras är dock ett komplicerat ämne eftersom buller är subjektivt (vem är störd och var, av vad för buller och i vilka situationer?) och på grund av skärgårdens osammanhängande (diskontinuerliga) landskap.

Vi människor är inte rationella; vi styrs utav känslor vilket även speglas i våra förhållningssätt till en plats. I licentiatavhandlingen konstateras det att planerare och förvaltare kan ha fördelar av att ha kunskap om besökarens och fritidshusägares platskänsla för ett område. 61 procent av respondenterna kände stark eller mycket stark platsidentitet med Luleå skärgård. Luleå kommun vill styra de flesta av besökarna till den inre delen av skärgården (utifrån målet om bevarande och antal besökare i olika zoner), men enligt studieresultaten, har det inte lyckats eftersom de flesta av respondenterna hade varit i den yttre skärgården. I den yttre zonen fanns även den starkaste platsidentiteten. Att ha ett boende, som ett fritidshus, var en indikator på stark platsidentitet. De besökare som återvänt hade en stark eller en mycket stark platsidentitet, medan platsidentiteten hos dem som besökte området för första gången var lägre. Resultaten av denna studie tyder på att genom kunskap om besökarnas känslomässiga band till en plats, kan planerare och förvaltare av Luleå skärgård förbättra sin turism- och friluftslivsplanering och förvaltning, dess zonering och konflikthantering. Emellertid, det måste ske en utveckling av hur kunskapen om besökarens känslomässiga band ska gå till. Platskänsla bör beaktas i planeringen, eftersom det kan ge en förståelse inför olika individers negativa eller positiva reaktioner inför exempelvis förändringar eller närvaron av andra människor i ett område. Kunskap om platskänsla kan därmed bli ett medel i hantering av konflikter i kustlandskap.

I licentiatavhandlingen har zonering som en metod att hantera konflikter analyserats. Planeringsmodellen ROS (the *Recreation Opportunity Spectrum*) har använts främst i vildmarksområden som t ex svenska Fulufjället (Fredman et al., 2005) för att kunna styra besökare till olika områden för att balansera markanvändningen med bevarande och besökarnas olika önskningar om aktiviteter och upplevelser. Det är även ett verktyg för att kunna minska och kontrollera konflikter, angående exempelvis buller (Clark & Stankey, 1979; Driver et al., 1987; Emmelin, 1997; Manning 1999; Stankey et al., 1999). Att tillämpa zonering med uppdelning av ett område i större zoner från inre till yttre inom planeringen av turism- och friluftslivsutveckling i svenska skärgårdslandskap, är emellertid en utmaning då skärgårdar består av diskontinuerliga landskap.

I den svenska planeringen behövs en förståelse och kunskap om de olika intressena för markanvändning. Kunskap om besökarens upplevelser, aktiviteter och påverkan på miljön kan bidra till att minska konflikter. En ändamålsenlig och effektiv skötsel av naturområden för turism och friluftsliv förutsätter goda kunskaper om besökarna (Emmelin et al., 2005). Planeringsbesluten kan bli bättre med allsidig kunskap. De problem (som konflikter) som man inom planeringen försöker finna lösningar för och hantera, bör vara förankrade i brukarnas verklighet och inte endast i planerarnas föreställningar. Därmed kan kunskap om besökare visa om myndigheters uppfattningar om konflikter överensstämmer med brukarnas.

# 1. INTRODUCTION

## 1.1 Background

*“We all have positive and negative images of the archipelago. When we are in a good mood, we might think of a float going up and down, a sunlit bathing cliff, newly fried Baltic herring in the bower or white sails against the fading blue sea. When we are in a bad mood, we might think of cold fog, signs with the words ‘Private’ in the best bathing bay, algal bloom or noise from plastic motorboats that scare the sense out of every bird.”* (Sundström, A. Dagens Nyheter 25/3/05. Author’s translation).

As the quotation above illustrates, the views of the Swedish archipelago may differ greatly. Since visitors’ experience, wishes and demands of activities vary among individuals, it is relevant for planning and management to learn and have information of what the visitors find disturbing, desirable and important. Also, to be able to develop and offer recreation experiences of high quality, there is a need to understand conflicts. Vuorio (2003) states, it must be possible to follow developments, and predict environmental effects and consequences of visitors’ activities, experiences, satisfaction and attitudes. Research and developing methods could lead to useful and valuable information to spatial planning (Emmelin et al., 2005). This makes it interesting to investigate what the attitudes and experiences of the archipelagos are, from the visitors’ perspective.

The Swedish coastal areas and archipelagos attract many visitors, which creates an interest in developing tourism and outdoor recreation (Segrell, 1995; Turistdelegationen, 1998; Boverket, 2006; Nilsson & Ankre, 2006). At the same time, these areas consist of valuable nature, culture and considerable bird and animal life, which are conserved and protected by the shoreline protection, nature reserves, areas of national interest, bird and seal sanctuaries, and Natura 2000 (SOU 1996:153; SOU 2000:67). However, in areas with large numbers of visitors, conflicts are more likely (Manning, 1999; Vuorio, 2003). To plan for tourism development and recreation, in combination with the interests of nature and culture conservation, and other land and water use, is a complex matter in these areas. There are many different stakeholders (the local population, the visitors and the second home owners) with differing needs, interests and experiences. Planning and management in the Swedish coastal areas affect various actors such as fishery, agriculture and tourism, nature and culture conservation, outdoor recreation, and usage of the natural resources (for example, fish and water of quality). This may create conflicts concerning conservation, accessibility, usage, development and management (Morf, 2006).

Furthermore, to handle conflicts it is necessary to evaluate and have insight in which knowledge is needed; what conflicts exist according to whom, where, how, when and why? Knowledge of the visitors’ experiences, activities and effects on nature could contribute to decreasing conflicts, and to achieve an appropriate and effective management of nature areas for tourism and outdoor recreation, a good knowledge of the visitors is required (Emmelin et al., 2005). Conflicts may arise because of differing attitudes, experiences, activities and geographical dispersion, but without knowledge of these stakeholders it is difficult to plan for them. In the Swedish municipal planning, there are shortcomings regarding tourism and outdoor recreation with lack of comprehensive knowledge and information of the visitors, according to Emmelin et al., 2005. It is essential to identify conflicts in the Swedish planning with an understanding of the different interests of land and water use, in order to handle them in planning and management.



A primary source of information is by this means represented by the visitors, the potential visitors, and other stakeholders, and an effective source of such information is visitor surveys (Manning, 1999; Kajala, 2007). These provide knowledge that is complementary to the expert view that dominates in the Swedish planning system (Emmelin et al., 2005). This system is founded on the ideology of local, political decision making where the municipal comprehensive plan is a system of deliberative or communicative rationality (Emmelin, 1997). However, the municipalities require adequate data to base planning upon, where research and development of methods are one of the prerequisites. Knowledge by visitor surveys gives the opportunity to distinguish if planners' and managers' perceptions and experiences of conflicts are similar to the visitors'.

## 1.2 Purpose

Conflicts in Swedish coastal areas are the point of departure in this thesis, which is part of the work of receiving knowledge about visitors and second home owners in Swedish planning. Empirical data was collected by a questionnaire survey, carried out in 2003, directed to visitors and second home owners in the Luleå archipelago located peripherally in Northern Sweden. Also, in the thesis, zoning as a method to handle conflicts in coastal areas and archipelagos is examined. The main purpose is to discuss if and how planning for tourism and outdoor recreation in coastal areas could improve with knowledge of visitors' attitudes, experiences, activities and geographical dispersion where different analyses are included as follows:

- i) A discussion of the Swedish planning system and different planning frameworks with zoning,
- ii) an overview of the Luleå archipelago and its nature conservation and zoning,
- iii) an account for the empirical material which was collected in the Luleå archipelago through a questionnaire survey in 2003,
- iv) an analysis of the method of zoning with restrictions of the usage of motorboats to get noise-free areas in the Luleå archipelago,
- v) an investigation the visitors and the second home owners' place identity in the Luleå archipelago with a discussion regarding whether knowledge of place identity would be of significance to planners and managers of the area.

From a discussion of the Swedish planning system and planning frameworks where zoning is applied, knowledge of visitors and second home owners in planning and management will be analysed with focus on the Luleå archipelago, which consists of valuable nature and culture areas. The archipelago is also central for the recreational life of the inhabitants of the Luleå city, which creates a dilemma of balancing conservation and development. The Luleå municipality has showed an interest in developing both summer and winter season (Wallin, 11/3/03). Furthermore, there are various groups of stakeholders (local population, visitors and second home owners) which may cause different conflicts of interest in the area, and this will be examined in relation to different planning frameworks.

The results of the questionnaire survey present data about the visitors and the second homeowners' attitudes, experiences, activities and geographical dispersion of the area. It also provides us with knowledge of how the existing planning with the archipelago zoning functions in reality, according to the survey results. Conflict and zoning will be further analysed in this thesis by deeper investigations of noise and place identity. Noise is a source of conflict in tourism and outdoor recreation (see for example, Harrison et al., 1980; Ewert et al., 1999; Gramann, 1999; Cessford, 2000), and it is viewed as important to protect silence in

the coastal areas (Boverket, 2003). However, the knowledge of the individuals who experience noise and where is insufficient. The study in the Luleå archipelago will give knowledge of attitudes to noise and to noise-free areas with restrictions against motorboats.

Moreover, the significance of place identity and place attachment in planning is discussed by studying the knowledge of visitors' and second home owners' emotional bonds to the Luleå archipelago. Place attachment is claimed to give insight in how people view selected management alternatives, and it could offer a method for getting a sense of the differences in how the resource is defined and valued by the visitors (Bricker & Kerstetter, 2000). Much remains to learn about the recreationists' relationship with the setting in which they enjoy their leisure experiences (Kyle et al., 2004a). The study will provide us with knowledge of place identity in the Luleå archipelago and the possible importance of place attachment in planning and management of coastal areas will be discussed.

### **1.3 Definition of tourism and outdoor recreation**

The visitors in coastal areas often combine what is significant for both tourism and outdoor recreation. Tourism (especially nature tourism<sup>1</sup>) and outdoor recreation have been closely associated during the 20<sup>th</sup> century (Emmelin et al., 2005). Often tourism and outdoor recreation use the same resources and are dependent upon each other (Turistdelegationen, 1998). The planning frameworks and the empirical work of this thesis involve both the concepts of tourism and outdoor recreation. These concepts are analysed together when discussing management and future planning for tourism development. Butler (1999) has accounted for the definitional problems in tourism studies where the multi-disciplinary nature of the topic is a major factor. The following section will shortly outline relevant definitions of tourism and outdoor recreation, to be concluded by the definition of tourism and outdoor recreation applied in this thesis. The researchers in this section represent many different disciplines (for example, anthropology, biology, economics, geography, political science, psychology, and sociology) with differing approaches to research and diverse methods and concepts.

Statistically in Sweden, tourism is defined as travelling and staying one night outside the permanent home, and travels that are at least 100 km away from the permanent home (Holmström et al., 2005). In addition, the World Tourism Organization (1994) states that: *"Tourism comprises the activities of persons travelling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business or other purpose"*. Although tourism must include travelling, all travelling is not tourism. The temporary mobility of tourism is any form of territorial movement that does not represent a permanent, or lasting, change of usual residence, according to Bell & Ward (2000). They also classify temporary and permanent moves based on production and consumption. The consumption-related motives consist of moves for pleasure, for example, weekend excursions and annual holidays to seasonal migration and extended recreational travel. Graburn (2001) defines tourism as a kind of ritual where special occasions of leisure and travel stand in opposition to everyday life at home and at work. There is a contrast between a special life (tourism travel) and the ordinary life (being at home). However, tourists are not a

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<sup>1</sup> Nature tourism includes tourism in natural settings that focuses on specific elements of the natural environment (for example, safari and wildlife tourism, nature tourism and marine tourism), and also tourism that is developed in order to conserve or protect natural areas, as ecotourism (Hall, 2005).

homogenous group; they consist of distinctive types or categories that travel for different reasons and within differing organisational or social contexts (Williams, 2003).

Outdoor recreation is most commonly connected with the idea of an activity with a purposeful and constructive engagement (Williams, 2003). The definition of outdoor recreation has in Sweden been based on the Norwegian official definition: “*Stay and physical activity in the outdoors during leisure time to obtain a change of environment and an experience of nature without any demands for achievement or competition.*” (Kulturdepartementet, Ds 1999:78, p. 9. Author’s translation). Outdoor recreation means being in nature to experience it, being active and gaining relaxation. The nature is the main resource and Sweden’s coastal areas, the sea and the lakes are thus valuable for the outdoor recreation.

Tourism may clearly involve outdoor recreation. Williams (2003) has compared the motives for participation in tourism and outdoor recreation and has come to the conclusion that the similarities are more apparent than the differences. The integration of tourism and outdoor recreation is also found in the Swedish Tourist Authority’s (1995) definition of the reasons for a journey. They could be many, but there is always a main purpose. Among the defined main purposes are leisure, outdoor recreation and holidays. These three reasons are put together according to where the activities are, for example, sightseeing, shopping, culture, and walks in the woods or sunbathing. The activities represent in this manner a mix of tourism and outdoor recreation. Great parts of the people in outdoor recreation can be defined as tourists as stated by the Swedish Ministry of Culture (1999). One could question whether visiting nature (for example, a charter trip, being in a second home, canoeing with an outdoor recreation organisation, or taking the boat fishing) is organised and commercial (Emmelin et al., 2005). Both tourism and outdoor recreation can be organised, while tourism could be viewed as mainly commercial. Emmelin et al. (2005) maintain that outdoor recreation is becoming increasingly commercial. Moreover, movement is always evident in tourism and not necessarily in outdoor recreation. The interest in nature is central in outdoor recreation, and in nature-based tourism.

In this thesis, the definitions of tourism and outdoor recreation are based on the discussions above. However, the definitions of the concepts will be interpreted as intertwined. In the selection of respondents in the questionnaire survey in the Luleå archipelago, distance was of no importance. As Emmelin et al. (2005) state, when the effects of visitors in a certain nature area are investigated it is often of secondary importance if the visitors are tourists, or not. This thesis has its point of departure in the knowledge of the visitor (as a consumer), but if there had been a producer perspective, the distinction between tourism and outdoor recreation had been of greater significance (see discussion in Emmelin et al., 2005 pp. 27-30).

#### **1.4 Archipelagos as discontinuous landscapes**

The shape and pattern of the Swedish landscape differ along the coast-line. Extensive coastal areas consist of an open coast without any specific island world. The archipelagos are of different dimensions and characters, and all together, the archipelagos in Sweden consist of 60 000 islands where half are within the Stockholm archipelago (SOU 1993:51). Many islands are undeveloped and not exploited. Great parts of the coastal areas are also of national interest for the valuable nature and culture, and recreation. The coasts and the archipelagos have a varied use of the land and water resources and there are differences in population density and degree of development (SOU 1993:51).

Various factors create a landscape (of an archipelago) which in this thesis is referred to as *discontinuous*. This phenomenon creates inhomogeneous landscapes because of the variation of geography and nature, the difference of accessibility, the possibility of different activities, the blurred boundaries of rural and urban living, and mental perceptions of what an archipelago is. This together creates complicated arenas to plan and manage.

The geographical pattern of archipelagos consists of many islands with scattered nature and biotopes: *"It is important to take care of the mosaic characterised nature values that define the coastal areas' and archipelagos' woods, as well as other coastal and archipelago environments."* (Frisén, 2000 p. 34. Author's translation). The areas of the Swedish archipelagos are tiny and of high conservational value with their vulnerable nature and culture sensitive to interference (Frisén, 2000). At the same time, the archipelagos are attractive for recreation and for tourism expansion (Turistdelegationen, 1998). The coastal areas' physical environment and the possibility it creates for different activities and experiences is a great power of attraction for visitors, which encourages further development of tourism and recreation. The activities that can be performed (such as motor boating, wind surfing, diving, sailing, and angling) may also differ depending on where one is located in the archipelago.

The coastal areas and archipelagos are, to an increasing extent, important areas to the urban population and their interests of recreation (Turistdelegationen, 1998). The boundaries between rural and urban living are often blurred and there is a mix of a permanent and a seasonal population. Müller (1999) pronounces that there is a variety of activities in the countryside and due to its integration with the urban-based economy, there is a duality. The local population has its everyday life in the countryside and if being peripheral, the local population has little contact with the nearest urban centre. Regarding tourism and outdoor recreation, the countryside is needed especially by the urban residents, according to Müller. He discusses the different interests between the urban population who seeks a setting for outdoor recreation and has an image of the 'rural idyll', and the local population who has the coastal area as their permanent base for housing and employment. It becomes difficult to avoid conflicts because of the collision between the images and expectations of a rural idyll and the local populations' need for work and industry (Müller, 1999). Especially visitors and second home owners appreciate the traditional environments and do not want changes. They have images of what the archipelago should look like based on an opinion of an old-fashioned idyll that the archipelago represents. It is a place that is separated from their ordinary life. Their spent time and recreation in the archipelago is founded on the place's attributes where the landscape represents a traditional life (Heldt Cassel, 2003). This creates a discontinuity of lifestyles. Therefore, the countryside is not consistent in the character of its social space (Nilsson, 2000).

The difficulties to view the archipelago as a homogeneous area is also emphasised by Nordin (2005a), who encourages further investigations of people's lives and occupations in different parts of this landscape. Depending on where one lives in the archipelago the life conditions may differ. Traditional industries, such as fishing, forestry, and agriculture, are becoming less but still exist in some places in the archipelagos. These industries are linked to a permanent population that is decreasing, while seasonal living in second homes is common in certain areas. Modernisation such as increased mobility, new technology, economic restructuring, changing land use policies and public services, and communication patterns (as the Internet) has made the differences between urban and rural, traditional and modern less distinct (Kaltenborn & Williams, 2002).

Accessibility is another reason for the discontinuity of the archipelagos. Accessibility has a social and a physical dimension. The social dimension refers to the socio-cultural sanctions that surround travel as well as the legal ability to travel (Hall & Boyd, 2005). The concept of accessibility is full of nuances. If a landscape of tourism and outdoor recreation is viewed as accessible or not, depends on social and cultural relationships founded on, for example, childhood, experiences of school and associations, self-contemplation, and upbringing (Sandell, 2001). Physical accessibility refers to the ability of people to reach destinations. The physical landscape together with infrastructure creates the possibilities (Hall & Boyd, 2005).

The improved accessibility between the mainland and the archipelagos has made the local population more specialised in their occupations, according to Nordin (1994). He means that the geographical mobility was enhanced and that the markets widened which increased the competition. The process in 1970-1985 that led to a spread of the Stockholm population to the outlying areas has been investigated by Nyström (1990). People moved out to the city's countryside to find a better environment to live in and a higher life-quality. Nyström has studied the second homes' expansion in the Stockholm archipelago and his conclusion is that the increased pressure to find housing in the city, transformed second homes and weekend cottages into permanent residences.

Another aspect of the discontinuous landscape is the restrictions and the regulations (bird and seal sanctuaries and military command areas) that control the individuals' movements in the archipelago. Also, some areas of the Swedish archipelago are easier to reach than others, depending on the presence of the ferries or bridges. Privately owned boats give an opportunity to move freely in comparison to the tour boats that direct visitors to certain areas. The transportation to and from islands in an archipelago are viewed differently by the permanent population, the representatives of tourism and recreation, and the representatives of conservation (Nordin, 2005a). The interests of decreasing isolation, to get access to attractive areas, and to get merchandise transported, often go against the interests of preserving different areas from human influence. The interests of access can also cause contradictions, as the second home owners want to get easy access to their houses, but without losing the feeling of peace and quiet (Nordin, 2005a).

### **1.5 Tourism, planning and conflicts in Swedish coastal areas and archipelagos**

There have been investigations and surveys of the Swedish coasts and archipelagos by, for example, different county administration boards, the National Board of Housing, Building and Planning, the National Heritage Board, the National Rural Development Agency and the Swedish Environmental Advisory Council (SOU 1993:51; SOU 1996:153; SOU 1996:170; SOU 2000:67; Riksentikvarieämbetet, 2003; Glesbygdsverket, 2003). Different inquiries in these studies are characteristics of culture history, experiences from municipal and regional planning and European Union projects, sensitivity to wind power, facts of the local population, work, service and transport, and sustainable development. In the following part, different scientific research will be discussed which are interesting in relation to the analyses in this thesis. Different disciplines are represented in this matter, such as human geography, water and environmental studies, and human ecology.

In the Swedish archipelagos, the shoreline protection is a legislation which protects the beaches and keeps them accessible for everyone. Segrell (1995) has studied how different areas of interest (for example, tourism, recreation, establishments for industry, and nature reserves) have focused on the Swedish coastal landscape and its coastal areas during the 20<sup>th</sup>

century. The aim of the study was to increase knowledge of the causes and forces behind conservation and the use of the coastal areas with an analysis of the urban and rural interests on a local level and of the shoreline protection. The study indicates that the stakeholders group themselves around three goals for the future: a continuously living coastal community, increased opportunities for nature conservation, and outdoor recreational activities and tourism. Segrell has also studied in what way conflicts of interest have arisen and have been handled. He believes that conflicts will continue to arise in these areas why authorities should be more sensitive of local conceptions and viewpoints. In his thesis, Segrell argues that there is also a need of a comprehensive knowledge and attention of the visitors and second home owners' needs and wishes in planning. These individuals may either cause conflicts or acknowledge conflicts, or both. In handling conflicts and weighing different interests against each other, knowledge of the visitors and the second home owners would be complementary to other information.

There are several stakeholders in the Swedish coastal areas, such as the local population, the visitors and the second home owners. These stakeholders have different perceptions of the landscape and of the land and water use, which may cause conflicts. Müller (1999) has investigated the German cottage purchases in Sweden in his thesis *German Second Home Owners in the Swedish Countryside* where he also analysed conflicts in the countryside. Interestingly, Müller considers the second home owners' attitudes towards the countryside as similar to the local population's, because of the time spent in the area. Conflicts between stakeholders were more likely to arise between second home owners and other visitors than between second home owners and the local population.

The perceptions of the landscape are also of relevance in relation to visitors' emotional bonds in planning, which will be investigated in this thesis. Heldt Cassel (2003) has examined how the archipelago was pictured as a traditional idyll which in reality did not exist any longer. She has analysed the marketing of food in the Stockholm archipelago. Locally produced food or food with a regional profile was a way of marketing and developing coastal areas, which has been done in the project Skärgårdssmak<sup>2</sup>. This perception of the landscape was used to attract tourists to specific places that can be experienced and consumed as products. However, the perception of the archipelago was built on a non-existing reality. Nordin (2005a) has investigated who has formed the view of the Stockholm archipelago with a historical overview of the area. The perceptions of what is viewed as reality or not, vary from person to person, but in Nordin's (2005b) further study of the matter, he states that the myth of the Swedish archipelago has grown to be strong.

Nordin (2005b) therefore questions if planning in the archipelago was established on a myth or reality? This question was raised from the comparison of the views and depictions of the archipelago in literature, media and by other stakeholders (such as the boat transport company Waxholmsbolaget and the Archipelago Foundation<sup>3</sup>), and the local population's perceptions. In the Stockholm archipelago, many decisions in planning seemed to have their starting point in occurrences that had been reconstructed during the last decade by authors and artists — instead of the local population's reality. Images and discourses of the archipelago highly affect people's place attachment and feeling of being in the right place. This cannot be dismissed by politicians and planners, according to Nordin (2005b).

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<sup>2</sup> *Taste of the archipelago*. Author's translation.

<sup>3</sup> The Archipelago Foundation (Skärgårdsstiftelsen) owns and manages around 15% of the total land and water surface in the Stockholm archipelago. It works to maintain an active archipelago, and manages the nature reserves (see [www.skargardsstiftelsen.se/](http://www.skargardsstiftelsen.se/) 2007).

Conflicts may arise from different interests and perspectives of land and water use, which planners try to solve and handle. This especially concerns the balance between conservation and development. In her thesis *Participation and Planning in the Management of Coastal Resource Conflicts*, Morf (2006) has explored how Swedish municipal spatial planning and the associated participation procedures manage and decrease conflicts stemming from the use of coastal natural resources. The results from the case studies on the West Coast of Sweden showed that planning and participation were important tools for managing conflicts, but that the routine procedures for participation were not designed for the purpose of resolving coastal resource conflicts. Furthermore, Almstedt (1998) has analysed how the demands of outdoor recreation with regard to the use of land and water are taken into consideration in spatial planning and how outdoor recreation was considered in local planning. Her starting point in the thesis *En plats i planeringen*<sup>4</sup> was that there were activities in society which compete in the perspective of how land and water should be used. Almstedt mentions, for example, that, in the comprehensive plans, second homes were stated as a possible source of conflict in relation to outdoor recreation in coastal areas.

Aronsson (1989) has analysed the development of tourism and planning for tourism in rural areas in Sweden in a geographical context. His thesis was mainly concerned with the tourist's stay at the resort and with the organisation of the area to meet tourism. Two basic aspects of tourism planning were dealt with: the various local effects of tourism and the problem of involving the local population in planning tourism. The results of two case studies showed that the conflicts concerning the local population's negative attitude to the tourism development had its roots in the fact that they could not see the direct and concrete economic benefits emphasized by the decision-makers. There was a one-way communication from the planners to the local population and a proposed solution was to train a tourism planner to be an adviser and engage people in planning (Aronsson, 1989). Visitors and second home owners may have a wish to be involved in the planning, but if one is registered in another municipality it is difficult, if not impossible, to have a greater impact in the planning process. Nevertheless, these stakeholders can have strong feelings and motives towards development and changes of an area, and this may cause conflicts.

## 1.6 Outline of the thesis

This thesis consists of seven sections and appendices. Sections 3-6 are based on the case study in the Luleå archipelago, Sweden. The first section begins with an *Introduction* where the purpose and enquiries of the thesis are described. Earlier research and definitions of the concepts tourism, outdoor recreation, and archipelago as a discontinuous landscape are discussed.

The second section, *Planning systems, conflict and zoning*, consists of a description and discussion of the Swedish planning systems and the different levels of planning. Planning is examined from a theoretical perspective with a discussion of different planning paradigms. Nature conservation in relation to outdoor recreation and tourism is discussed from a conceptual framework of eco-strategies. Tourism and recreation in the Swedish municipal comprehensive plans are also analysed with investigations of different conflicts of interest in the coastal areas and archipelagos. This is discussed in relation to a conflict model of sensitivity to conflict. Moreover, geographical zoning in coastal areas and various planning frameworks are outlined and explained.

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<sup>4</sup> *A place in planning*. Author's translation.

The third section, *The Luleå archipelago in northern Sweden*, consists of an overview of the Luleå archipelago in the very north of Sweden. Except for the facts regarding population, geography, tourism, and outdoor recreation, the planning organisation of the Luleå municipality is described with a discussion of the issues in the comprehensive plan that are of interest for this thesis' discussion of the planning of the Luleå archipelago. Additionally, nature conservation and the zoning systems of the area are discussed. The section is concluded with an overview of different conflicts in the Luleå archipelago.

The fourth section of this thesis is focused on *Data collection and user attitudes in the Luleå archipelago*. It consists of an account for the empirical material from the questionnaire survey to visitors and second homeowners in 2003. This empirical material is the foundation of the remaining studies of this thesis. However, also literature and the Internet have been used to provide material for the analyses of the thesis. In this section, the data collection, methods and survey problems are explained. Diagrams and percentage of the survey's results illustrate the respondents' history of the area, their reasons for visiting the archipelago, their different activities together with their geographical dispersion. Finally, the respondents' attitudes towards different sorts of development and changes, such as tourism, protected areas, and other further progress (for example, noise-free areas), are described.

In the fifth section, *Visitor experiences of peace and quiet – silence or noise?*, noise as a problem of disturbance in tourism and outdoor recreation in coastal areas is investigated. The section consists of a study of the respondents' experiences of noise during their visit in the Luleå archipelago and their attitudes to noise-free zones. Research and management attention is now being extended to include the impacts of noise in outdoor recreation, since silence and natural quiet is being recognized as an important and endangered resource. However, when it comes to which areas that are still relatively undisturbed in the Swedish coastal areas and to the situation of disturbance, the knowledge is insufficient. The importance of silence in tourism and outdoor recreation, and how noise is considered in the Swedish municipal spatial planning is studied in this section. Noise as a perceived problem of disturbance in tourism and outdoor recreation in coastal areas is also investigated with emphasis on noise from motorboats. Noise as a cause of conflict in outdoor recreation areas is discussed from the results of the questionnaire respondents' experiences and attitudes to noise-free areas. However, the discontinuous landscape of archipelagos challenge zoning for noise-free areas, which will lead to a discussion regarding whether the planning framework *Water Recreation Opportunity Spectrum* (WROS) could be applied.

In the sixth section, *Visitors' emotional bonds to place – the Luleå archipelago*, the respondents' sense of belonging and attachment to the area is analysed with a discussion concerning whether place identity affects planning, and place identity as a tool in the planning and management of coastal areas. Several researchers claim that knowledge of visitors' emotional bonds to a place could improve the planning and management of tourism, outdoor recreation and conservation. It could lead to a better understanding of conflicts, an enhanced insight in stakeholders' attitudes to development, and an understanding of why stakeholders react in different ways to management. The different land and water use in the Swedish coastal areas makes it applicable to study and discuss place attachment as a possible tool in the planning and management of these areas. The purpose of this section is to investigate the visitors' place identity in the Luleå archipelago, and to discuss if knowledge of place identity would be of significance to planners and managers of the area. The discussion is put in relation to conflict and zoning. Knowledge of visitors' emotional bonds to a place is



discussed in relation to the conceptual framework of eco-strategies by Sandell (2001; 2005) and the conflict model by Manning (1999).

Finally, in the seventh section, *Final discussion*, the analysis' conclusions of the thesis are gathered and further discussion is added. Future studies with analysis of handling conflicts and the need of knowledge of the visitors in the Swedish coastal areas in the doctoral thesis, will be discussed. This with emphasis on additional research in the Blekinge archipelago, in southern Sweden.

## 2. THE SWEDISH PLANNING SYSTEM, CONFLICT AND ZONING

### 2.1 Introduction

In this chapter, the governance of environment and land use in Swedish planning is discussed, with special interest in the coastal areas. Various literature and investigations are studied in order to give a theoretical background to the analysis of this thesis (Ch. 3-6), and to be able to discuss if and how planning in coastal areas could be improved with knowledge of visitors' attitudes, experiences, activities and geographical dispersion. The chapter begins with an overview of the planning system from an international and national level, to be narrowed down to a regional and local level. In the Swedish planning system, there are national, regional and local levels of responsibility and obligation. Except for legislation (such as the Planning and Building Act and the Environmental Code), there are additional international and national spatial restrictions in the coastal areas, for example, the right of public access, the shoreline protection, areas of national interest, and the environmental quality objectives. There is also the spatial restriction of nature conservation and culture in nature reserves (including bird and seal sanctuaries) and marine reserves. In this chapter, the spatial restrictions are shortly described and discussed.

It should be clear that in this chapter, the discussion includes both regulations stipulated by law and various acts of policy within the Swedish planning system. Their differences are their means of control and instrument. The regulations are *legally binding*, for example, detailed development plans, norms of environmental quality, nature reserves and regulations of the nature reserves. In comparison to these, there are instruments that express *intentions*, for example, the municipality's land and water use in the comprehensive plan, the public interests, such as the national interests and the environmental quality objectives. The right of public access (see below) is an example of the importance of distinguishing between the legally binding regulations and the public interests. The public has the right to use certain types of land, but if you have a favourite place in the woods for picking blueberries, you do not get any compensation if the forest is cut down by its owner. Also, there can be no refusals against the establishments of a detailed development plan (see below), even if a detailed development plan means a requisition of the right of public access. However, if the detailed development goes against national interests it may be refused.

The comprehensive plan is central in the Swedish municipal planning, and in this chapter, it will be investigated how the different levels of planning (nationally, regionally, and locally) are interconnected with the comprehensive planning, and what problems it might involve. In this section, it will also be discussed how tourism and outdoor recreation are implemented in the comprehensive plans with emphasis on coastal areas. The problems of perceiving and experiencing a landscape differently are further analysed from a conceptual framework of eco-strategies. Conflicts of land and water use in the Swedish coastal areas are also examined; what kinds of conflict exist and how are these recognised in planning? This is analysed from a model of sensitivity to conflict.

*“Planning is by many perceived as something that is ‘top-down’ – not anything that has something to do with ordinary people’s lives. By utilizing the local population’s knowledge and thoughts about their society, planning can instead be a means to strengthen the local life forms and culture. The comprehensive planning could be a way to develop democracy and to increase the population’s control over their own life conditions.” (Arén, 1994, p. 8. Author’s translation).*

With his work with development in Swedish archipelagos, Arén (1994) has discussed planning based on the participation and knowledge of the local population. Are the realities of planners and visitors the same? The images of visitors and second home owners could prove to be different from what is expressed in the comprehensive plans. In this chapter, there is an overview of the planning paradigms (the rational and the communicative) that are interesting in the discussion of planning and planning frameworks in the Swedish coastal areas. There is a summary of what ideas the existing Swedish planning system is built on, and a background to be able to discuss knowledge by and of visitors and second home owners in the thesis.

The character of knowledge depends on different planning paradigms – for example, rational or communicative – so planning is not an application of a certain theory, there is a mix in the Swedish planning system. In this sense, the term knowledge refers to the knowledge that forms the basis of planning. However, the discussion of the problem of legitimacy of different forms of information (the approach of knowledge which is dependent on the paradigms) in the planning for tourism and outdoor recreation in the Swedish coastal areas, will continue more thoroughly in future research. The chapter is concluded with descriptions and an analysis of different planning frameworks where zoning is central.

## **2.2 The structure of planning and nature conservation in the Swedish coastal areas**

### *2.2.1 International conventions*

Numerous international policies and programmes influence the Swedish national coastal and marine policy, for example the RAMSAR<sup>5</sup> convention (for wetlands and bird life) and institutions based on conventions for collaboration on specific marine areas<sup>6</sup> (Morf, 2006). Due to the Swedish membership in the European Union (the EU) in 1995, there are international conventions that the Swedish planning systems are regulated by. Sweden’s national nature conservation has by this means international conventions to adjust to and pursue. The *Convention on Biological Diversity* (CBD) is an ‘umbrella convention’ of nature and natural resources, the commitments of which concern the conservation of biological diversity and sustainable use of biological resources. One of the challenges for the CBD is to develop, promote and distribute guidelines for the sustainable planning and management of

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<sup>5</sup> The Convention on Wetlands, signed in Ramsar, Iran (1971), is an intergovernmental treaty which provides the framework for national action and international cooperation for the conservation and wise use of wetlands and their resources (<http://www.ramsar.org/>, 2007).

<sup>6</sup> For example, the Helsinki Commission (HELCOM) works to protect the marine environment of the Baltic Sea from all sources of pollution through intergovernmental co-operation between Denmark, Estonia, the European Community, Finland, Germany, Latvia, Lithuania, Poland, Russia and Sweden ([www.helcom.fi/helcom/en](http://www.helcom.fi/helcom/en), 2007). The 1992 OSPAR Convention is the current instrument guiding international cooperation on the protection of the marine environment of the North-East Atlantic. It combined and up-dated the 1972 Oslo Convention on dumping waste at sea and the 1974 Paris Convention on land-based sources of marine pollution ([www.ospar.org/eng/html](http://www.ospar.org/eng/html), 2007).

tourism activities in vulnerable terrestrial, marine and coastal ecosystems and habitats of major importance for biological diversity ([www.biodiv.org](http://www.biodiv.org), 2005).

In addition, there are other conventions and programmes, such as the *Agenda 21* (the Agenda for the 21<sup>st</sup> Century). In 1992, the Agenda 21 was accepted by government representatives from around the world at the United Nations conference about environment and development in Rio de Janeiro, in order to work against pollution and other environmental problems to create a sustainable development ([www.un.org/esa/sustdev/documents/agenda21](http://www.un.org/esa/sustdev/documents/agenda21), 2007). Another document that outlines the goals of a sustainable development is the *Baltic 21*. It is a long term middle state<sup>7</sup> co-operation within the Agenda 21 by the countries around the Baltic Sea. The work of the Baltic 21 is divided into nine sectors that are regarded as vital for the economic and environmental development of the member countries: industry, agriculture, energy, fishing, foresting, transports, education, spatial planning, and tourism. Every sector has its planning for action, goal, and scenery for a sustainable development ([www.nutek.se](http://www.nutek.se), 2004).

Sweden also participates in the work of the *Natura 2000*. It is a network of protected areas in Europe that should give long-term, ecological preconditions for sustainability. The Natura 2000 is based on two main pieces of legislation – the *Bird Directive* (1979) and the *Habitats Directive* (1992). The Natura 2000 is included in Swedish law by the Environmental Code. Certain threatened or unique species and environments are listed within the directives above, and nearly 4,000 areas are part of the network in Sweden ([www.naturvardsverket.se](http://www.naturvardsverket.se) 2004). The Natura 2000 areas are classified as areas of national interest (as discussed below). Approximately half of the Natura 2000 areas are also included in other protection, such as nature reserves. People are encouraged to visit the Natura 2000 areas, but at the same time these areas should remain conserved so that the values may be experienced by the coming generations (<http://www.k.lst.se/k/amnen>, 2007).

Every Natura 2000 area should have its own conservation plan that in detail explains what to be protected, how and when. The Swedish county administration boards are responsible of establishing these plans (Emmelin & Lerman, 2006). However, it is the Swedish Environmental Protection Agency (the SEPA) that coordinates the work of the Natura 2000, while the county administration boards are in charge of the management, protection and supervision ([www.naturvardsverket.se](http://www.naturvardsverket.se), 2004). The protection of the Natura 2000 consists of a governmental responsibility for the qualities of the chosen areas together with prevention against deterioration by a direction of the activities within and around the area. This may include activities far away from the protected area as well; it is not the distance that determines this, it is the level of consequences (Emmelin & Lerman, 2006).

The Natura 2000 is important in the work of the conservation for the coastal areas and the archipelagos. Yet, the directives do not include all biotopes and species that could be valuable to protect. Neither are areas of value for outdoor recreation and culture included. There should be a comprehensive view in the work of the Natura 2000 areas, according to Frisén (2000). One problem with the Natura 2000 is that the selection of the protected areas in the network suffers from no procedure, Emmelin and Lerman declare (2004). If the procedure has been too fast, municipalities and other groups may feel that their opinions do not matter, which has an effect on the future involvement. There is a risk of a worsen attitude to nature conservation in general (Emmelin & Lerman, 2004).

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<sup>7</sup> Sweden, Denmark, Estonia, Finland, Iceland, Lithuania, Latvia, Norway, Poland, Germany, and the north-western part of the Russian Federation ([www.nutek.se](http://www.nutek.se), 2004).

### *2.2.2 The Integrated Coastal Zone Management (ICZM)*

Many coastal zones of Europe face problems of deterioration of their environmental, socio-economic and cultural resources. Since 1995, the European Commission (EC) has been working to identify and promote measures to remedy this problem and to improve the overall situation in the coastal zones. In the late 1990s, the debate about coastal management increased, with a programme on *Integrated Coastal Zone Management* (ICZM), which promotes sustainable development with ecological, social and economic aspects (Morf, 2006). There should be a co-ordination between the sectors of the public administration, between the fields of activities and their representatives, and between different levels of decision-making. Local participation is emphasised as important (SOU 2000:67).

In 1997-1999, the ICZM resulted in 35 demonstration projects and six thematic studies, but Sweden was not part of any of these. In 2000, based on the experiences and outputs of the demonstration program, the EC adapted two documents, one including a statement explaining how the Commission will be working to promote the ICZM, by the usage of community instruments and programs. The other document was a recommendation outlining steps, which the member states should take to develop national strategies for ICZM ([www.europa.eu.int](http://www.europa.eu.int), 2005). In connection with the Community Initiative INTERREG, there has been an exchange and transfer of knowledge in coastal management between the member countries, including Sweden. The results are different recommendations for the ICZM, which are now to be implemented on national and lower levels (Morf, 2006).

To support the implementation of the ICZM recommendations, the EC facilitated an expert group, which held its first meeting in 2002. As part of this expert group, Sweden has explained that it already has a legal and institutional framework in place to cover the requirements. Of the 16 Swedish nationally defined environmental quality objectives, many relate to the coastal zone ([www.europa.eu.int](http://www.europa.eu.int), 2005). However, the Environmental Advisory Council has suggested that the Swedish government should encourage the county administration boards in the coastal areas to actively participate in the ICZM in their development of the management of the environment and the use of land and water (SOU 2000:67). To have an integrated coastal management would be an important tool to obtain the environmental quality objectives, according to the SEPA (2003).

### *2.2.3 National legislation of planning in Sweden*

Spatial planning (in the practice of governmental or public planning) is country or region specific, and shaped by different legal and regulatory frameworks. Coastal management is not entirely the responsibility of one administrative level or authority (Morf, 2006). The national agencies that are significant for the Swedish coastal areas are, for example, the National Board of Housing, Building and Planning, the SEPA, the National Board of Fisheries, the National Board of Marine Transportation, and the National Board of Rural Areas (Morf, 2006). Sweden has no specific legislation for its coastal areas except for the shoreline protection, but there are political documents, for example, Sweden's National strategy for sustainable development, the Swedish Environmental Quality Objectives, and, additionally, the municipal comprehensive plans, the purpose of which is to influence the development (Boverkets, 2003).

In Sweden, the environmental and planning legislation state that land use should be based on the consideration of what the land or water area is best suited for and on the needs for

utilising the area. It is open for different interpretations whether intrinsic ecological values of economic benefits should be of priority, since there are no criteria (Vuorio, 2003). The legislation for natural resource use is given in the *Planning and Building Act*<sup>8</sup>, which came into effect in 1987. It regulates spatial planning of land and water, and building, with regulations of permissions for building permit, site improvement permit and demolition permit. In the Act, there are regulations of the different planning forms, for example, the comprehensive plan, the detailed development plan, the area regulation, and the property regulation plan (as discussed below). The Act consists of regulations of how the comprehensive plans should be established and accomplished, and how public interests should be considered when planning for land and water areas (Blücher et al., 2001).

The *Environmental Code*<sup>9</sup> gathers the Swedish central environmental legislation since 1999. It is a legislative framework, and therefore many of the regulations are not specific. Its function is to promote a sustainable development (Blücher et al., 2001). It consists of three parts, firstly the goals and guiding principles for a sustainable development, secondly the rules of protection of nature and animals, and finally the regulations for activities with environmental influence and rules for probations, supervision etc. (Nyström, 2003). The Environmental Code not merely promotes the interest of conservation, but it is the foundation for the decisions of changes of the land and water use in Sweden (Turistdelegationen, 1998). The Planning and Building Act and the Environmental Code form a basic framework for policy integration across sectors, for example, fishing, agriculture, forestry, and energy (Morf, 2006).

#### 2.2.4 The right of public access

In Sweden, the outdoor recreation has been strongly influenced by *the right of public access*<sup>10</sup> (Sandell, 2005), which allows everyone to move freely across private land in the countryside within certain limits. The right of public access can be seen as the ‘free space’ between following restrictions (Sandell, 2005):

- i) economic interests,
- ii) local people’s privacy,
- iii) conservation, and
- iv) and the actual use and change of the landscape.

The Swedish authorities are responsible for the right of public access and the nature conservation, where the SEPA provides Swedes and foreign visitors with information about the regulations. The right of public access is a natural part of the Swedes’ connection with and use of nature (for further discussion, see Sandell 1997 and 2001). The land owners have to accept other people’s occasional presence on their land, but there should be no damages or disturbances. Certain products of the nature (for example, mushrooms, berries and plants that are not under protection) are free to pick (Blücher et al., 2001).

Sandell (2001) argues that the modern notion of the right of public access was not clearly defined until recreation and outdoor recreation had gained importance. At the same time, the obvious right of public access has been relevant in the development of outdoor recreation. This right gives everyone an opportunity to, within limits, use natural resources with low or no economic value (Wiklund, 1995). Swedish legislation, states for example, that landowners

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<sup>8</sup> In Swedish: Plan och Bygglagen (PBL). Author’s comment.

<sup>9</sup> In Swedish: Miljöbalken. Author’s comment.

<sup>10</sup> In Swedish: Allemansrätt. Author’s comment.

must make arrangements so that people may pass their property. The value or substance of the free space may be decreased by, for example, development, crowding, or noise, since the right of public access does not include any right to demand how the landscape should be used or transformed (Vuorio, 2003).

Concerning the water areas, one has the right to go by boat on all public and private water according to common law. However, the surroundings and nature life should not be disturbed. By means of the Environmental Code, and Swedish legislation regarding traffic at sea, the county administration boards can limit or prohibit boat traffic in nature reserves and national parks (Naturvårdsverket, 2005).

### 2.2.5 *The shoreline protection*

The coastal areas and the beaches are protected by the *shoreline protection* (for a historical overview, see Segrell, 1995). The function of the shoreline protection is to conserve the environment ecologically and for outdoor recreation. The need to plan for and keeping parts of the shoreline free from private housing was recognised relatively early in the 1930s (Segrell, 1995). The regulations of the shoreline protection are within the Environmental Code, the 7<sup>th</sup> chapter. It applies to the sea, the lakes and streams, and it also includes land and water areas (as well as beneath the surface) 100 metres from the shore line. The shoreline protection can be extended to 300 metres by the county administration boards, which are responsible for the shoreline protection.([www.naturvardsverket.se](http://www.naturvardsverket.se), 2005).

Areas of particularly protective value (for example, the Natura 2000, areas of national interest, and nature reserves) should be judged with great restrictions. Exemption from the shoreline protection should always be judged restrictively, according to the SEPA (2005). If a municipality has denied an individual's exemption, he or she can appeal to the county administration board. The SEPA has, however, the right to appeal against exemptions to look after the public interests. If there is a need to appeal against a municipal decision of exemption, it is directed to the county administration board. An appeal against the county administration board is directed to the Environmental Court of Appeal<sup>11</sup> ([www.naturvardsverket.se](http://www.naturvardsverket.se), 2005).

### 2.2.6 *Areas of national interest*

The Environmental Code describes certain *areas of national interest*. These are geographical areas of specific value. The areas of national interest can be appointed in the interests of development, as well as of conservation. The areas of national interest could thus be within the interests of conservation, outdoor recreation, reindeer herding, the fishing industry, communication, and energy ([www.naturvardsverket.se](http://www.naturvardsverket.se), 2005). In the municipal planning, there should be a consideration of these areas and the county administration boards are responsible for their protection. Also, in the work of the comprehensive plans, the areas of national interest should be specified in the dialogue between the state and municipalities (Blücher et al., 2001).

When different demands compete with each other, nature and culture are of priority in the areas of national interest of conservation. The environment should be used so that ecological, social and socio-economic requirements are satisfied and good management is promoted. One

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<sup>11</sup> In Swedish: Miljööverdomstolen. Author's comment.

part of the Swedish authorities' work is to develop the descriptions of various areas of national interest, and thereby expand the basis of judgements. The knowledge of these areas should be developed and complementary added with new valuations. For example, when it comes to nature conservation and outdoor recreation, the SEPA is responsible for the basis of knowledge concerning the areas of national interest (Boverket, 1996).

In Sweden, there are 215 areas of national interest for outdoor recreation ([www.naturvardsverket.se/](http://www.naturvardsverket.se/), 2007). Many of these are relatively far from large population centres, but there are exceptions, like the Luleå archipelago. According to the Swedish government, it is not relevant where people are from; the importance is the area's significance for a large amount of people and their outdoor recreation (Regeringens skrivelse, 2001). The areas of national interest for outdoor recreation are important for many people's outdoor recreation and these areas may be used often.

### *2.2.7 The national environmental quality objectives*

In 1999, the Swedish Parliament adapted sixteen *national environmental quality objectives* (for an overview, see Miljömålsrådet, 2007; and Emmelin & Lerman, 2004 p. 103) that describe different goals of the quality and conditions of Swedish nature and culture to create sustainability in a long term. They are general and comprehensive. The Swedish Environmental Objectives Council has the responsibility for the national environmental quality objectives, by the supervision of the SEPA (Emmelin & Lerman, 2004). The national environmental quality objectives are defined more precisely by means of the interim targets, which indicate direction and time perspective (for example, in 2010 noise from boat traffic will be negligible in coastal areas.). Thereafter, the Swedish county administrative boards have structured regional environmental quality objectives and interim targets (Miljömålsrådet, 2007).

When examining the national environmental quality objectives, it is obvious that they all concern the qualities of outdoor recreation. Several of the sixteen national environmental quality objectives concern the coastal areas and the archipelagos, but especially *A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos*, which consists of the following eight interim targets (Miljömålsrådet, 2007):

- i) Marine environments of high conservation value,
- ii) Cultural heritage and agricultural landscapes of coasts and archipelagos,
- iii) Action programmes for threatened species,
- iv) By-catches,
- v) Catches – recruitment,
- vi) Noise and other disturbance,
- vii) Discharges of oil and chemicals,
- viii) Programmes of measures to achieve good surface water status.

In the interim target concerning noise, it is stated that "... by 2010 noise and other disturbance from boat traffic will be negligible in particularly sensitive and designated archipelago and coastal areas." (Miljömålsrådet, 2004 p. 59). The SEPA has submitted proposals to the Swedish government concerning guide values for noise (different grades of decibel) in recreational areas and other areas. The SEPA has also proposed indicators for use in assessing sound quality in areas with no or very limited environmental noise. These indicators define good environmental quality, and should also be of use in determining negligible noise levels.



The SEPA (2003) concludes that *A Balanced Marine Environment...* is a complex environmental quality objective that includes all the components of the eco-system, both on land and water, together with the human beings. Succeeding with the environmental quality objectives *A Safe Radiation Environment*, *A Non-Toxic Environment*, and *Flourishing Lakes and Streams* is necessary. Also the results of the *Clean Air*, *Sustainable Forests*, *A Varied Agricultural Landscape*, and *Thriving Wetlands* concern the coastal areas and the archipelagos (Naturvårdsverket, 2003). To attain the interim targets, it is important that the Swedish municipalities consider these in their planning and keep an active environmental work (Miljömålsrådet, 2004).

However, as Emmelin and Lerman (2004) point out, there are no applications of sanctions if a municipality does not follow through with the work of the environmental quality objectives. The environmental quality objectives have not had a major impact regarding pushing the environmental policy further in the business sector. In most companies, knowledge of them remains limited. Yet, greater commitment and knowledge has been achieved by the work of the county administration boards with integrating business companies in the development of the goals of the regional environmental quality objectives, according to the Swedish Environmental Objectives Council (2004).

It is interesting to analyse the risk of conflicts between different interests when including the environmental quality objectives in planning. The environmental quality objectives could be in conflict with other goals of economic, social, and cultural development. Different environmental quality objectives could also be in conflict with each other (Boverket & Naturvårdsverket, 2000). The environmental quality objectives should be part of all development in society and be directives for all authorities, and within the municipalities' planning and environmental work. However, Emmelin and Lerman (2004) state that outside the environmental sector, the environmental quality objectives are not particularly known. Do the constructions make the environmental quality objectives effective as means for sustainable development? Emmelin and Lerman maintain that some of the environmental quality objectives are more utopian in their visions than scientific, regarding the land and water use. How concrete the actions are in the regional and local implementation of the environmental quality objectives could be questioned. It is important to understand that the environmental quality objectives are goals (see Ch. 2.1) with sustainability intentions, which could be viewed as an expression of the public interest.

#### *2.2.8 Nature reserves, bird and seal sanctuaries, and marine reserves*

The Environmental Code regulates the establishments of the nature reserves. Many of the (often large) nature reserves that were settled at the end of the 1960s and during the 1970s in the Swedish coastal areas were motivated by social reasons, according to Frisé (2000). The purpose was to prevent second homes and other development that could hinder the public from getting access to the beach and the nature of the archipelagos. It was an expression of society's ambition to protect the interest of outdoor recreation. However, during the 1980-90s, the emphasis on nature and biodiversity became much more evident (Frisé, 2000).

The nature reserves, and bird and seal sanctuaries are located close to each other in the archipelagos (for example, in the Luleå archipelago, Figure 3.3). However, regulations, purposes, and management differ for these areas. It makes management complicated and could be confusing for the visitors. Therefore, the county administration boards should

examine their regulations, the periods of prohibited visiting and management plans (Frisén, 2000).

In the Swedish coastal areas, the work with marine reserves has been neglected, according to Frisé (2000). The SEPA has made a list of protected areas and especially valuable marine areas to be of priority (Boverket, 1994 p. 79). Of the areas that have been suggested by various investigations to be marine reserves only a few have been completed. The reason for the slow processes is that detailed knowledge is needed, and that there is uncertainty of the decision-making and lack of competence. In some cases, there is also a local resistance due to lack of information, and in some of the marine reserves, regulations of the fishing could be needed (Frisé, 2000). Nevertheless, in 2009, the first marine national park will be established in the west coast of Sweden, the Koster Sea ([www.kosteroarna.com](http://www.kosteroarna.com), 2007).

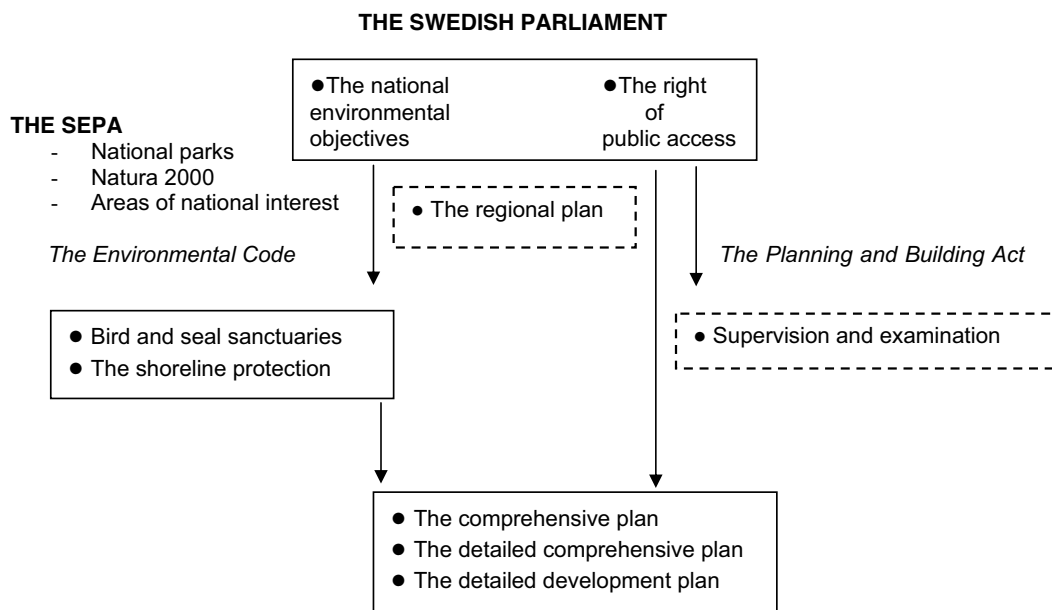
#### *2.2.9 Regional level of planning in the governance of environment and land use*

The county administration boards represent the state and are responsible of the national interests in the planning system. It is a multifaceted organisation, which consists of lawyers, biologists, architects, economists, engineers, social scientists etc. The county administration boards are responsible for examining the work of the municipalities and have the power to invalidate the municipalities' plans and to demand new ones, but only under certain circumstances. The duties of the county administration boards are to forward knowledge and to give advice, watch over and intervene (Boverket, 1996). Furthermore, the county administration boards have the comprehensive responsibility of composing regional goals for the national environmental quality objectives and to monitor the work on a regional level (Naturvårdsverket, 2005).

The county administration boards have the responsibility to continually give information of the national interests to the municipalities and also to supervise certain questions that concern the municipalities when there is need of extra support. It is especially the planning issues concerning the areas of national interest, health, and security that are of importance. An instrument on the regional level is the *regional plan*, but, so far, it is not widespread and not in regular use for coastal management (with few exceptions, mainly the Stockholm region). It could therefore be discussed if there are any region plans at all in the sense intended in the Planning and Building Act. However, according to Morf (2006), the regional plan is potentially important for cross-municipal coordination, as municipal boundaries in coastal areas often are marked by water bodies.

#### *2.2.10 Municipal planning and the comprehensive plan*

In Sweden, land use planning is defined as a municipal responsibility, which essentially is based on a rationalistic planning ideology with a participatory ideology (mandatory public consultation) to a small degree. The Planning and Building Act stipulates the municipal planning monopoly, which means that the municipality in principle has the sole right to stipulate plans (Vuorio, 2003). Because of the planning monopoly, the planning process is to great parts decentralised. Thereby, the municipality has not only responsibility, but also freedom, when applying the Planning and Building Act (Sundström, 2003).



**Figure 2.1.** *The national, regional and local levels of the Swedish planning and their interconnection with the comprehensive plan.*

Figure 2.1 illustrates how the national, regional and local levels of planning interconnect with the comprehensive plan, as discussed above. The Swedish national goals within various activities have to be adjusted and fulfilled in the municipal planning. Different national authorities (for example, the SEPA, the National Heritage Board, and the National Road Administration) control the municipalities' fulfilment of the superior aims that exist within the spatial planning. These authorities are responsible for the contribution of basic data for the planning within their sectors, especially within the areas of national interest (Boverket & Turistdelegationen, 1997).

On the municipal level of planning, the *comprehensive plan*<sup>12</sup> is compulsory for every municipality by the Planning and Building Act. The comprehensive plan is an instrument in the mutual work of the state and the municipality, since it is necessary with a base for their discussions around public interests and restrictions (Boverket & Turistdelegationen, 1997). The comprehensive plan has a central role in the Swedish planning and building legislation; it covers the whole municipality and its land and marine areas. It is a source of knowledge where the public interests are considered. The comprehensive plan consists of visions for the future development. It gives guidance for the decisions of municipalities and other authorities regarding the land and water use, and for their continued planning and examination of, for example, building permits (Boverket & Turistdelegationen, 1997).

In the Planning and Building Act (Ch. 4. 6§), it is stated that the municipality has to make the comprehensive plan public two months before it is approved by the city council. The

<sup>12</sup> In Swedish: Översiktsplan. A translation is somehow difficult; other terms could be a *master plan* or a *synoptic plan*. However, at the Spatial Planning Department at the Blekinge Institute Of Technology, the term 'comprehensive plan' is regarded as the most appropriate translation (see for example Blücher, 2007) since the National Board of Housing, Building and Planning (2006) uses that term in its translation of the Planning and Building Act. Author's comment.

meanings and the consequences of the plan should be clear. Different users – for example politicians, planners, the public, and different groups of interest – have different benefits and use of the comprehensive plan (Boverket, 1996).

Although the comprehensive plan is compulsory, it is not legally binding. Therefore, the municipalities may relinquish the plan (Boverket & Turistdelegationen, 1997). Noticeably, the comprehensive plan is not binding for future decisions, according to the National Board of Housing, Building and Planning (1997), but it does affect the municipality's decisions in various degrees, depending on how distinct and well motivated the comprehensive plan is in that particular case. The National Board of Housing, Building and Planning (1996) states, that the implications of the Swedish comprehensive plans have not been clearly defined. Thereby, the comprehensive plan has not had the significance it was supposed to have. After the law changes 1 January 1996, the importance of the comprehensive plan has increased, according to Boverket (1996):

- the status as a guidance for decisions has improved,
- the demands regarding the obligatory content has enhanced,
- a requirement of a consequence analysis has been implemented,
- the consultation has been given a greater importance,
- the work of the county administration board is more comprehensible,
- the demands for follow-up and topicality are more precise.

The National Board of Housing, Building and Planning (1996) states that the comprehensive plan should give clear directions and information to the municipality's inhabitants, the involved authorities, and individuals that may require a clarification by a *detailed comprehensive plan*<sup>13</sup>. This plan is used when there is a need for a more detailed consideration of a limited area of the municipality's area, for example, land and water areas with evident prerequisites for activities or areas with strong competition between interests, such as coastal areas (Blücher, 2007).

Analysis of the environmental impact is a tool used by politicians and decisions-makers concerning plans or projects. It can comprise different methods: *environmental impact assessment*<sup>14</sup> and *strategic environmental assessment*<sup>15</sup>. The purpose is to gain a greater consideration of the environment, humans' health, and the management of land and water resources together with social and economic resources (Svensson, 1999). Every interference in nature tried by the authorities, for example, road constructions, the environmental impact assessment, has to describe how land, water and air will be affected. Also, if an implementation of a detailed comprehensive plan results in significant effects upon the environment and other resources, an environmental impact assessment must be included (Blücher, 2007).

Certain areas can be planned more specifically by the *detailed development plan*<sup>16</sup> which is legally binding and is established for restricted areas of a municipality. It regulates partly the shape and extension of a settlement, partly the use of land and water areas. In the detailed development plan, a timetable for the accomplishment has to be established. Furthermore, the municipalities have to find a balance between individual interests in the detailed development

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<sup>13</sup> In Swedish: Fördjupad översiktsplan. Author's comment.

<sup>14</sup> In Swedish: Miljökonsekvensbeskrivning. Author's comment.

<sup>15</sup> In Swedish: Strategisk miljöbedömning. Author's comment.

<sup>16</sup> In Swedish: Detaljplan. Author's comment.

plans and the regulations, but also make adjustments between different public interests. The detailed development plan is a tool to accomplish the intentions of the municipal planning (Boverket, 1996). Because of new knowledge, together with the development of society and changed values, the comprehensive plans need to be revised regularly. Changes of the comprehensive plan are thereby made by a detailed comprehensive plan, an addition or revision. In the Plan and Building Act, the Municipal Councils have to take a definite position to the currency of its comprehensive plan during every term of office. Changes and completions are gathered in a, so called, *statement that the comprehensive plan remains current*<sup>17</sup>. In this statement, the county administration boards have to present their views concerning the national interests, which may affect the municipalities' decisions (Boverket & Turistdelegationen, 1997). Ultimately, it is the character and proportion of the area that influence the shape of the comprehensive plan, which contributes to the diverse appearances and contents (Boverket, 1996).

The confidence in the comprehensive plans relies on the national and local authorities' acceptance of the comprehensive plan's guiding principles, and that the authorities use the plan as a foundation for their decisions. Also, using the comprehensive plan, the regulations in the Environmental Code are made more useful and easier to understand (Boverket, 1996). The comprehensive plan is supposed to be an arena for dialogue regarding the areas of national interest between the municipality and the state, represented by the county administration board. At present, there are limitations when it comes to the application and basic data of resources, work and knowledge about the system. Also, the connection to comprehensive development (such as the environmental quality objectives), is weak in the comprehensive plans (SOU 2005:77).

### 2.2.11 *The coastal areas in the comprehensive plan*

The National Board of Housing, Building and Planning (1995) has investigated how the Swedish coastal areas and the coastal water have been considered in the municipal comprehensive plans. A total of 78 comprehensive plans of coastal municipalities were analysed (Boverket, 1995). The necessity of nature conservation to protect outdoor recreation and culture was to be found in most of the coastal municipalities' comprehensive plans. Even if these claims concerned the coastal areas, it was mainly referred to the land areas and not the water areas. The National Board of Housing, Building and Planning (1995) noticed in its examination, that the municipalities were unsure if the use of the water areas could or should be regulated by the municipal planning. Many of the coastal municipalities believed that other authorities controlled the usage of the coastal water areas; it was not anything that the municipalities were responsible for (Boverket, 1995).

The relationship between state and municipality is undergoing changes that are difficult to evaluate at the present due to the EU legislation. Emmelin and Lerman (2004) have analysed the *Water directive*<sup>18</sup> demand action programme. The directive creates an administration that goes across regions, municipalities, and sectors. Since the municipalities are the basis of planning with the municipal planning monopoly, this generates legal and administrative problems. Emmelin and Lerman conclude that there is more focus on scientific qualities rather than to the adjustments of conflicts. This may lead to a lack of public perspective when

<sup>17</sup> In Swedish: *Aktualitetsförklaring*. It is a term that in this thesis is translated to a "statement that the comprehensive plan remains current". Author's comment.

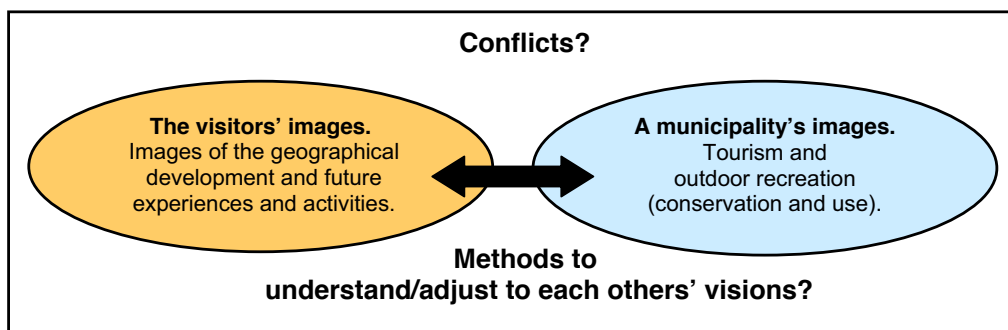
<sup>18</sup> The Water directive concerns planning and supervision of water, ground water as surface water in the inland and by the coasts. The purpose is to achieve a long-term water supply (Emmelin & Lerman, 2004).

it comes to questions that are the foundation of spatial planning. There is also another conflict; water issues cannot be separated from the planning of land (Emmelin & Lerman, 2004).

One suggestion for alterations in the Planning and Building Act is that the regulations for the comprehensive plan should emphasise and support the character of a strategic long-term vision, which is the foundation of the municipality's intentions, and be prepared for unseen initiatives. At the same time, there should be information to the citizens about the municipality's view on future development (SOU 2005:77). One objective of the Planning and Building Act was to strengthen the municipalities' possibilities of regulating the use of their coastal waters, especially through the comprehensive planning (Morf, 2006). In 2002, the Parliament set up a committee with the assignment to review the Planning and Building Act and to leave suggestions for alterations. A committee proposal was published in 2005 (SOU 2005:77) and at the time of writing, the proposal is for hearing. The suggested alterations also include the comprehensive plans, where the committee suggests that it should be clear that the comprehensive plan states how settlements should be used, changed and conserved. The planning should be simpler and easier to overview (SOU 2005:77).

### *2.2.12 Images of tourism and outdoor recreation in the comprehensive plan*

In the Swedish planning and administration, outdoor recreation has been seen as equal with activities and the meaning and importance for the individual has seldom been discussed (Vuorio, 2003). In 1997, seven county administration boards (Uppsala, Stockholm, Södermanland, Östergötland, Kalmar, Blekinge, and Västra Götaland) were chosen by the Swedish government to draw up regional environmental and land use programs for the archipelagos. In the Environmental Advisory Council's evaluation of these programs, it was argued that the county administration boards had difficulties to reach or keep a dialogue with the temporary visitors and the second home owner. In several of the programs, there was a lack of knowledge of how outdoor recreation was carried out in the coastal areas, and there were no suggestions of how this knowledge could be gathered (SOU 2000:67).



**Figure 2.2.** *Different images of tourism development and planning.*

In Figure 2.2, some of the possible different visions of tourism development and planning are illustrated from the perspectives of the visitors and a municipality. The visitors' images may involve the changes and development of the geographical landscape and the present situation (such as service, permanent population, and accessibility) together with their wishes for different experiences and activities. This may form the visitors' images of a future tourism development and planning.

A municipality's images should be described in its comprehensive plan. As depicted in Figure 2.2, one image is to combine conservation and use. The economic profits of tourism have to be consistent with maintenance for the future, but also with keeping recreational areas for the local residents. As stated in the comprehensive plan of the Koster islands, at the west coast of Sweden:

*“Except from protecting the landscape and the scientifically valuable species, one of the purposes with the reserves is to look after the possibilities of outdoor recreation. The Koster islands are also very well-visited by tourists. The great number of tourists is an important prerequisite for service with the emphasis on tourism, while this at the same time creates problems like wear, litter, lighting of fires, prohibited camping, speeding boats, anchoring on sensitive fishing places etc. An increase of people owning their own pleasure boats and a general increase of spare time initiate increased conflicts.”* (<http://tmbl.gu.se/kosterhavet/>, 2007. Author's translation).

The arrow in Figure 2.2 gives emphasis to the constraints that may occur because of differing images, but also to a possible understanding of each other's images. However, this requires knowledge of the images of the visitors and second home owners. The Swedish Environmental Advisory Council (SOU 2000:67) estimates that a serious obstacle for a sustainable development in the archipelagos, is the lack of municipal comprehensive plans with adequate guidance to put the municipalities' images into practice. When working on the comprehensive plans, the municipalities should gather knowledge of visitors and outdoor recreation through dialogue with different stakeholders. This knowledge has to be improved (Regeringens skrivelse, 2001).

The Norrtälje municipality (north of Stockholm) has completed a detailed comprehensive plan for the municipality's archipelago, where it is stated that the precondition for being able to offer asked for and expected tourism experiences, always is a strong local commitment. The success depends on the local businesses, the public authorities and the permanent population. The Norrtälje municipality (2005), states that cooperation is fundamental where the stakeholders together have to decide their tourism profile and how the environmental problem should be solved. In the comprehensive plan of Haparanda, a coastal municipality located in the very north of Sweden where the Haparanda archipelago is a national park, hunting and angling are discussed in relation to tourism development since they are part of many inhabitants' everyday life – it is not only a hobby, but a life-style and food supply:

*“The access to hunting, angling, and outdoor recreation is also something that the visiting tourist wants. A prerequisite for keeping hunting and fishing improve, is a long-term view and a coordination of different interests. An ample angling of high quality in the areas near the population centres is of special concern. It has great positive significance to the inhabitants, the young as well as the old, and also to the visiting tourist.”* (<http://www.haparanda.se/>, 2007. Author's translation.).

However, when considering the images of tourism development and outdoor recreation expressed in the comprehensive plans of the Koster islands and Haparanda, it is relevant to question if these images are the same as the visitors'.

Reiter (2004a) believes there has been a shortage of democracy regarding the environmental, social and cultural values that concern the whole population. Knowledge should be viewed as related to an actual reality – otherwise it will be rejected by the stakeholders (Reiter, 2004b). What reality is and is not, however, differs between individuals and groups of people. Nordin (2005b) claims that the myth of the Swedish archipelagos has grown particularly strong and that these areas are now national symbols: *“The myth of the archipelago has successively been transformed from being a fairy tale to being reality, and thereby many decisions concerning the Stockholm archipelago seem to have their starting point in events that was depicted and constructed more than 100 years ago.”* (Nordin 2005b, p. 440. Author's translation).

The possibility to give one's opinion in the questions regarding the Swedish coastal areas is best on the municipal and county council levels. Although the permanent population in the archipelago is small, it is not underrepresented in the municipal councils and boards (Nordin, 2005b). Reiter (2004) has studied the possibilities of developing a prepared, organised and structured dialogue between stakeholders within a geographical area in a public forum. Countryside development requires more relevant knowledge, more involvement from stakeholders, and various methods for dialogue and co-operation. There is a lack of knowledge of citizen influence and of the life conditions generally in different parts of the archipelago, according to Nordin (2005b).

Khakee (2000) accounts for a questionnaire survey directed to politicians and officials regarding the municipal work with the comprehensive plans in 20 municipalities. In most of these municipalities, the comprehensive plan was viewed as a plan of land and water use. Even if they had interpreted the task of the plan, no greater attention was paid to economic or social consequences. Afterwards, many of the politicians and officials conclude that knowledge of the citizens' lifestyle, circumstances and preferences should have been more recognised in the work of the comprehensive plans. Also, the knowledge regarding the citizens' wishes for their local environment and service was inadequate (Khakee, 2000).

Nordin (2005b) believes that planners and politicians have had problems to understand who should be in power of the archipelagos' future – is it the permanent population, the municipalities, or the county council? Nevertheless, the laws that regulate the land and water use formally confirm the right of decision. What about the visitors' and the second home owners' possibility of being part of planning the future of the archipelago? The differences between the visitors' and the municipality's images may cause conflicts, which should be regarded in the planning for tourism development and conservation. Hall (2000) therefore asserts that tourism planners typically have to find adjustment between stakeholders and interests in tourism development in an attempting to reach solutions accepted by both the community and its stakeholders.



## 2.3 Planning paradigms

### 2.3.1 The diversity of knowledge and action in planning

Khakee (2000) declares that the task of all planning is to connect knowledge and action: How and when does knowledge affect decisions? How should the planning process be organised to make the usage of the knowledge as effective as possible? In planning there are three factors: learning, decision-making and action. The question is how the connection between knowledge and action may vary in different planning paradigms (Khakee, 2000). Different planning paradigms (or ideals) originate from planning and in these paradigms there are contradictory ideas, according to Morf (2006, p. 75):

- i) the functions of planning as a tool to steer societal (public) resource use,
- ii) the roles of the main actors in planning (such as the experts, the political decision-makers, citizens, or resource users),
- iii) the forms of rationality and different types of knowledge in public planning,
- iv) what power and conflict in public planning are and how they are to be dealt with.

Khakee (2000) has distinguished eight theoretical positions which include *rational planning*, *incremental planning*, *advocacy planning*, *implemented planning*, *strategic planning*, *generative planning*, and *communicative planning*. These positions are not only terms of different methods, but imply the attitudes to ideas of justice, power, knowledge, and social theory, according to Hermelin (2005). She also declares that even if a somewhat chronological order can be perceived among the paradigms, overlapping is typical and over time. There has rather been an accumulation of ideas than a replacement (Hermelin, 2005).

### 2.3.2 Rational planning

*Rational planning*<sup>19</sup> presumes that planning is a gradual, well-arranged process. For every stage, there is a certain task which is built on rationality. The decision-makers decide the goals. The professional planners (and other experts) then formulate several different plans (Khakee, 2000). The rational planning is regarded as objective and is built on basis that is compiled from scientific standpoints (Tonell, 2005). Neutral experts with more or less complete information steer through the process (Morf, 2006). A benevolent state and an objective planner who knows what is 'wrong' and 'right' is a condition for rational planning, according to Granberg and von Sydow (1998). Using proper scientific theories and analysis based on economy, statistics and mathematics will identify the best solutions. Experts develop information in response to the questions from the decision-makers or solve problems that the decision-makers have identified. This information may include such things as surveys, identification, and comparisons of alternative policies in terms of costs and benefits, feasibility studies, predictions, and forecasts (Innes, 1999).

During the construction of the Swedish Welfare State until the middle of the 1970s, there was a confidence in science and the sensibility of planning (Hermelin, 2005). In Sweden, the rational planning dominated after the Second World War. However, in the later 20<sup>th</sup> century, equality was more emphasised and means-end rationality became less important. The paradigm was criticised by social science studies for being unrealistic and too simple for collective action or decision-making. According to Morf (2006), rational planning is still in use despite its problematic and simplified understanding of planning problems. She states that

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<sup>19</sup> Also called synoptic, or comprehensive, or technocratic planning (Morf, 2006).

planning has difficulties in letting go of the means-end thinking because of practical necessity. Planners continue to work with unrealistic simplifications of social interaction processes, because there are few practical alternatives available, and the uncomplicated schemes can easily be communicated to politicians and laymen in everyday practice (Morf, 2006).

According to Friedmann (1996), the practitioners are conventional and think of themselves as technicians that operate for centres of power, for example, the state. The rationality of decision-making is believed to increase the possibilities of solving planning problems and the planners decide the optimal solution out of collected information. In a political situation, the rational planner should make decisions objectively with no interference in politics (Amdam & Veggeland, 1998). Theoretically, planners may formulate a single plan which fulfils all the values that are expressed in a goal. However, in practice, there are limitations concerning resources and knowledge. This leads to a development of alternative plans, where as many goals as possible are attempted to be reached in each plan (Khakee, 2000).

### 2.3.3 *Communicative planning*

*Communicative planning* has developed from the criticism of rational planning and according to Khakee (1998), the development of the planning paradigms has been a process from the rational planning to the communicative planning. Right and wrong are a result of an agreement reached by communication, where the expert's knowledge is equal to local knowledge (Morf, 2006). Communicative planning aims to increase knowledge and decrease the gaps between the expert and the citizens. It is believed to be a gap between the expertise knowledge and the knowledge ordinary people gain in their everyday lives. By communication there can be an increased understanding for each other where joint goals are brought out. This is not a one-sided learning process, but the expert (as well as the citizen) has much to learn and gain from communication, with openness and honesty in discussions and decisions in the planning (Granberg & von Sydow, 1998).

A lot of the work has been a development of contemporary theories criticising the strategic rationality of synoptic planning relying on Jürgen Habermas' *The theory of communicative action* (1984). He has analysed *communicative rationality*, a theory, or set of theories, which try to explain human rationality as necessary outcomes of successful communication (for further reading, see Forester, 1981 and Allmendinger, 2002). Communication is related to getting knowledge and using knowledge within planning, which could lead to integration and communication between people (Nyström, 2003). An example of one of the new directions is *collaborative planning* by Healey (1997), who defines this in terms of how political communities may organise to improve the quality of their places (for further discussion and critique, Healey, 1997; Pennington, 2002 and Harris, 2002).

Friedmann (1987) has, in an overview of the development of planning ideology, placed the history of planning in four major traditions: *social reform*, *policy analysis*, *social learning*, and *social mobilization*. The tradition of social reform, stresses societal guidance and radical political ideology. The initial approach of policy analysis stressed synoptic planning that relies on professional analysis by especially educated expertise; so called "top-down planning". The identifying of the best course of action is limited by rational constraints, as resources together with information and time available for making decisions. In the tradition of social learning, planning is performed by an active participation of affected stakeholders. Knowledge is obtained from experience and validated in practice. Dialogue is a keyword. The

opposite of policy analysis and rationalism is social mobilization. By emphasizing a collective action 'bottom-up', it is in contrast to scientific politics (Friedmann, 1987).

Furthermore, Bäckstrand (2003) accounts for a model for the interaction of science and politics in environmental politics. It is a strategy to incorporate scientific expertise in the decision-making process with a description of how the relationship between the expert, the decision-maker and the citizen could be. The strategy is labelled as *democracy and deliberation* where 'amateur knowledge' is integrated into science. Bäckstrand emphasizes citizen participation as a possibility for deliberation with debates, considerations and consultation regarding questions that affect the citizens' lives. She mentions three specific reasons for a democracy of science (Bäckstrand, 2003):

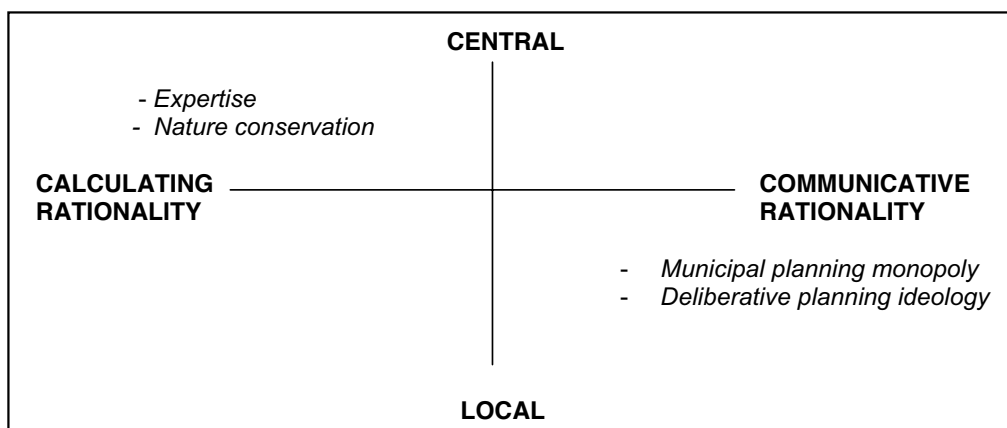
- i) increased participation is justified since it concerns everyone's lives and it can give science more liability,
- ii) an extended examination of science can increase the quality of knowledge,
- iii) in a democracy, science should serve society.

Gaining balance between scientific importance and participation is difficult. For example, how can people outside the scientific world be sure who is qualified as a scientist (= an expert) and what science of high quality is? Also, at what stage should citizens be invited in the scientific process? Making science democratic is not obvious (Bäckstrand, 2003). As Morf (2006) discusses, the paradigm of dialogue and learning oriented democratic planning has its obstacles. To include virtually everyone requires special technique and a lot of resources and time to mobilise people and to inform them.

#### 2.3.4 The paradigms 'Environment' and 'Planning'

The following planning theoretical model will be presented for the discussion and analysis of this thesis. Emmelin and Lerman (2006) assert that governance of environment and land use is founded on two different directions of thinking, 'Environment' and 'Planning', which will be discussed in this section. These two directions involve different attitudes to many questions: how power should be dispersed between the authorities of society, how expert knowledge should be evaluated against local self determination, and the relationship between politicians and officials. Depending on which paradigm one works within (for example, the Planning and Building Act or the Environmental Code), these questions will be regarded differently (Emmelin & Lerman, 2006).

The paradigm 'Environment' has nature conservation as its foundation. There is a scientific attitude to the decisions concerning the environment, where the levels of nature's durability are determined scientifically. The fundamental starting points are the environment as of collective usefulness and nature's intrinsic value. In the legislation, the function as a collective usefulness of nature to secure health and sense of well-being dominates over the intrinsic value. Expert knowledge and a central supervision are decisive for what is deemed as correct decisions. With its need for standards and frames of reference for eligible conditions, this paradigm becomes centralistic, top-down, with historically little understanding for local resistance (Emmelin & Lerman, 2006). In the other paradigm, 'Planning', the changes of land and environment should depend on the adjustments between different legitimate (not necessarily compatible) interests. A decision is deemed as valid if there has been a democratic process where different parts have been able to express their minds. There is a need to weigh the individual interest against the common interests (Emmelin & Lerman, 2006).



**Figure 2.3.** *Paradigms and dimensions of planning and nature conservation* (After Emmelin & Lerman, 2006).

The two paradigms described above, can be characterised by two dimensions, as depicted in Figure 2.3. The horizontal dimension consists of two opposite poles: ‘calculating rationality’ and ‘communicative rationality’. In calculating rationality, the decisions are legitimate since they are built on science. In communicative rationality, the decisions are correct if they have been achieved through communication or deliberation. There has been a democratic process (Emmelin & Lerman, 2006). The ‘Environmental’ paradigm (expertise and nature conservation) is placed in the higher left hand corner, *central-calculating*, while the ‘Planning’ paradigm (local and deliberative decision-making) is placed in the lower right hand corner, *local-communicative*.

The vertical dimension consists of the two opposite poles ‘central’ and ‘local’ (Figure 2.3). According to Emmelin and Lerman (2006), it is reasonable to regard the paradigms in the dimension central – local by several reasons: Should one come to a decision because of a survey or closeness? Does the one who is the closest know the best or the one with distance? Are conflicts of different interests local or more comprehensive? Emmelin and Lerman (2004), declare that the two paradigms especially can be expressed by applying the Environmental Code and the Plan and Building Act. The first can be placed within the field of central/calculating, since it puts a great value into scientific knowledge and norms in the decision-making. The Plan and Building Act can be placed within the field of local/deliberative, since political authorities make the decision-making. It enhances both initiative and immunity of local authorities and increases public participation in planning.

Several aspects of the conflicts regarding tourism and outdoor recreation development may be understood by using the dimensions in Figure 2.3 (as discussed by Vuorio, 2003), for example, what kind of knowledge and data has legitimacy in spatial planning? As mentioned above, experts, science and a central supervision are decisive for what is deemed as correct knowledge, but at the same time, the emphasis on local knowledge make the legitimacy in spatial planning complicated: “*Especially in natural resource use conflicts, the views on what is legitimate knowledge is heavily biased in favour of local user knowledge.*” (Vuorio, 2003 p. 24).

The dominance by natural science in planning has been discussed by Vuorio (2003) who states that nature conservation is seen as a principal political goal in administration. As the discussion above emphasizes, nature science dominates in nature conservation. This is also mirrored in the employment of officials and in the scepticism towards decentralisation. Instead, there is an emphasis on the need for a strong central agency and on scientific knowledge. When examining the knowledge of visitors and second home owners in coastal areas, one should understand that the need for knowledge is different for different sorts of planning – to predict consequences, to handle conflicts, and to understand attitudes.

### *2.3.5 Various landscape perspectives and the conceptual framework of eco-strategies*

“‘Landscape’ means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors”. (The European Landscape Convention<sup>20</sup> Article 1, 2007). Different stakeholders have different perspectives on the landscape; there are various interests (for example, tourism, outdoor recreation, and/or conservation) that may cause conflicts (Vuorio, 2003; Sandell, 2005). The landscape is a concrete physical reality, but at the same time everyone has their own interpretation of what the landscape is. Sörlin (1999) discusses what kind of processes that lay behind the establishment of the landscapes that have become part of the national consciousness. Sense of belonging is deeply rooted in humans’ emotions, memory, and imagery. National painting, photography, travelogues, and growing tourism have supported the image of the landscape. The cultural processes have created our common mental landscapes. These mental landscapes are as real as the physical landscape ‘out there’, according to Sörlin (1999).

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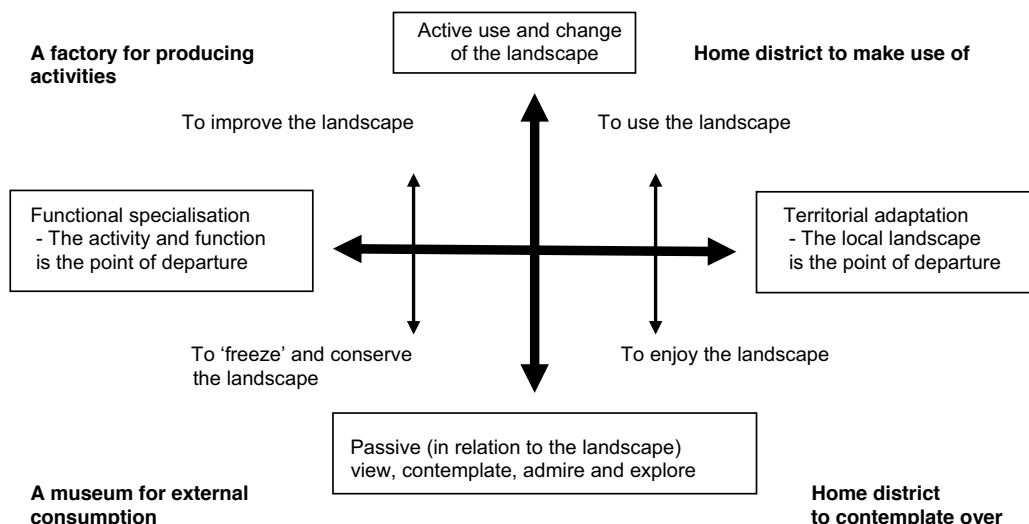
<sup>20</sup> While every citizen must certainly play a part in preserving the quality of the landscape, public authorities have a duty to define the general framework for ensuring this quality. The convention establishes the general legal principles which should serve as a basis for adopting national landscape policies and establishing international co-operation in such matters ([http://www.coe.int/t/e/cultural\\_co-operation/](http://www.coe.int/t/e/cultural_co-operation/), 2007).



**Photograph 2.1.** *The ‘landscape’ – Norrisundet, the Luleå archipelago.* G Wallin.

With regard to a specific physical landscape, both mental perspectives and actual use and behaviour are to be found (Sandell, 2003). It could be differences of the perspectives between the stakeholders of a coastal landscape (Photograph 2.1) – between the tourists and the permanent population, between the preservationists and the fishing industry, between the people who have sailing boats and the ones who have motor boats etc. These landscape perspectives change over time due to technical development and external influences and they can, at least to some extent, differ for the same person or group in different contexts (Sandell, 2003).

In the landscape, various landscape perspectives, interests and ambitions are intertwined. In this section, the conceptual framework of eco-strategies is discussed, which offers the possibility to understand the complexity and the aspects of legitimacy of knowledge (see 2.3.3). What type of knowledge that can be viewed as legitimate is a reflection of what landscape perspective is the point of departure for the planning process (Vuorio, 2003). Also, the framework of eco-strategies is useful as a support within planning and development to cope with different conflicts.



**Figure 2.4.** *The conceptual framework of eco-strategies.* (Adapted after Sandell, 2000).

The perspectives and attitudes to nature and landscape have been depicted by Sandell (2000 & 2001), as a *conceptual framework of eco-strategies*. It is based upon the tensions along two axes (Figure 2.4):

- i) an active use and change of the landscape opposite to passively viewing, admiring and exploring the landscape and
- ii) a functional specialisation opposite to a territorial adaptation.

The functional specialisation is the specialisation of different landscapes for various purposes and transporting oneself or one's merchandise between places, partly by re-building the landscapes so that they fit the desired functions. In doing this, there is a tension between adjusting human activities to the landscape, and adjusting the landscape to human activities on a large scale. Simultaneously, there is a number of relationships between *where* the activities take place and *which* the activities are. The landscape itself is vital in this aspect, since it has an effect on which activities, equipment etc. should be implemented (Sandell, 2001).

Sandell (2001) expresses that the model is a conceptual framework put together by the condition of state of opposition of partly an attitude. The required purpose (use) is the base for development, where the local landscape (the environment) is part of the foundation. A repeated contradiction is found between the *development* perspective (function specialisation) and the *planning* perspective (multiple uses). The framework is also created by the contradiction of a 'passive' and an 'active' version. Looking at the conceptual framework of eco-strategies, one should imagine how the extension of 'tourism' is focused outside one's home district, and that it includes a completely built up environment. In comparison, 'outdoor recreation' includes both the home district and the distant district, but excludes the completely built up environment (Sandell, 2001).

Furthermore, Sandell (2001) discusses the correspondence of his eco-strategies and spatial planning, where in the vertical axis (Figure 2.4), land and water use with 'development' and

‘conservation’ correspond with ‘active use’ and ‘passive view’. In the horizontal axis, he believes there is a parallel to rational planning in the left field, and communicative planning in the right field where the local population plays a part in planning. The framework has been added with examples and concepts with relation to nature conservation, outdoor recreation and tourism (Sandell, 2001 p. 36).

Tourists who visit the area are also participants in recreational activities. Outdoor recreation and tourism thus mutually use the same resource (nature) and are often dependent upon each other. When combining the different standpoints of tourism, outdoor recreation and conservation, the combination will spread the perspectives within the fields of Figure 2.4. Fulfilling various requirements is difficult. This method generates different aspects of social integration like politics, economics, and culture that are brought into focus together with the human-ecological questions (Vuorio, 2003).

The landscape should be used and changed to get economic growth but at the same time be conserved. A question is when a landscape should be ‘frozen’ (Figure 2.4). Bodén and Ankre (2005) discuss how culture and nature conservation are two of many interests that have to cooperate within tourism. The foundation of protected areas is the conservation of natural, cultural, and visual values. These consist of the characteristics that correspond with the purposes of tourism and recreation. In multiple used protected areas, many activities need to be accommodated so the environment is conserved and conflicts are diminished, making stakeholders continue to act together in an ecologically sustainable way (Lynch et al, 2004). The balance of the eco-strategies is decisive; it determines questions regarding environment and nature resources, and, for example, the shaping of tourism and recreation (Sandell, 2000).

Bodén and Ankre (2005) have related various tourism and culture activities in the Stockholm archipelago into the four different fields of Sandell’s framework. In the upper left field, a *factory* is created for producing activities. There are activities that demand an adjustment of the landscape in its function and commercial, planned, and demanded specialisation. Usually the activities are experience oriented with/or culinary elements. The visitors have a clear view of what the offered experiences are (Bodén & Ankre, 2005).

In the lower left field (Figure 2.4), a *museum* for external consumption is shaped. In the relation to tourism, these activities also require an adjustment of the landscape in its function and specialisation. This field contains nature and culture reserves, where certain areas are of such value that it is prohibited to visit them during particular time periods (Bodén & Ankre, 2005). In the upper right field is one’s home district to be *utilized* (for example, picking berries and fishing), and in the lower right field is one’s home district to be *contemplated* (for example a walk by the sea). These two fields concern activities that have a natural connection with the local community. It is a landscape for multiple uses and different experiences. The use has a local producer perspective with linkage to traditional industry of the archipelago, such as, market days, hay-making, and selling handicrafts (Bodén & Ankre, 2005).



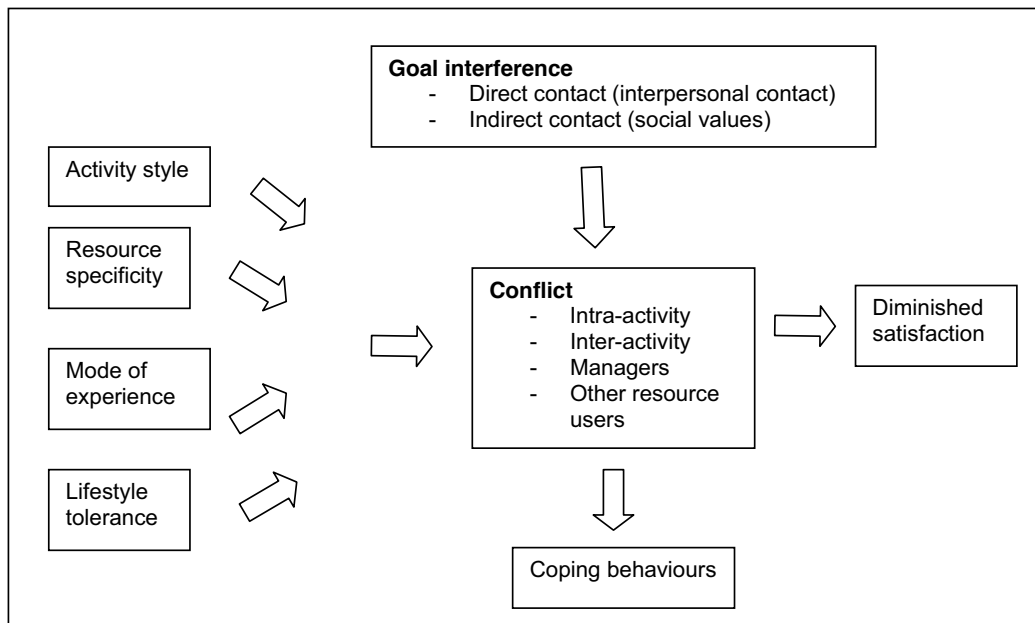
## **2.4 Conflicts of interests in the Swedish coastal areas**

### *2.4.1 Visitors' sensitivity to conflicts*

Tourism in coastal areas is growing faster than any other tourism branch in the world because of the complex relationships between opportunity, image, perceived benefit, cost, and history. The coastal areas are thereby attractive tourist destinations where new technology has created new activities and locations, which offer a varied tourism by the sea (Orams, 1999). The coastal areas' physical environment and their activities greatly attract visitors, and at the same time, these areas consist of vulnerable nature and culture. Different conflicts of interest may arise, which make planning for tourism and outdoor recreation difficult. Hall (2000) claims that it is necessary to identify different conflicts of interest in coastal areas to be able to understand if planning towards a sustainable tourism development is successful or not. It requires management and understanding of the different kinds of conflicts that exist or can arise within a tourist destination.

Manning (1999) states that there are several variables related to conflicts; motivations for recreation, broad social values, perceived similarity of groups or activities, type and level of technology employed, level of experience or commitment, tolerance for sharing resources, expectation for encountering other types of activity groups, and place attachment. Emmelin (1997) argues that planning traditionally deals with conflicts through compromises and agreement. Conflicts could be underestimated and there could be attempts to reach compromises between interests that actually are irreconcilable. Instead of trying to subdue the differences within planning to avoid deadlocks, discussing conflicts of interest in an early stage could create an understanding amid the stakeholders.

Conflict arising because of the choice of recreation is often viewed as a problem between outdoor recreation and other resource use. However, conflict may also arise between different types of recreationists; it depends on to which degree two or more activities can co-exist in the use of a recreational resource. There may also be conflicts between people who are performing the same activities. Where the activities need similar conditions, shared use is a possibility, or then again conflict. It is a competition for the same physical, social and psychological space at the same time. Conflict is not space or time bound since the effects may reach surrounding areas (Pigram & Jenkins, 1999). In addition, conflict can arise from indirect contact between recreation participants, who can refer to seen or unseen undesirable out-groups or objects of such groups, including associated environmental impacts (Manning, 1999). Finally, the perceptions of the visitors may differ from that of the managers (Lindberg et al, 2001).



**Figure 2.5.** *The conflict model of sensitivity to conflict (After Manning, 1999).*

Manning (1999) has outlined several basic components in his extended model (Figure 2.5) of recreational conflict, where the four variables of conflict from Jacob and Schreyer (1980) still are included. Jacob and Schreyer (1980) define conflict as goal interference attributed to another person's behaviour. When the goals are hindered or disturbed, the visitor is not satisfied, which can be attributed to the behaviour of another individual or group. Conflict can be linked to or caused by four major factors: *activity style*, *resource specificity*, *mode of experience* and finally, *lifestyle tolerance*. The components explain how a visitor have desired and achieved goals concerning his or her recreation. Manning (1999) explains that these four factors cover all the variables found to be statistically related to conflicts. In empirical studies, one has tried to explore the *underlying reasons* for conflict. The motives or goals of the visitors are important in explaining and understanding recreation conflict. For example, motivations for recreation can be interpreted as part of one's recreation activity style, and social values (beliefs and attitudes) as contributing to lifestyle tolerance.

The variables in Figure 2.5 determine the *sensitivity to conflict* rather than *conflict*, as it is experienced and attributed directly to others. Personal norms and values are important. As implied by 'sensitivity to conflict', two individuals may have the same experience, but they sense different levels of conflict. Sensitivity to conflict and conflict are related, but are separate concepts. By asking the respondents to what extent they dislike or like, for example, the contact with other participants in their activities, sensitivity to conflict are determined indirectly and more generally. In that way, potential conflict is measured (Manning, 1999).

Conflict, in turn, is measured by asking the respondents specifically and directly if and how other people have hindered their goals. The goal interference can occur either by *direct* contact (interpersonal contact) or *indirect* contact (social values). Depending on certain behaviours or other motivations, the four variables create preconditions that are more likely to lead to conflict; a 'catalyzing situation' for conflict. The final reaction among the

recreationists is that some may implement *coping behaviours* to reduce or get rid of the conflict and others may instead experience disappointment and *diminished satisfaction* (Manning, 1999).

#### *2.4.2 Conflicts in the comprehensive plans*

The National Board of Housing, Building and Planning (1995) has valued various claims and conflicts in the Swedish coastal areas. In a majority of the coastal municipalities' comprehensive plans some sort of conflicts of interest regarding land and water use are accounted for. Still, it involves primarily land and not water areas. A common attitude expressed in the comprehensive plans is that the claims of the water areas are few and that they can be solved without causing conflicts. Not many municipalities account for any open conflicts of different claims in the water area (Boverket, 1995).

Conflicts between the claims of nature conservation and other interests are declared in thirty of the studied comprehensive plans, according to the National Board of Housing, Building and Planning (1995). The conflicts often concern different claims of land use, while the marine conflicts are less mentioned. It is mainly in the municipalities' coastal areas and in the archipelagos that conservation claims of outdoor recreation, conservation of nature and culture is to be found. Even if the interests of conservation dominate, according to the National Board of Housing, Building and Planning (1995), there are also other interests of use, for example, the establishment of wind power stations and material extraction (like sand). Hörnsten (2002) has studied tourists' attitudes to future wind power stations in the Swedish mountains, in order to evaluate the effect on other interests. Although the principal attitude proved to be positive among the respondents, the activities had an effect on their attitudes, where the respondents with motor driven vehicles were less negative than the anglers and hikers.



**Photograph 2.2.** *Guest harbour at Junkön, the Luleå archipelago. R Ankre 16/7/03.*

Different conflicts of interest can be identified in the Swedish coastal areas, as illustrated in this photograph. Photograph 2.2 depicts the encounter between the former and the present way of livelihood of the Swedish archipelago. It is a restored fishing hamlet on the island Junkön, the Luleå archipelago, which has space for ten boats, and offers fresh water, restrooms, and a café (Hederyd et al, 1999). In the foreground of the picture, there are fishing nets and an old boat which is part of an exhibition of the archipelago's traditional living. In the background, a modern boat is berthed at the quay. The Luleå archipelago is an area of national interest, where nature and culture are of priority when diverse demands compete with each other. Also, there are various ways of conserving cultural and physical values (for example, the shoreline protection and nature reserves). Tourism and outdoor recreation exists together with traditional industries (for example, fishery, agriculture, and forestry). There are also second homes and the possibility of keeping a permanent population, which requires water, sewage, service, and infrastructure.

Coastal areas and archipelagos consist of fragile nature and cultural areas. Mathieson and Wall (1982), state that coastlines are key areas, where planning measures and land-use controls must be implemented if the environment is to make a lasting contribution to the tourist industry. Yet, it has to be decided what kind of landscape that should be conserved. Human beings have altered the landscapes during centuries and today's population also has the right to shape the landscape. In Swedish coastal areas, there are local and national levels of responsibility and obligation within the planning systems. The municipalities have a great opportunity to influence the land and water use, because of their control of the planning system. Since the municipalities have the right to make the decisions in their detailed development planning, the government and the municipality have to agree on how land and water mainly should be used and how the national interests should be handled (Boverket & Turistdelegationen, 1997).

Although there is a state of dependency between the leisure sector and the industrial sector, conflicts of interests could arise; there is competition over the land and water resources. In the coastal areas the stakeholders have built a complex pattern in their relationship to each other. Conflicts of land and water use can arise between the permanent population and the second home owners (Müller, 1999). As tourism increase, the relationship between the local population and the visitors may deteriorate, which Doxy (1976; in Swarbrooke, 1999) has illustrated in his 'irritation index'. It shows how tourism affects the local population and their attitudes to the visitors, where the change of attitude is depicted by a linear development of irritation when the number of visitors arises. The local population has different stages of euphoria, apathy, annoyance, and finally antagonism along with the growing number of visitors. One of the main factors of the rising antagonism against tourism is the physical presence of a large number of tourists. Not only can there be conflicts between the permanent population and the second home owners, but these groups may unite against other visitors. Finally, there may be conflicts within the different stakeholder groups due to different attitudes (see for example, Wallsten, 1988; Kaltenborn & Emmelin, 1993 and Segrell, 1995).

Developing activities in the archipelago, while keeping the idea of the archipelago as untouched and idyllic, is problematic. Tourism development often proposes changes of the physical environment, which at the same time is the prerequisite for the place's power of attraction (Heldt Cassel, 2003). The Swedish Environmental Advisory Council (SOU 2000:67) states that there is a paradox in society's interest of conserving the nature and culture values in the archipelagos. The values that one wants to conserve represent a life that does not exist any longer (SOU:2000:67). According to Heldt Cassel (2003), this problem is

connected with how the coastal areas are depicted by various stakeholders and the ideas of a symbolic archipelago set off material and social consequences. Local conflicts are based on different views on tourism activities and how the physical environment should change. The entrepreneurs have businesses in places with many visitors, while some of the local population does not want an increase of tourists.

According to Emmelin (2003), the conflicts of interests in the landscape can simplified be described as the dichotomy between *change* and *conservation*. The former specifies a new future usage by decided actions, while the latter designates a conservation of the past – for the future. In the planning for conservation, scientists and disciplines seem to know what their attitude to the future is. Emmelin's concern is that there is an absence of a conscious relationship to the future and especially to the 'future landscapes'. There is no awareness of what knowledge would bring clarity to what will happen when we transform the landscapes of today into different future landscapes. To be more explicit in defining and conflicts in the comprehensive plans could be a method for the municipalities to be able to handle conflicts better.

#### *2.4.3 The shoreline protection and conflicts*

The shores contain great values that cause conflicts of interest between the goals of building, conservation of nature, and recreation. Because of the shoreline protection, new buildings cannot be built without permission and buildings cannot be rebuilt for another purpose, such as the establishment or enhancement of second homes which may prevent people from moving freely on the beach areas (Boverket, 1995). Additionally, no constructions are allowed without permission, for example, fences, wind power stations, flagpoles, roads, parking places, piers and boat-bridges, golf courses et cetera (SOU 2000:67).

Nowadays the permanent population in coastal areas consists of a traditional population with local industries for a livelihood, together with a new permanent group of people who commute or work on a distance, or are part-time pensioners. A permanent population requires, for example, service, infrastructure, water, sewage, and a good housing environment that mean municipal investments. In the sparsely populated coastal areas, as in the northern part of Sweden, the municipalities are concerned about second homes being used for permanent living (see for example, Ankre, 2005). On the other hand, permanent houses have, in some Swedish coastal areas, been transformed into second homes, which also cause concern (Arén et al., 2000).

Consequently, there are different regulations regarding second homes and permanent living depending on which coastal area it concerns. In 2005, a group at the Ministry of the Environment (Ds 2005:23) presented a proposal for a renewed shoreline protection. At the moment, this is under consideration by, for example, different authorities, non-profit associations, county administration boards, and 41 municipalities. The proposal suggests that it should be possible to decide that the shoreline protection is not valid, if there is reason for a long-term local or regional development in a municipality with great access to inland shores. It is also suggested that the county administration boards should be able to give exemptions from the shoreline protection to constructions of one- or two-family houses in connection with other settlements. This would concern 61 out of 290 of the municipalities.

However, the Swedish Christian Democrats (Bill 2005/6:MJ560) question what the other municipalities would gain from this proposal and why the second homes are not viewed as a

contribution to local or regional development. The Swedish Christian Democrats state that the balance between conservation and development should to a greater extent should be delegated to the municipalities and the citizens who are affected: “... *it is to declare the municipalities of incapacity to view the shoreline protection as a national interest. Since the municipalities have the responsibility for planning and building, they should have the full right to make decisions of the shoreline protection. The shoreline protection should be in the municipalities’ comprehensive plans.*” (Bill 2005/6: MJ560. Author’s translation.).

The Environmental Advisory Council (2000) has determined that the building on the beaches cannot continue in the same rapid pace as at present. The regulations for shoreline protection are the same regardless if they affect a permanent house or a second home. It is necessary with a specification of the shoreline protection, but with a dialogue between the municipal and the regional levels. A suggestion of the Environmental Advisory Council (2000) is therefore that the county administration boards should examine the application of the shoreline protection strictly and look over their shoreline protection regulations in 2009, at the latest. To perceive a sustainable development of coastal areas, it is fundamental with a long-term economising with the assets of the beaches. The shorelines offer an opportunity to outdoor recreation, which leads to claims on these areas. At the moment, the changes are slow. However, in the future, there could be requests that limit the access to the beach and sea that Swedes consider as free and available for everyone (SOU 2000:67).

Segrell (1995) has analysed the control of the shoreline protection in 1975-1995. The decentralisation has increased the municipalities’ influence upon the shoreline protection. He concludes that there is a more or less open mistrust from county administration boards and several national investigations against the municipalities’ possibilities and willingness to use the shoreline protection as the Environmental Code proposes. Some of the arguments have been that the municipalities have a lack of resources and competence and that they prioritise other interests. Nevertheless, Segrell cannot find any justifications of the distrust in the municipalities’ work. He explains that the suspiciousness could have been caused by the writing of some municipalities’ mismanaged exemptions in media, the increase of appeals at the end of the 1980’s, and earlier experiences of the lack of resources and competence of the municipalities. The SEPA (2003) has investigated the implementations of the shoreline protection and there are great differences in Sweden and also deficiencies in the decisions. The geographical differences within the country are relevant to the shoreline protection’s application. The SEPA found that there were no basic data and a lack of maps, and that many of the decisions were formally wrong. The decisions of the shoreline protection do not seem to be sufficiently established in the municipal decision process (Naturvårdsverket, 2003).

#### *2.4.4 Accessibility and conflicts*

Islands offer something special in comparison to massive land because one has to travel by boat or airplane to reach the destination. To be detached from the mainland gives an important physical and psychological aspect to the visit (Baum, 1995). Accessibility is a crucial question in the archipelagos. Since the landscape consists of islands, it is necessary to either have access to a private boat or to public transportation. The coasts and the archipelagos of Sweden offer great opportunities for an active boat life. The boat is a means of transportation, and a tool of the fishing industry, and also one of the most popular recreation activities in Sweden (SOU 2000:67). However, boat traffic (pleasure boats, transport to and from islands, and shipping) not only leads to discharges and erosion, but also noise (Miljö- och planeringsavd., Stockholms län, 2001).

Pleasure boats may cause conflicts and there are reasons to separate organised boat tourism (for example, clubs and organisations) and 'wild' tourism where the latter more often bring about conflicts regarding the use and effect upon nature. Not all boat tourists view the rules of the right of public access correctly. Also, the right of public access is used as an excuse for unjustified actions, for example, putting up tents near homes, lighting fires, and leaving garbage ([www.ises.abo.fi](http://www.ises.abo.fi), 2003). Conflicts between shipping and other interests concern either the change of land use (for example, harbour areas become housing area) or the use of the water near the coast (for example, the cruise boats in the Stockholm archipelago). Communication and accessibility with new thoroughfares of communication may lead to new claims of land, where roadways are in conflict with the conservation interests. Another conflict concerns the ice roads in the archipelagos in northern Sweden during winter. The permanent population uses these to travel between the islands and to the mainland by car or snow mobile, but at the same time the shipping needs to have ice-free passages that may cross the ice roads (Boverket, 1995).

In the evaluation of the National Board of Housing, Building and Planning (1995), certain strategies were mentioned in the comprehensive plans to achieve greater accessibility to the water and the beaches. In 1995, the demand for marinas and guest harbours was so great that the municipalities had to consider new areas for this in their planning. Yet, only a third of the municipalities considered the possible conflicts of interest that the new establishments of guest harbours could involve, according to the National Board of Housing, Building and Planning (1995). The claim from outdoor recreation on coastal areas relates to, for example, swimming, pleasure boats, angling, and experiencing nature. In the municipal comprehensive plans, the significance and importance of the coastal areas and the sea when it comes to recreation and inspiration for visitors and inhabitants, are seldom analysed (Boverket, 1995).

One example of a conflict is pleasure boats anchoring on fishing places (Arén et al., 2000). Another conflict is between the interests of the fishing industry and the bathing places. The fish food from the fish-breeding consists of fat and organic material that in warm summers with high water temperatures could be regarded as negative by the bathing guests. To avoid conflicts with outdoor recreation these two interests should be kept separate ([www.vabr.slu.se](http://www.vabr.slu.se), 2003). The land use's effect on the water is a general conflict in the coastal municipalities. A poor water quality affects both the tourism industry and the fishing industry. It can also be the other way around where the use of water affects the land. One example is the ferry traffic that causes noise, land erosion, lights, and surging of waves. The outdoor recreation is affected, and the second home owners, the locals, and the pleasure boat owners are disturbed (Boverket, 1995).

As discussed above, the visitors and the second home owners are not involved in the planning processes. One reason is that there is not sufficient knowledge of conflicts, which should be handled and planned for. Another reason is the mixture of paradigms, where the tradition of rational planning is still present, although the communicative paradigm has begun to have an influence. The geographical pattern of the archipelagos, the modern conservation interests, and the patterns of access together with the tourism development and the traditional industry create a discontinuous landscape. It also means possible conflicts. The attractiveness of tourism and recreation in the archipelagos is mainly based upon nature and culture values. Conflicts may arise when the interests of nature conservation and tourism are either against each other or against other interests of land and water use, such as the shoreline protection, protected areas, dredging, establishment of wind power stations etc. The activities in coastal areas use land and water, which directly or indirectly affect the environment. Therefore, it is a

risk that these sensitive areas will irrevocably change, which complicates the possibilities of permanent living and maintenance. Also, it has a negative impact on the recreation value of the coastal areas and the archipelagos (SOU 2000:67).

## **2.5 Zoning and planning frameworks**

### *2.5.1 Carrying capacity*

During the 1970s, carrying capacity advanced as a technique for managing tourism in sensitive environments, which encouraged managers to try to solve visitor use problems merely by setting limits to numbers based upon a pre-determined level, derived from ecological, social and other analyses (<http://www.unep.fr/pc/tourism/library/>, 2007). The tourist destinations that are under development should consider what their carrying capacity is in advance. It is also vital to decide what one implies with the term (Sveriges riksdag, 2001). The carrying capacity has to be the adjustment of the tourism of a destination and the tourist destinations also have to realise what their needs are. Furthermore, since the visitors claim the 'property' of the local people, it is necessary that the inhabitants accept tourism, which in its turn has to bring economic and other positive effects (Sveriges riksdag, 2001).

Separate types of recreational carrying capacity can be recognised. *Physical carrying capacity* is how many people or number of equipment that may be comfortably and safely handled by a tourist destination. Restrictions of the physical capacity can be a useful tool in management to apply an indirect control of the visitor numbers. *Economic carrying capacity* relates to the multiple uses of resources, where recreation is combined with other enterprises. *Ecological carrying capacity* concerns the maximum level of recreational use that an area or an ecosystem has capacity for before the ecological values decline. However, there have been problems in defining when an unacceptable declination of the ecological values is reached. *Social carrying capacity* correlates to the maximum level of recreational use in terms of numbers and activities where there is a decline in the quality of recreational experience. Depending on the visitor's perception of other visitors and of crowding or solitude, the fulfilment and appreciation is affected (Pigram & Jenkins, 1999).

Applying carrying capacity to recreation areas is not easy. The difficulty is to determine how much impact or change should be allowed within the components of the concept: environmental resources, the quality of the recreation experience, and the extent and direction of the management actions (Manning, 1999). Also, there is no single carrying capacity for an area. Instead management objectives, indicators, and standards of quality create a variety of abilities (Manning, 1999).

In coastal planning, zoning is one of the simplest and most commonly used tools (Kay & Adler, 2005). In zoning, planning and management are combined as *planning for management*, according to Emmelin et al., (2005). Planning is mainly a tool to change the land and water use, where restrictions direct the coming or the ongoing land and water use. Management mainly concerns the measurements that are taken to manage an area, direct the ongoing land and water use, and to handle conflicts (Emmelin et al., 2005). This section discusses various planning and management frameworks where zoning is used, with a certain focus on the Recreation Opportunity Spectrum (ROS) since it creates a foundation for the thesis' analysis of the planning and zoning in the Luleå archipelago. Additionally, if different groups of interests or activities use the same land area, conflicts may arise. These can be reduced by studies of the visitors' experiences, activities, and their effect upon the



environment. With knowledge about the visitors, their experiences, and geographical location at a tourist destination, planning frameworks as the ROS may combine conservation with tourism development (Fredman et al., 2005).

### 2.5.2 *The Limits of Acceptable Change (LAC)*

To resolve conflicts of visitors and environment, the planning framework *Limits of Acceptable Change* (LAC) grew from the efforts in American national parks. As an alternative to carrying capacity, the LAC not only focuses on the biological and physical impacts of recreation, but also has the social consequences of increasing use pressure as a focal point. It is a framework for dealing with managing impact and change in recreation settings (Stankey, 1973).

By the LAC, it is suggested that there is a limit of a tolerated use and when this limit is reached, there are damages that could be devastating. If scientific research could determine this level, management could get a foundation for the decisions of use. The LAC has several premises (Stankey et al., 1999):

- it accepts that change in resource conditions is inevitable; natural systems are dynamic regardless of human actions,
- the recreation use leads to change,
- in managing causes by recreation, a variety of actions are possible where limiting use is only one action to control unacceptable impacts,
- identifying a condition as unacceptable is a value judgement with a combination of biological knowledge and social choices.

According to Stankey et al. (1999), since its first implementation in the beginning of 1980s, the LAC has provided an overall framework for decision making (visitor education programs, law enforcement, and management). The LAC has been implemented by American wilderness managers and has been used to deal with the carrying capacity of national parks and nature-based tourism development. Except for balancing the use and conservation, Manning (2004) states that the LAC can be used when outdoor recreation in parks and related protected areas increase. The framework is, however, dependent on a well-structured planning system both nationally and locally (Shaw & Williams, 2002).

### 2.5.3 *Visitor Impact Management (VIM) and Visitor Activity Management Process (VAMP)*

Two frameworks that incorporate the ideas about carrying capacity and provide a rational, structured process for making carrying capacity decisions are the *Visitor Impact Management* (VIM) and the *Visitor Activity Management Process* (VAMP) (Manning, 1999).

The VIM model was developed by the US National Parks and Conservation Association (further reading, Graefe, 1990). The aim was to develop a system built on scientific knowledge about the extent and causes of the effects on nature and visitors' experiences. Also, by the VIM, there should be management supported by science and with the focus on information and tools to control or decrease unwanted behaviour among visitors (Emmelin et al., 2005). The model has been used in the US, Australia and Canada and its spokesmen emphasise the VIM's scientific foundation. According to Emmelin et al. (2005), there is a lack of participation and consultation by the parties concerned, regardless if they are visitors or other groups that might be affected either by the usage of an area or by the management measures. In Australia, difficulties with the application of the LAC and the VIM have largely

concerned establishing sufficient stakeholder support and approval. There has been an expressed concern that approaches, like the VIM and the VAMP, tend to accommodate incremental development that favours the visitor and is more tolerant of higher levels of use (Swinnerton, 1999).

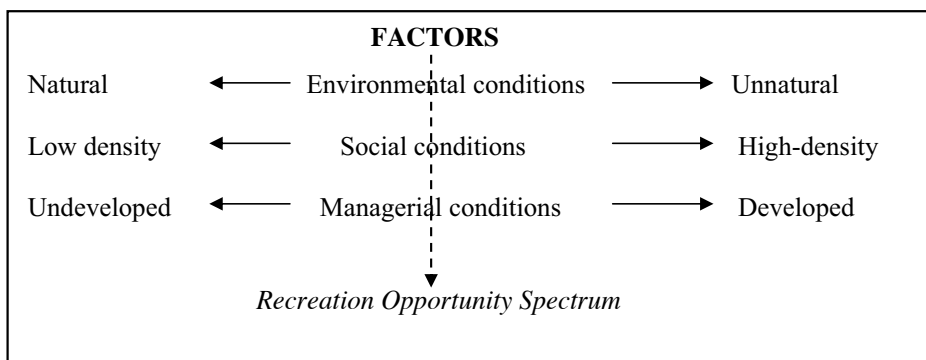
The VAMP model was developed by the Canadian Parks Service (for further reading, see Graham, 1990), where protected areas were changed from being product and supply oriented to being market and visitor oriented in management. The VAMP is to be used in the establishment of new areas, planning for management in new and already established areas, and in the planning, development, and management of service and service establishments. There is a focus on the visitor, but it is still a model where expertise is central in management (Emmelin et al., 2005).

#### 2.5.4 The Recreation Opportunity Spectrum (ROS)

The *Recreation Opportunity Spectrum* (ROS) is a planning framework, with an approach of providing a range of recreational opportunities where zoning is applied on the landscape. The questions regarding what types of outdoor recreation opportunities to provide, how much, where, to what degree, and by whom, has influenced the development of both the ROS and the LAC. The ROS was developed at the end of the 1970s where biological, physical, social and managerial conditions combined the concept of a *recreational opportunity setting* based on the premise that: "... *recreationists seek a variety of recreational opportunity settings, and through their participation in different activities in these settings, derive a variety of experiences and benefits.*" (Stankey et al., 1999 pp. 437). The ROS has typically been applied at a regional level and supports a development of recreation experiences where areas are classified and divided after the environmental conditions and the recreational activities. The planning framework has been outlined in several publications (Clark & Stankey, 1979; Driver et al., 1987; Emmelin, 1997; Manning 1999; Stankey et al., 1999).

As maintained by Stankey et al. (1999) the idea of the ROS is:

- to respond to the need for diversity in recreation settings (reaching between wilderness and affected nature),
- to get easier valuations of effects and consequences between recreation and other interests,
- to put management on a behavioural foundation to make the consumers' values more valid.



**Figure 2.6.** The relationship between the ROS-factors (After Manning, 1999).

By applying the ROS, the landscape is divided into factors that are considered to provide possibilities for different experiences (Figure 2.6). The environmental conditions are the qualities of the physical landscape, the social conditions how the landscape is used and managing conditions are which measurements are done in the area. Noteworthy, the total of the factors creates a *spectrum*. This spectrum contains different setting classes. When applying the ROS, the landscapes can be zoned in primitive, semi-primitive, non-motorized, semi-primitive motorized, rustic, concentrated, and modern urbanized classes (for example, Manning, 1999). When applying the ROS, one should be attentive that the environmental, social and managing factors can be combined in different ways to generate recreation opportunities. The ROS is an organising or *conceptual framework* where management judgment is needed in the application, as pointed out by Manning (1999).

The ROS provides opportunities for activities in certain areas that realise people's desired experiences. The ambition is to find a balance between the use and the conservation; a variety of recreation satisfies the need for experiences and directs people to certain areas that protect nature (Driver et al., 1987). Recreational opportunities are seen as combinations of physical, social and managerial characteristics of settings. A basic assumption is that most people look for diversity in recreational opportunities (Kaltenborn & Emmelin, 1993). Consequently the ROS encourages diversity where everyone has access to the various zones, to be able to experience what the different zones offer that respond to their interests and needs (Emmelin et al., 2005). Moreover, the quality of the resource will be determined by the range of opportunities that are desired by various visitors and other stakeholders, and the conditions that best represent the valued components of these opportunities (Shafer and Inglis, 2000). By restricting certain recreational activities from some areas that are valuable or sensitive and the uses that are in contradiction, zoning may solve or at least reduce the problem of conflicts. By the management of conflicts, the visitors may reach a higher satisfaction (Manning, 1999).

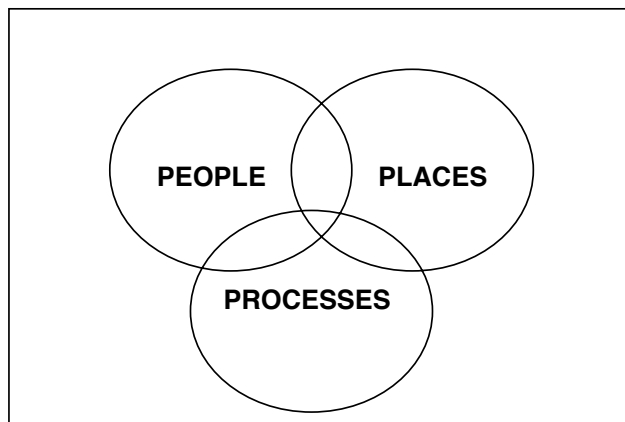
In the US, the US Forest Service and the Bureau of Land Management (two federal recreation agencies) have implemented the ROS-method during the late 1980s and early 1990s, but the ROS was not widely adapted by heritage managers (Hall & Page, 2002). In New Zealand, the Department of Conservation uses the framework (Vuorio, 2003). The arctic archipelago Svalbard has been part of a case study investigated by Kaltenborn (1999) of how Svalbard visitors perceive the islands as a recreational setting, and how such information can be applied in land-use planning. Kaltenborn's results indicate that the ROS may have some value in this type of setting. Swedish planning has not been greatly inspired by the ROS or similar management frameworks, but the method has been applied in the national park Fulufjället, where the SEPA in 2002 for the first time applied a strict zoning after the ROS. The zoning will implement the national park's magnitude and meaning, to get local support (Fredman et al., 2005).

However, there is a difference between the North American and Swedish management of resources. The management of outdoor recreation in North America is executed on publicly owned land that not only consists of protected areas but also productive areas. Here, the ROS has a function to balance recreation and other production, for example forestry (Emmelin et al., 2005). So far, in the application of the ROS in Sweden, the dilemma is rather the opposition between nature conservation and use, and other forms of recreation development. Also, because of the public right of access there are other prerequisites for regulations of activities and admittance, which requires an adjustment of the ROS to Swedish conditions (Emmelin et al., 2005).

The purpose of the ROS is consequently to divide a region into geographical perceivable areas with various contents. The separation is both spatial and qualitative. However, how to implicate and use the ROS is not an obvious task. To use the framework correctly, Wallsten (1988) deems that there have to be clear and described goals on what should be offered in the area and where, how and for whom. Users with different interests and activities should choose areas that correspond to their preferences. The users have to be well-informed and make a choice to achieve their experience goals. Also, management has to be part of a rational process to create concrete goals for various areas and have the means to fulfil these goals (Emmelin et al., 2005). Critique has been expressed by Hall and Page (2002), who claim that the key limitation of the use of the ROS is the emphasis on the setting, at the expense of who the visitor is. The reason is partly that earlier cultures from the landscape planning and architecture professions have suggested that visitor management could be largely addressed through site and facility design. This approach stemmed from a view of site factors as the locus of values (Emmelin, 1997).

The most critical concern of having successful implementations of the planning frameworks LAC and ROS is that they are executed as expert-based, rational-comprehensive planning. This may cause difficulties when there are disagreements about cause-effect relationships or conflicts over goals, as maintained by Stankey et al. (1999). The ROS should in this manner develop to become a more modern planning framework (Stankey et al., 1999):

- to admit the legitimacy of different groups' values and interest in an area,
- to admit that other knowledge than the scientific is necessary,
- to give scientific knowledge as information to stakeholders rather than only being the base for decision-making,
- to have active involvement and learning among the stakeholders.



**Figure 2.7.** *Interrelationships among people, places and processes (Stankey et al., 1999).*

One example of a social learning approach (where various stakeholders were brought together for dialogue, learning, and creating a plan) is the Bob Marshall Wilderness Complex (BMWC), where an alternative approach to carrying capacity was developed in a new management plan. Three elements of planning were included: people, places and processes (Figure 2.7). It should be comprehended as follows, the element *people* consists of concepts that reveal how the world is understood and valued, and how we are organised as individuals and groups; *places* involves both the physical space and symbolic meanings; and *processes* consists of both biophysical as sociocultural processes that influence the relationship among

people and between people and their environment (Stankey et al., 1999). Instead of looking at the elements separately, which is frequent in the ROS, one should grasp that they interact and overlap each other.

### *2.5.5 The Water Recreation Opportunity Spectrum (WROS)*

An extension of the ROS is the *Water Recreation Opportunity Spectrum* (WROS), which provides guidance for water resources (for example, coastal zones, lakes, rivers, marine protected areas etc.). Its goal is to provide planners and managers with a framework for conserving a spectrum of quality and diverse water recreation opportunities. According to Aukerman and Haas (2004), the WROS can be applied to any water resource, although it is less practical on very small areas.

The WROS is a tool for understanding the type and location of six types of water related recreation opportunities. The factors from the ROS are put into six WROS classes described as zones with different distance from developed and populated cities ranged across a spectrum of urban suburban, rural developed, rural natural, semi primitive, and primitive classes. Each WROS class is defined by a particular ‘package’ of activities, setting attributes, experiences, and benefits. For example, the activity of low-speed motor boating is represented in all classes except the primitive. Personal watercrafting is, in comparison, not represented as an accepted activity in the semi primitive and the primitive class (Aukerman & Haas, 2004). The WROS has been applied in for example the San Luis Reservoir, a California State Park, in the US (www.parks.ca, 2005).

## **2.6 Discussion**

Systematically collected data on tourism and outdoor recreation is absent in the Swedish local and regional planning (as discussed by Emmelin, 1997; Heberlein et al., 2002; and Vuorio, 2003). This type of knowledge could be valuable in various stages of the planning process (for example, utilization and management, and the implementation of the comprehensive plan). When different stakeholders (as visitors, second home owners, and local residents) are included in the planning process, they could contribute with new knowledge. Besides a formal and scientific knowledge, one gets experiential, local and personal knowledge as well (Stankey et al., 1999). This means a combination of scientific and local knowledge.

In Norway, there is an increasing demand for second homes in the coastal areas, and the local planners have reacted by identifying the second home owners as stakeholders. Coastal zone planning in Norway formally invites the involvement of stakeholders in the planning process, but since it is not defined by law who should be considered a stakeholder and at which stages in the process one should be involved, the identity of the stakeholders and user groups vary from municipality to municipality (Buanes et al, 2004). To proceed from an abstract development of the landscape to concrete actions, there is a need of a stakeholder perspective. Influence is often mentioned, but the lack of the understanding and knowledge of the stakeholders’ actions and the following consequences makes planning complicated (Emmelin, 2003). In the work on the management plan of the Bob Marshall Wilderness Complex (BMWC), it was important to represent the values and concerns represented in a horizontal sense (for example, the recreationists) and vertically (the local, regional, and national levels). During the whole process, there was no selection of who would (or would not) participate; it was something self-selected and an open-door policy was practiced (Stankey et al., 1999).

In Sweden, nature conservation and planning of the nature resources have strong influences of centralisation and rationalism. Nevertheless, conservation is now supposed to be carried out *with* and *for* people instead of conserving nature from people. The international community's perspective of conservation emphasises participation from local and indigenous people (Zachrisson, 2004). Idealistically, every stakeholder with interest in a coastal area and with willingness to participate should have the opportunity to be heard and to be part of the planning process, where the comprehensive plan is an important instrument. Different methodological ideal principles could be chosen in relation to the future in spatial planning: *prognosis, plan, vision, and scenario* (Emmelin, 2003).

The plan principle assumes stakeholders who can realise a plan and who are goal-oriented. It is based on the rational planning. A plan should be made real; without any power to realise it there is no point. In areas where the physical environment is vital for tourism development, the tourism industry needs to be part of the planning process since the sea and the landscape and the tourist destinations in coastal areas together have a great impact upon the visitors' experience. If a municipality wants to encourage a tourism development, the comprehensive plan should also consider the water areas and their use. Also, it is equally important to take account of positive and negative experiences and attitudes in the implementation of tourism and outdoor recreation in the comprehensive plans. Otherwise, it would be incomplete knowledge. According to Emmelin, the plan in itself can produce opposite actions from different actors. The comprehensive plan is a vision rather than a plan, and this has made the comprehensive plan insufficient and less reliable. This has affected the municipalities' work with the comprehensive plan and their belief in it – the comprehensive plan is not viewed as an interesting tool (Emmelin, 2003).

In Arén's (1994) study of two islands in a Swedish archipelago, there was an evident need for a planner that could structure and document the local population's knowledge of the areas' problems and resources, and the obstacles and possibilities of development. A 'plan' was necessary to uphold the areas' interests against another planning from municipal, regional, and national levels. Buanes et al. (2004) state that planning authorities have to initiate and establish arenas for stakeholder participation and discourse. User groups cannot be expected to initiate such processes themselves. The possibility of citizen participation can be defined as the possibility of deliberation, with debating, consideration and deliberation in issues that affect the citizens' lives. Although deliberation is viewed as the core in democracy, there is scepticism against it, according to Bäckstrand (2003). This is due to the opinion that it is safer to rely on the scientific society. As the discussion and Figure 2.3 points out, the need for knowledge of tourism and outdoor recreation in the comprehensive plans needs to be viewed from the perspective of planning theory. The character and function of knowledge is different in a rational perspective on planning than in a communicative one. However, since Swedish planning apply a mixture of planning paradigms, acquiring data, knowledge, and views on the legitimacy of different stakeholders becomes a complex matter.

There is a need for new approaches to be able to apply the ROS with success in the society of today. Stankey et al. (1999) describe several trends that they deem as important in the further development of the ROS, where an increased demand for participation is one. Also, the demographic changes of the stakeholders (ethnicity, age, spatial distribution etc.) will affect the decisions regarding what sort of recreation opportunities that should be provided. All together, there should be awareness in planning of a dynamic society that wants to be part of and influence decision-making, and that do not accept science and experts without questioning. Figure 2.6 illustrates the problems of and demands for new planning forms that

nature conservation faces, where the ROS exemplifies the contradictions and tensions in planning paradigms. The ROS and the paradigm of nature conservation have earlier been placed in the field of *central-calculating*. As Stankey et al. (1999) maintain, there has not been forums where different stakeholders (as visitors and second home owners) can express their ideas, values, and perspectives together with managers, local residents, and specialists.

The core of both the ROS and the LAC are examples of the social reform tradition of planning conducted by 'experts'. In the ROS, the visitor makes a rational choice to obtain certain experiences. The management is constructed rationally with concrete and measurable goals for the different zones. Earlier there have been no participation from a local level and the ROS has been directed by experts and professionals. However, the ROS has developed through practical and concrete experiences of the problems that might occur in the planning and management together with the influence of collaborative planning (Emmelin et al., 2005).

The LAC and the ROS are tools for managers in their work of planning for conservation and recreation, and the usefulness of the ROS may improve if it is tested at different geographical scales and planning levels, as in other cultures (Driver et al., 1987). Yet, a requirement for zoning of prevention and use of the environment, are geographically delimited areas with particular rules or special management. By zoning and protecting areas, recreation and tourism can develop under controlled forms. In Swedish coastal areas, it is necessary to have a more apparent grading of the use and restrictions. Otherwise, the most used areas can be separated into either very developed areas (with extensive clarifications), or various protected areas with strict restrictions (Emmelin, 1997). Even if relationships may be more complex than those in the setting classes, and even if user preferences may not overlay an environment in linear fashion, the concept of the ROS is a useful foundation for planning and managing natural resources for recreation and tourism (Kaltenborn & Emmelin, 1993; Shafer & Inglis, 2000). As Emmelin (1997) states, the ROS offers realistic estimations of the possibilities of development and management of conflicts.

Still, the question remains: is there a voice for the non-present stakeholders? It is difficult to recognise how a visitor, who, for example, has not been part of a questionnaire survey, has actually also been part of the participation in the planning process. On the other hand, there has been an investigation conducted with a questionnaire that should be representative with the selection of respondents. Questionnaires directed to visitors are one way of documenting the visitors and to find knowledge of their geographical location, their activities, and their attitudes to the past and the future. Yet, it should be recognised that questionnaires have been formed and executed by experts where a scientific foundation is vital. In the Planning and Building Act, experts construct the plans while the politicians should not only formulate the goals but through debates and establishment of the goals be responsible for the public and individual interests. If an unbiased organization is in charge of the gathering of knowledge, and if different stakeholders are part of the investigation, the insight and trust in the investigation and its results is increased (Emmelin et al., 2005). This illustrates the different parts – and the different points of departure – knowledge may have when it comes to planning theory.

### 3. THE LULEÅ ARCHIPELAGO IN NORTHERN SWEDEN

#### 3.1 Introduction

This chapter consists of an overview of the Luleå archipelago where a questionnaire survey directed to visitors and second home owners was executed in 2003. Except for facts regarding population, geography, tourism and outdoor recreation, the planning organisation of the Luleå municipality is described with a discussion of the issues in the comprehensive plan that is of interest for the thesis' discussion of the planning of the Luleå archipelago. Additionally, nature conservation and zoning in the Luleå archipelago are studied. The area is of national interest (for nature, outdoor life and commercial fishing), with several nature reserves, areas part of the Natura 2000, together with bird and seal sanctuaries.

The goal concerning nature conservation in the archipelago is that tourism and outdoor life should not threaten the values of the archipelago. In consideration to nature interests and the environmental differences of sensitivity, there is an informal policy in the municipality regarding the total number of people that should be allowed in various parts of the archipelago. An unofficial zoning of the archipelago, carried out by the municipal Archipelago/Outdoor recreation Department, divides the archipelago into three zones (from the inner to the outer archipelago) based on what has been considered the archipelago's carrying capacity when it comes to how many visitors the area can manage. The chapter is concluded with an overview of different conflicts in the Luleå archipelago.

#### 3.2 Description of the Luleå archipelago

In 1555, the Swedish bishop and explorer Olaus Magnus published the very first tourist guide of the Luleå archipelago, which can be read in his famous piece *Carta Marina*<sup>21</sup>:

*“The coastline with its many islands and islets, all bays, all rivers and streams and every brook, offers all year but favourably during summertime when everything is as most delightful in these vicinities, an abundant richness of fish. Outside the coast, there are many fair islands, which with their trees, herbs and grass give plentiful of pleasure and refreshment. ... During the whole summer there is no darkness, neither any fiery sun, but the air is sufficiently warm and healthy. Everything here is pleasant, calm and safe.”* (Author's translation. Lundholm, 1986 pp. 12-13).

Many centuries later, the qualities of the area described by Olaus Magnus are still appreciated by its visitors. The Luleå archipelago is located 100 kilometres south of the polar circle. It consists of approximately 750 islands (Figure 3.3). The area is located in the Gulf of Bothnia as part of the Norrbotten archipelago that lies next to the border between the administrative provinces of Västerbotten and Norrbotten to be extended to the Finnish frontier (Hederyd et al., 1999). Furthermore, the archipelago lies within the Norrbotten county and the Luleå municipality, the latter with around 70,000 inhabitants. Luleå city, with 45,000 inhabitants, is the seat of the county government and a natural communication centre because of its

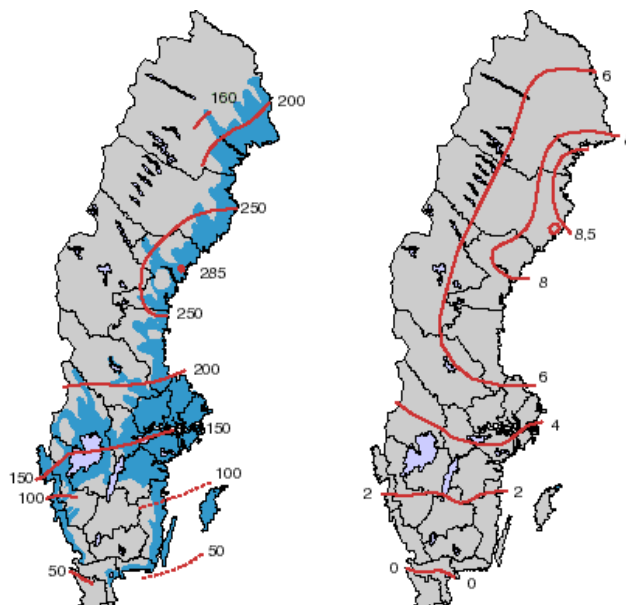
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<sup>21</sup> Published in Venice in 1539 and is considered as one of most marvellous publications in Swedish cartography. Olaus Magnus wrote comments to every figure in the map where superstition was combined with reality (SNA, 1998).



geographical position. The harbour is one of the largest in Sweden calculated in tonnage. Ore and steel are primary products in the region (Luleå municipality's tourist pamphlet, 2003).

There are roughly one hundred people living permanently in the Luleå archipelago dispersed on eight islands (<http://194.117.173.82/miljobarometern>, 2007). Some of the permanent inhabitants are old people who always have lived on the island, but are now retired. There are also people living in second homes permanently, some of which are retired and others commute. Some of the permanent population lives in the area part time or uses a second home as a work-place since many of them have flats in Luleå city. In the archipelago, industries such as forestry, agriculture and fishing still remain to some level, which supports the local population. There are twelve active fishermen geographically spread over seven islands, but two of these live on the mainland. All of them have flats in Luleå city. Together with one farmer, these men form the labour force of the old traditional agrarian sector (Nilsson & Ankre, 2004).



**Figure 3.1** *The land rise in Sweden.*

From the web place of the Geological Survey of Sweden. © The Geological Survey of Sweden (SGU). Permission: 30-1135/2004.

The Baltic Sea is one of the world's largest areas with brackish water. The low content of salt is caused by fresh water from rivers and a cold climate. The brackish water and the land rise have together created certain prerequisites for a special nature development with shallow land and beach meadows. Because of the land rise, the formation of the landscape is slowly but persistently changing. When Sweden was covered by the inland ice, the earth crust was pushed down by heavy ice. As the ice melted 9,000 years ago, large parts of Sweden were covered by water before the land began to rise. The left map of Sweden in Figure 3.1 depicts the limits where the shores were located at their highest (the peak coast-line), and the blue areas illustrate the parts which were below water. The right map in Figure 3.1 shows the land rise in millimetre per year at present. The land rises by just under a centimetre a year in the

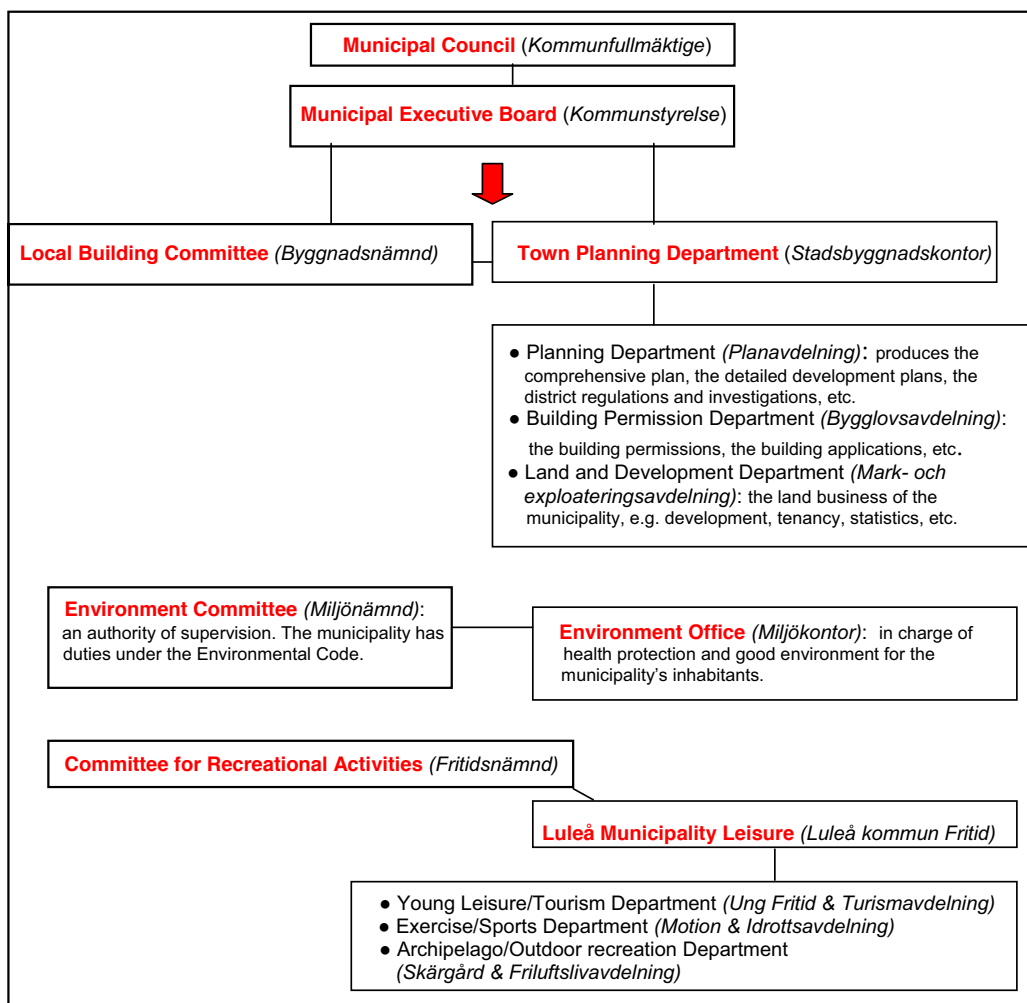
Gulf of Bothnia, which means that the land area gradually becomes larger and the shoreline higher. The consequences are thereby that the water volume in the Baltic Sea is decreasing, that boat-houses and bridges end up on dry land and that the groundwater level is reduced (SNA, 1992).

In the area, there are several nature reserves and bird sanctuaries. The Luleå archipelago is an area of national interest because of its nature and for its outdoor recreational value. There are also areas of national interest for commercial fishing (Hederyd et al., 1999). During both summer and winter, the archipelago is a place for tourism and outdoor recreation for the inhabitants of Luleå city and other visitors. Pleasure boats are one of the main activities. With more than 8,000 small boats, Luleå is one of the municipalities in Sweden with the highest number of boats ([www.lulea.se](http://www.lulea.se), 2004). Tourism is viewed by the Luleå municipality as the next favourable industry in the archipelago. The landscape has special qualities for outdoor recreation, and many people have second homes in the area. Activities like sailing, fishing, driving snowmobile, skiing and skating are intense in the archipelago. Several islands have accommodations and facilities (for example, ridges, barbeque places, guest harbours and saunas) that are built and managed by the municipality (Hederyd et al., 1999). The Luleå municipality has seven cabins on the islands Kluntarna and Småskären that are for rent during both summer and winter ([www.lulea.se](http://www.lulea.se), 2007). Other holiday villages of the municipality are run by entrepreneurs.

### **3.3 The Luleå municipality's governing system**

This section consists of a description of the Luleå municipality's governing system. Figure 3.2 depicts how the system is organised with the Swedish terms in parenthesis and explanations of the undertakings, either in the figure or in the following text.

In the Luleå municipality, a Municipal Council (with a political majority of the Social Democrats) and a Municipal Executive Board have the comprehensive authority, which is signified by an arrow in Figure 3.2. Subordinated are various committees that are organised in administrations and offices. These, in turn, are divided into different departments.



**Figure 3.2.** *The Luleå municipality's governing system in relation to the archipelago.* (Ankre & Emmelin, 2006).

*The Local Building Committee* should be attentive of the general development within the municipality and take initiatives regarding planning, building and registration of property. It supervises the observance of the Planning and Building Act and settles building and destruction permits and the exemptions from the shoreline protection in the inner archipelago. The Local Building Committee is to appoint out certain detailed comprehensive plans and to prepare other plans for the Municipal Council. *The Town Planning Department* is organised mutually under the Municipal Executive Board (concerning the planning of land and development) and the Local Building Committee (concerning the building permissions). *The Environment Office* has the accountability to lead and co-operate the municipality's work with nature conservation and to investigate and approve of separate sewage. It also measures the noise levels (www.lulea.se/lulea/LuleaKommun, 2005).

*The Committee for Recreational Activities* develops leisure and tourism activities together with establishments for the future needs of people who live and work in the municipality.

This includes the area's visitors. The needs for establishments should be fulfilled for the recreation of the public and the associations. Recreation areas and establishments should be suitable for the disabled and be accessible to those who want to exercise tourism and leisure activities. Also, in its work, the Committee for Recreational Activities should consider the demands of a sustainable development from an environmental perspective ([www.lulea.se/lulea/LuleaKommun](http://www.lulea.se/lulea/LuleaKommun), 2005).

*The Luleå municipality Leisure* is part of the committee for recreational activities and consists of three departments with an administrative service that is accountable for the budget (Figure 3.2). *The Youth Leisure/Tourism Department* is responsible for questions concerning the youth, information, activities, arrangements, and customer investigations. It manages the tourist information. *The Exercise/Sports Department* offers establishments for exercise, competitions, and recreation of the public and different associations. In 1995, the Municipal Council established a separate programme called *the Luleå municipality Archipelago* within the field of interest of the Committee for Recreational Activities. In 2004, the programme was subordinated under the Luleå municipality Leisure with a special division called *the Archipelago/Outdoor recreation Department* that manages the municipality's physical facilities for the outdoor recreation on the main land. In the archipelago, the department should encourage recreation, tourism, and activities by establishing, managing, and developing recreation establishments and excursion places ([www.lulea.se/lulea/LuleaKommun](http://www.lulea.se/lulea/LuleaKommun), 2005).

All physical facilities and activities that concern the archipelago are gathered within the Archipelago/Outdoor recreation Department. Its work has to be carried out in co-operation with other municipal administrations, various associations of interest, organisations and companies, and together with the population of the archipelago. The department's goal is to take care of the interests of the archipelago's permanent population and to create better possibilities for the industry and market activities. Another goal is to promote outdoor recreation and tourism in its areas by establishing, managing, and developing recreation facilities and places for excursions in the archipelago ([www.lulea.se/lulea/LuleaKommun](http://www.lulea.se/lulea/LuleaKommun), 2005). The department should take action for the conservation of nature and culture, and encourage the development of the visiting industry and tourism. The Archipelago/Outdoor recreation Department is also responsible for transports, garbage collections, markings, and for the maintenance of establishments and excursions. To some extent the department is answerable for the marking of fairways for pleasure boats and for the fishing industry (Hederyd et al., 1999).

### **3.4 The comprehensive plan of Luleå municipality**

The Municipal Council Board passed the comprehensive plan of Luleå municipality in 1990. In the comprehensive plan, the goals have been made primarily with regard to public interests, thereafter to the fundamental features of the land and water use, and buildings. This is followed by the recommendations for planning, building permissions etc. The comprehensive goals and planning prerequisites mainly focus on population and employment. They are based on an expected growth of population and expansion of building. The industry is judged to expand and is therefore of priority in the planning, to create more work opportunities. The need for buildings, infrastructure and service is viewed as great, especially within the Luleå city. In the countryside, new buildings for permanent living should mainly be executed in combination with the practising of industry (Stadsarkitektkontoret, 1990). In 2002, the present comprehensive plan was decided by the Municipal Council to be valid until

2010. Some of the issues discussed in the statement (that the comprehensive plan remains current) are the second homes near Luleå city, and that several areas of national interest have been established although they are not recognised in the comprehensive plan (Kommunfullmäktige, 2002).

In the comprehensive plan from 1990, it is stated that the second home settlements should not expand to such an extent that the region becomes concentrated or is used too intensely, since this could resolve in private or ecological nuisance; there should be:

*“... a great environment for leisure time for the municipality’s inhabitants along with good conditions for tourism is important to the municipality’s future in the 21<sup>st</sup> century. An expanded building of second homes can be permitted on suitable places in the municipality, but not within the near zone of Luleå city in a radius of about 15 kilometres.”* (Author’s translation. Stadsarkitektkontoret Luleå, 1990 p. 7).

Luleå municipality has set up restrictions for the region or detailed comprehensive plans to prevent the development of a possible permanent establishment of people in second homes. The second homes have poor sewage systems with insufficient sewage treatment and transportations are problematic. The necessity to invest in roads, water, and sewers is discussed in the comprehensive plan to hinder permanent establishment of second homes from occurring. The inhabitants must have these areas for recreation (Stadsarkitektkontoret, 1990). The restrictions against second homes near Luleå city should remain, according to the declaration of current interest in 2002.

The defence force (the Swedish military) has large parts of the archipelago as an area of control. There is also an area of national interest from a military aspect on Junkön. In the comprehensive plan, a preliminary prognosis of noise from military airplanes is described (Stadsarkitektkontoret, 1990). In the declaration of current interest, it is declared that the second home area on Hertsön (Figure 3.3) no longer is affected by noise from the military airplanes’ flights to Junkön, since these have stopped. Instead, the 1999 establishment of an extended runway for the Kallax Cargo Airport is discussed in relation to noise. However, a lack of basic data makes it difficult to account for the claims of the total defence (Kommunfullmäktige, 2002).

According to the comprehensive plan, wind power stations could in the future be established on sunken rocks in the outer part of the southern archipelago, and on the islands in the middle and inner part of the archipelago (Stadsarkitektkontoret, 1990). In the declaration of current interest, it is claimed that the municipality does not have enough basic data to make an additional paragraph regarding establishments of wind power stations. Instead, establishments should be considered successively when separate projects become come into question, and when the municipality has better knowledge. There is a detail plan in progress for wind power stations on Sandskäret<sup>22</sup> in the archipelago north of Luleå city (Kommunfullmäktige, 2002). According to the town planning department, the detail plan regarding wind power stations on Sandskäret, has been stopped (Fjeldstad, 30/11/05).

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<sup>22</sup> At the time of writing, there has not been any establishment of wind power stations in the area. Author’s comment.

As stated above, a great environment for the leisure time of the municipality's inhabitants along with good conditions for tourism is viewed as important to the municipality's future. The comprehensive plan states that tourism and recreation should be carried out in a way that does not threaten the values and biodiversity of the Luleå archipelago. The main priority is to uphold the recreational life so that the inhabitants of Luleå city have access to satisfactory recreation areas. Through the comprehensive plan's clarification of changes and conservation of the cultural landscape and the buildings, it is stated that cultural environmental control and conservation should be more clear (Stadsarkitektkontoret, 1990). In the declaration of current interest (2002), neither tourism nor outdoor recreation is discussed by the Municipal Council.

In 2000, the Municipal Council passed the document *Vision 2000*, which also is included in the municipality's declaration of current interest of the comprehensive plan (Kommunledningsförvaltningen, 2000). In 2005, the Municipal Council evaluated the vision of 2010 and decided to pass a new document, *Vision 2015*, in which Luleå is predicted to be an attractive municipality with a population of at least 80,000 in 2015. In the *Vision 2015* it is declared that:

*“... its progress and success will be the result of active cooperation between the educational institutions and the local community as well as an excellent dialogue between the inhabitants, politicians, businesses and organisations. It [the municipality] will have ... a rich leisure and cultural life, a living countryside, a beautiful archipelago and access to magnificent nature. The inhabitants of Luleå will be proud ambassadors of their city and the municipality at large.”*([www.lulea.se/lulea/AlltomLulea/Svenska](http://www.lulea.se/lulea/AlltomLulea/Svenska), 2005).

Besides an expectation of population growth and an environment of prosperity, one of the major points of the vision is to create a dialogue, participation, and a comprehensive view in the municipality's work with its citizens.

### **3.5 Nature conservation and zoning in the Luleå archipelago**

In 2000, a specific nature conservation plan of the Luleå municipality was established as a device to accomplish the intentions of the Agenda 21. The nature conservation plan is a co-operation between the Environment Office, the Technical Office, the Luleå municipality Leisure, and the Town Planning Department, and it expresses the background and the motives for the municipal conservation of nature. The nature conservation plan describes and systematises areas that should be protected, and the plan has to be implemented in the planning of the boards and committees of the Luleå municipality. It is a foundation for the comprehensive plan and other municipal planning where measures suggested in the nature conservation plan should be implemented in every board's and committee's plan of activity from 2001 and forward (Kommunstyrelsen, 2002).

In 2002, the Environment Office of the Luleå municipality made an evaluation of the implementation of the nature conservation plan in the municipality's work. One of the administrations that mainly were affected by the nature conservation plan was the Luleå municipality Leisure and the Archipelago/Outdoor recreation Department. The evaluation showed that the department had not specified any visions or activity goals in relation to the nature conservation plan (Kommunstyrelsen Luleå kommun, 2002).

Neither was there any defined activities planned in relation to the nature conservation plan. Instead the investigation declares that “... *the staff constantly has the plan present in its daily work and considers the goals of nature conservation of the plan when there are issues that concern the nature.*” (Author’s translation. Kommunstyrelsen Luleå kommun, 2002 p. 125 §60).

It was maintained in the evaluation as well, that the Archipelago/Outdoor recreation Department often was in consultation with the county administration board concerning the questions regarding nature conservation in the archipelago. A majority of the nature reserves and bird sanctuaries are situated in the so-called outer zone of the archipelago. The department has voluntarily to some extent supervised the nature reserves in the archipelago without any formal agreement with the county administrative board, but it would like to have the formal responsibility of management of the nature reserves in the area<sup>23</sup>. The evaluation of the Environment Office concludes, that the municipality’s administrations (considering nature conservation) have the nature conservation plan directly or in-directly present in their activity plans. The plan exists in the daily work; the municipal ecologist deems that the administrations at least verbally work seriously with sustainable development through the nature conservation plan (Kommunstyrelsen Luleå kommun, 2002). How the work with nature conservation is put in practice was not part of the evaluation.

The Luleå archipelago is designated as an area of national interest and the environment should be used so that ecological, social and socio-economic conditions are satisfied, and that good management is promoted, according to the municipality. There should be an economising of environmental and natural resources, ecology and nature conservation (Luleå kommun, 2000). The goal concerning nature conservation in the archipelago is:

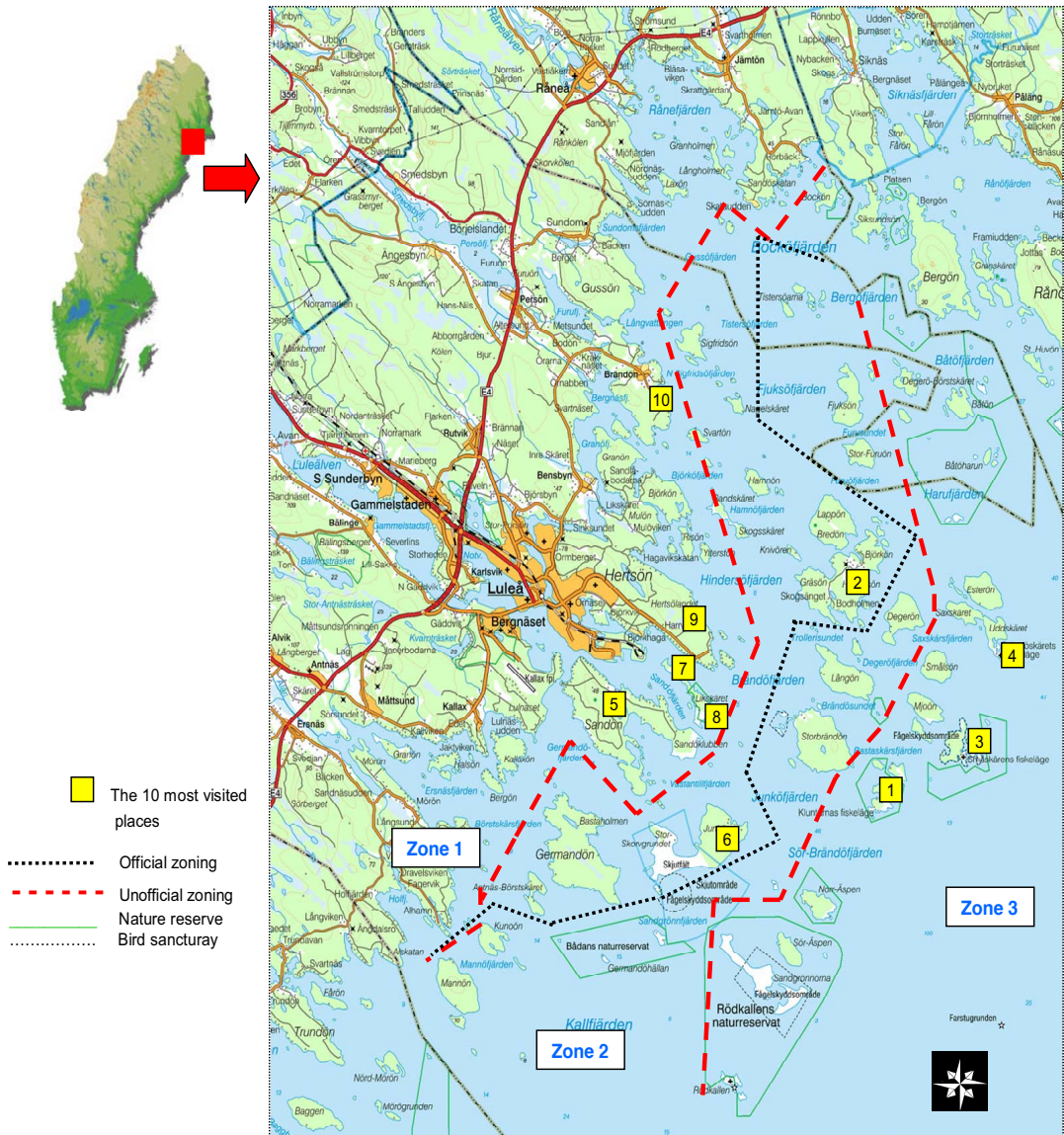
*“... that the untouched overall character of the Luleå archipelago and its biological, geoscientific, and culture-historical values are conserved. ... The forestry in the archipelago should be carried out with particular respect to nature and culture values. Tourism and recreation should be carried out in a way that does not threaten the values of the archipelago and biodiversity.”* (Author’s translation. Luleå kommun, 2000 p. 39).

Several areas in the Luleå archipelago are part of the Natura 2000<sup>24</sup> and most of the places are protected as nature reserves. There are eighteen nature reserves in the archipelago and a significant part (82 percent) of the protected areas in Luleå municipality consists of water (Luleå kommun, 2000).

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<sup>23</sup> At the time of writing, this is still under discussion. Author’s comment.

<sup>24</sup> Bådan, Likskäret, Norr-Espen, Sör-Espen, Rödkallen, Lappön, Harufjärden, Sikören, Båtöfjärden, Furuholmen, Skäret, Bergöfjärden, Hästholmen, Skatabryggan, Rånefjärden and Kluntarna, see Figure 3.3 for localisation.



**Figure 3.3.** Map of the Luleå archipelago. Sweden's National Land Survey.

Regarding the land and water use, there are two zoning systems in the Luleå archipelago. One zoning is official, in which the archipelago is divided into an inner and an outer part (Figure 3.3) by the Norrbotten County Administrative Board where outdoor recreation is of priority in the outer archipelago. Luleå municipality is only allowed to give exemption from the shoreline protection in the inner archipelago (100 metres from the water), while the County Administration Board is in charge of the exemptions from the shoreline protection in the outer archipelago (Stadsarkitektkontoret, 1990).



However, there is also an unofficial zoning of the archipelago<sup>25</sup> (Figure 3.3) by the municipal Archipelago/Outdoor recreation Department. The inner archipelago is defined as zone 1, the middle as zone 2 and the outer archipelago as zone 3. In the nature conservation plan it is expressed that: *“In certain sensitive areas, disturbance from the outdoor recreation and the motorboat traffic may occur. ... On some well-visited islands with sensitive vegetation there is a risk of a far too much wear on the ground if the visitor frequency gets too high.”* (Author’s translation, Luleå kommun, 2000 p. 34).

In consideration to nature interests and the environmental differences of sensitivity, there is an informal policy in the municipality regarding the total number of people that should be allowed in various parts of the archipelago. According to Göran Wallin, head of the Archipelago/Outdoor recreation Department, the unofficial zoning was established after what has been considered the archipelago’s carrying capacity concerning how many visitors the area can manage:

*“We mean that the outer islands are the most vulnerable [areas] and that the islands closest to the mainland can get by with considerably more visitors. This is in relation to how many people impact on the vulnerable vegetation, and of course to the fact that the vegetation is more sensitive the further out one comes.”* (Wallin, 14/5/04. Author’s translation).

The Municipal Executive Board of 2002 states that the islands closest to the mainland should be able to receive more visitors in comparison to the outer islands that are the most sensitive areas. Therefore, the largest amount of visitors should be directed to the inner parts of the archipelago while there are more restrictions against visitors in the outer zone.

**Table 3.1.** *The number of nature reserves and bird sanctuaries in the unofficial zones of the Luleå archipelago.*

Zone	Number of nature reserves	Number of bird sanctuaries
1	4 (296 ha)	1
2	7 (2,551 ha)	4 (Of which two have no admittance May 1 - August 15)
3	7 (13,851 ha)	3

The number of nature reserves in the archipelago is higher in the outer part of the area in comparison to the inner part, and they are also larger in size. In Table 3.1, nature reserves in the archipelago are distributed among the zones after the unofficial zoning. The nature reserves with most hectares are in zone 3 where three of the nature reserves consist of open water. The amount of nature reserves is equal<sup>26</sup> between zone 2 and 3 while it is only four nature reserves in zone 1 and fairly few hectares. There are eight bird sanctuaries in the Luleå

<sup>25</sup> *Zone 1:* Brändön, Hertsölandet, Laxön, Likskäret, Rörbäck-Sandöskatan and Sandön. *Zone 2:* Altappen, Bockön, Degerön, Fjuksön, Germandön, Hamnön, Hindersön, Junkön, Kallaxön, Lappön, Långön, Mannön, Nagelskäret, Sandskäret, Sigfridsön, Storbrändön, Stor-Furuön and Tistersöarna. *Zone 3:* Bastaskäret, Brändöskäret, Båtön, Estersön, Finnskäret, Kluntarna, Mjoön, Norr-Espen, Rödkallen, Sandgrönnorna, Saxskäret, Smålsön, Småskären and Sör-Espen.

<sup>26</sup> A majority of the nature reserves and bird sanctuaries are situated in zone 3 on the islands Rödkallen, Sandgrönnorna, Sör-Espen, Norr-Espen, Kluntarna, Småskären and Deferö-Börstskären. Also the bays Bergöfjärden, Båtöfjärden and Haryfjärden are nature reserves with specific regulations. In zone 2, the islands Lappön, Likskäret and Storbrändön have some nature reserves. Finally, the inner zone has a nature reserve on Sandön.

archipelago. The bird sanctuaries normally have no admittance from May 1 to July 31, but the visiting limitations may sometimes be extended to August, as well (Luleå kommun, 2000).

### **3.6 Conflicts of land and water use in the Luleå archipelago**

Various sources of conflict can be identified in the Luleå archipelago. One conflict not mentioned in the following discussion is noise, which will be analysed in Ch. 5. The establishment of second homes is one possible conflict in the coastal areas. The present comprehensive plan of the Luleå municipality is restrictive against new establishments of second homes within the densely populated area of Luleå city (15 km around the city). This to avoid future conflicts with the city's expansion and recreation, but also to prevent municipal investments in new roads, water and sewage, since there are concerns that the second homes will then be used for permanent living. However, new second homes have been built in the area and the permanent living in second homes has increased. These are also demands for further second homes in the outer archipelago and new second home settlements (Stadsarkitektkontoret Luleå, 1990; Kommunfullmäktige Luleå, 2002).

At the same time, to create and maintain a living country side, a special plan of improvement for the Luleå municipality's rural areas has been adapted. Apart from the regulations of the Planning and Building Act, new localisations in rural areas are not prevented except when there is a conflict with ongoing land use, common interests, or nature conservation (Kommunfullmäktige Luleå kommun, 2002). According to the Environmental Advisory Council (SOU 1996:153), the settlements of second homes in Norrbotten do not involve great problems for the municipalities in general. There is enough space in the region to avoid any friction between tourism and recreation on one hand, and nature conservation and culture environmental control on the other hand. As maintained by the Environmental Advisory Council, a second home in the archipelago of Luleå could even be an approach to attract people to settle down in the municipality. In the outer archipelago, the number of second homes is considerable smaller than along the most developed coastline (SOU 1996:153).

In 2003, 1,014 people in the Luleå municipality were registered on the address of their second home. The Luleå archipelago together with the coastal areas of Brändön and Jämtön had a number of 111 people registered (Luleå kommun, 2004). Nevertheless, this may not be the correct number of people living all year round in the archipelago, since one can be registered on an address without being permanently living there.

When it comes to nature conservation, the County Administration Board of Norrbotten and Luleå municipality do not always value an area the same way. For example, in the comprehensive plan of Luleå the municipality does not regard two islands in the archipelago of national interest for nature conservation. The scientific values are regarded as smaller on the islands Sandön and Likskäret (Figure 3.3), than in the surrounding area. This valuation is in contrast to the opinion of the County Administration Board (Stadsarkitektkontoret Luleå, 1990). In 2004, the Norrbotten County Administrative Board rejected an application of exemption from the shoreline protection by the Archipelago/Outdoor recreation Department. The request concerned two cabins for accommodation that the department had built without permission on the island Brändöskär, situated in zone 3. The County Administrative Board did not regard these to be any difference between a tourism entrepreneur's wish to an establishment by the shore and an establishment where the municipality was the principal. Also, the Luleå municipality has an agreement with the National Property Board for this area

where the municipality has bound itself to make a nature reserve of the area (Länsstyrelsen Norrbottens län, 2004).

Another use of land in coastal areas is the establishments of wind power stations. The county administrative board of Norrbotten does not believe that an establishment of wind power stations is possible in the archipelago of Luleå. Nature and culture values are too high and of national interest, and the archipelago is also an area where tourism and recreation is important. The outdoor recreation must not be hindered, and the protection of the right to use the beaches forbids the establishment of constructions that prevent people from entering a domain which they otherwise would have had free access to. Nevertheless, wind power stations can be realised even in these valuable areas if there are any exceptional cases according to the county administration board of Norrbotten (Norrbottens länsstyrelse, 1998). The Luleå municipality does not want to specify restrictions against wind power stations in the archipelago in the comprehensive plan (Kommunfullmäktige Luleå, 2002).

In coastal areas natural beaches are filled out, marinas are being built and natural vegetation is being cleared away. Individually, marinas, dredging<sup>27</sup> of fairways, and increased building of second homes are small threats against the environment in the Luleå archipelago, according to the nature conservation plan. Yet, if combined, these impacts could lead to greater consequences in the future. In the nature conservation plan it is maintained that dredging could disturb a main part of the biological production of the area. Another problem is that the dredging deposits are dumped on valuable beaches and wetlands (Luleå kommun, 2000). Because of the land rise in the Luleå archipelago, some of the harbours and the navigable fairways have been dredged to improve the access for the shipping, ferryboats, and pleasure boats. Some of the dredging has been organised by the Luleå municipality Leisure and the Archipelago/Outdoor recreation Department (Wallin, 15/11/05).

Far out in the Luleå archipelago, on the island Brändöskär, the work with a new quay, financed by the municipality, began in 2003. The municipality has another project on Rödkallen, whose harbour will be restored and dredged. The past years, it has been more crowded with other boats at Brändöskär which has made it difficult for the tour boat to approach the quay. Many fairways are impassable because of the land rise (Hennix, 16/7/03). Dredging results in greater approachability for more people, but it is also hazardous for the sea and its quality, since the procedure tears the sea bottom open. The interference may alter the natural beach processes, and it creates sediment traps that prevent a natural transport of the sea bed material. Moreover, the dredge wastage may contain various substances that could harm the environment (SOU 1996:153).

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<sup>27</sup> To remove bottom masses from harbours and navigable fairways. Author's comment.

## **4. DATA COLLECTION AND USER ATTITUDES IN THE LULEÅ ARCHIPELAGO**

### **4.1 Introduction**

In this chapter, there is an account for the empirical material which was collected in the Luleå archipelago by a questionnaire survey directed to visitors in 2003. This empirical material is the foundation of the remaining studies of this thesis. The data collection, methods and survey problems are explained. Furthermore, the chapter consists of diagrams and percentage showing the survey results regarding the respondents' earlier visits to the area, their reasons for visiting the archipelago and their different activities. The visitors and the second home owners' geographical dispersion is also accounted for, together with information about some of the places in the archipelago. Finally, the respondents' attitudes towards development and changes such as tourism, protected areas and other further progress (for example, wind power stations) are described.

### **4.2 The questionnaire survey**

A case study of the Luleå archipelago is part of this thesis and a significant component of the study is a questionnaire survey directed to visitors and second home owners in the area in the summer of 2003. With a case study approach, a typical place is selected for a study because it is believed to possess particular characteristics (Robinson, 1998). Case studies are also apt when doing a profound analysis of for example planning and processes, as in the case of the Luleå archipelago. Within tourism research, case studies as analytic tools are frequent especially concerning spatial change, tourist flows, or physical change due to tourist developments. In relation to tourist attitudes it is less common, but there are some works on behavioural patterns (Ryan, 1995).

The questionnaire survey is to a small part a retrospective study with questions about past visits and changes in the area. This is a common method to document time-bound changes for the same respondents. Since the study is carried out at one single occasion, there are fewer problems with accumulative decline or misleading results because of interview effects. The limitation of the retrospective study is the respondents' inadequate ability to remember facts that have occurred in the past. Still, retrospective questions do not generally constitute a difficulty when asking for information about actual situations (Djurfeldt et al, 2003).

The purpose of the questionnaire in the Luleå archipelago was to ask questions where the results of the questionnaires could be compared with the municipality's planning of the area. The goal was also to gather knowledge of the visitors, their activities and attitudes to changes and development together with their geographical dispersion in the archipelago to be able to identify possible conflicts. Moreover, the respondents gave their opinion of Swedish coastal areas in general. Finally, there were questions concerning economics and demographical variables to get knowledge of the respondents' similar or different backgrounds.

The respondents' addresses were collected from various geographic sites (hereafter called places) in the archipelago and on certain coastal areas within the municipal boundaries of Luleå - Brändön, Hertsölandet and Rörbäck (Figure 3.3). The municipality includes these coastal areas<sup>28</sup> in its mapping of establishments in the Luleå archipelago. The address collection included addresses from the Luleå municipality and the Luleå tourist agency. At

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<sup>28</sup> Of note, the town planning department of Luleå does not regard these coastal areas as part of the archipelago in its region description (Stadsbyggnadskontoret Luleå, 2004).

the islands Kluntarna and Småskären, where the municipality has lodges for rent, the addresses referred to the people who had visited the area in January-August, 2003. The municipality also provided addresses to the leaseholders of second homes, and to people who had bought season cards for the guest harbours. Two camping locations, Brändö Camping and Rörbäck Camping, provided the study with addresses as well. The addresses from Brändö Camping included guests from May to September. The visitors signed in themselves and the addresses were sent as copies to the author of this thesis. The visitors at Rörbäck Camping had been at the location from June to August. They also signed in themselves, and these addresses were copied by staff at the camping.

From 17 July to 13 August, 2003, people visiting the Luleå archipelago were asked to complete registration cards (Appendix 2) at several locations. Registration cards were handed out among the people at the tour boat *M/S Ronja*, the youth hostel Småskären, the Neptun Clubhouse, the Klubbviken's seaside resort, the LSS Clubhouse, the Ettan's marina (in central Luleå) and the Arcus Camping. The visitor was asked to fill in his or her name, address, age and sex, and describe when he or she had arrived to the area and when to departure. Finally, he or she should answer what the main purpose had been with the visit in the Luleå archipelago.

The establishments' staffs were contacted and an agreement was made on how to proceed with the registration cards. A variety of staff would hand out the cards to visitors. The registration cards were sent by mail to the establishments together with a filled-in example of a card, together with signs with information in Swedish and English, and a letter with instructions. Included were also addressed and stamped envelopes so that the completed registration cards could be sent back to the sender. At the tour boat *M/S Ronja*, the author spent the 15 July 2003 to hand out registration forms among the passengers. Thereafter, the staff of the tour boat handed out registration forms during the following two weeks.

**Table 4.1.** *Gathered addresses of visitors in the Luleå archipelago 2003.*

Source and place	Females (N)	Males (N)	Total number (N)
Brändö Camping	37	50	87
Rörbäck Camping	47	154	201
Likskär second homes	5	10	15
Kluntarna second homes	5	15	20
Rödkallen second homes	7	26	33
Season-card guest harbour	33	117	150
Youth hostel Småskären	4	-	4
Leaseholders of second homes	37	126	163
Visitors Kluntarna	54	26	80
Visitors Småskären	16	10	26
LSS Clubhouse	7	1	8
Neptun Clubhouse	6	30	36
Klubbviken's seaside resort	7	-	7
Tour boat M/S Ronja	49	12	61
<b>TOTAL</b>	<b>314</b>	<b>577</b>	<b>891</b>

All gathered addresses (Table 4.1) were selected to be part of the study. From abroad, only visitors from the Nordic countries (Norway, Denmark and Finland) were chosen to answer the questionnaire. Accordingly, four people from other European countries were excluded.

Respondents from the same household got to be part of the survey, but they received a questionnaire each.

Based on the addresses, a mailed questionnaire was distributed after being pre-tested on co-workers at the European Tourism Research Institute (ETOUR). The questionnaires were posted by mail on 24 November, 2003. A letter was mailed on 12 December, 2003 to 530 of the respondents who had not returned completed surveys by this date. A second letter and a replacement survey were mailed on 15 January, 2004 to 411 of the respondents who still had not completed the survey.

**Table 4.2.** *Data of the questionnaire survey in the Luleå archipelago 2003.*

Data	Number
Mailed questionnaires:	891
Completed questionnaires:	522
Not completed questionnaires:	7
Non-deliverable questionnaires because of wrong addresses:	42
Non-respondents:	310

The questionnaire was mailed to 891 individuals and the total number of completed surveys was 522. Seven surveys were sent in with no answers. Because of wrong addresses, a total of 42 surveys were returned to the sender (Table 4.2.). The final response rate was 62 percent of the survey, calculated as  $891 - 7 - 42 = 842$  and  $522/842 = 62$  percent. The number of non-respondents was thus 310 persons.

Among the 310 non-respondents, 42 informed the author in writing that they were not interested in answering the questionnaire, that they lacked out of time or that they claimed that they had not been to the Luleå archipelago. Others were travelling abroad. There is no special non-response analysis included in the study.

In relation to the discussion above, the issue of gender should be recognised. The concept of *gender* stands for social and cultural distinctions between males and females, whereas *sex* means the biological differences. Both gender and sex may have an effect on recreational behaviour. The male and female similarities and divergences in recreational behaviour have been investigated in several studies. Apparently, males and females have more noticeable similarities than differences. The recreational activities show that a gender difference is the more demanding, and traditionally masculine activities, like fishing, hunting and wilderness-related pursuits (Manning, 1999). As demonstrated in Table 4.1, there is a male dominance within the address groups concerning second homes and guest harbours where season cards for boat places was purchased. This can be related to who is in charge of the boat, where males more often tend to be the ‘captain’ of the boat and therefore also take the administrative responsibility (Meyer, 1999).

Significantly more males than females in the survey own second homes. Perhaps it is also more common that males are registered as the owners of second homes than females. There are also more male respondents among the ones those visiting camping places. The reason could be that it is the male of the household who signs in when registering, and who is also the one taking care of the economic responsibilities during the vacation. In comparison, women dominate in the groups where the respondents travelled around in the archipelago, being visitors to Klubbviken, Kluntarna and Småskären. Interesting is that there were more female respondents among the visitors who went with the tour boat.

Finally, except for literature studies, field trips were made both during winter (March, 2003) and summer (July, 2003) to get an opinion of the archipelago and the landscape. During the winter field trip, an informal interview with Göran Wallin, head of the Archipelago/Outdoor recreation Department of Luleå municipality, was carried out. In addition, an informal interview took place with Captain Lennart Hennix during the summer field trip while going with the tour boat *M/S Ronja* in the archipelago. Notes were taken during both occasions. During the field trips, contacts with other municipal staff and local inhabitants were established. Except from gathering data and information, the field trips resulted in a wider understanding of the area.

#### **4.3 Data analysis**

The coding of the questionnaires began in January, 2004 and was finished in March, 2004. The data was analysed by using the software *Statistical Package for Social Sciences* (SPSS) and Excel. Frequencies were counted and the results were summarised in frequency tables.

In question C1, the answer statements varied in three different ways (Appendix 1). The questionnaire was printed in three different documents (A, B and C) and thereafter evenly distributed between the different groups of respondents, which were structured after the collection of addresses (Table 4.1). Note that the only difference between the forms A, B and C was question C1 where the respondent gives a general opinion about Swedish coastal areas. The number of respondents who completed questionnaire A was 169 individuals, questionnaire B was completed by 123, and questionnaire C by 230. There was no significant difference among the respondents' answers irrespective of which form they had completed.

In question A5, new variables were added since the choice 'Other transportation' to a high percentage included the answers tour boat and snowmobile, as in question A6 where the variables car and snowmobile were added. In question A31, a high number of respondents especially appreciated sauna and fishing in the Luleå archipelago and they were also included as new variables. In question D10, two new variables were included (cross country skiing and snowmobile), since many had noted these activities. Also, in relation to question A26 asking if one could consider living permanently in the Luleå archipelago, three variables with the seven most frequently mentioned places were included. This was done since the question was an open query and the other mentioned islands were too few to make any observations.

The respondents estimated the number of visits during certain time periods in question A11. The periods were divided into intervals of five years (for the number of respondents, Appendix 1) except after 2000 and before 1985.

#### **4.4 Survey problems and errors**

Many visitor studies face problems regarding whether the surveys are representative or not. The whole population's size and type is hardly ever identified, which makes it difficult to estimate the sample size and to see if it is representative. It is vital to register external factors that may affect the visitors and their activities, such as the weather, special campaigns or events. Even holidays such as Christmas, should be acknowledged when sending out questionnaires which could affect the respond rate (Vuorio, 2003). In the survey, the ambition was to get a representative sample which was achieved by collecting addresses during an extended period of time during the summer of 2003, and by gathering addresses from various

places in the area. In this study, the notion of costal areas includes both coast and archipelagos within the municipal boundaries of Luleå areas.

The respondents' addresses were collected from establishments both on the islands in the archipelago and on the coastal mainland, since the municipality includes these coastal areas in its mapping of establishments. However, some of the respondents claimed that they had not visited the Luleå archipelago during the summer of 2003. They had not been to their second home during the period, nor had they visited Rörbäck Camping located on the coast in the northern part of the municipality (Figure 3.3). Some of the visitors at the Rörbäck Camping stayed only for a night during their vacation by car or caravan, and therefore claimed that they had not been in the archipelago and could not answer the questions of the questionnaire. A total of 42 surveys were returned as non-deliverable. This concerned especially the respondents who had stayed at the Rörbäck Camping. An explanation of this could be that the establishment had copied the handwritten addresses incorrectly.

One possible weakness of the survey is the dominance of men, as only 36 percent of the respondents were women. Since the collected addresses referred to a specific person of a household, the questionnaire was addressed to that precise person. Instead, the questionnaire could have been addressed to the household in general without being directed to specific person. That might have even the balance of males and females (Table 4.1). On the other hand, there might be an uneven distribution of male and female visitors in the area.

It proved difficult to gather a sufficient number of addresses to visitors in the Luleå archipelago. A misconception was the number of people who would fill in the registration cards. The returned registration cards were fewer than expected and the staff at the establishments explained that they had had little or no time to fulfil the agreement. Ettan's marina and Arcus Camping did not send any registration forms at all since they did not forward any registration cards to their visitors. As Wall Reinius (2007) remarks, it is highly relevant to get the staff involved in the process with the registration cards. It should also be clear that there might, to some extent, be a biased sample of the population since they voluntarily fill in the cards.

In the survey, the respondents notified which places in the archipelago they had been to during their stay. There were 39 places that could be the choice of the respondents. The places were on a map in the questionnaire survey, but other places, as well, could be added by the respondent. In that way, the geographical dispersion of the visitors was documented. However, one should note that the author did not have knowledge of the unofficial zoning at the time of the formulation and distribution of the questionnaire. Thereby the map in the questionnaire did not include the three different zones.

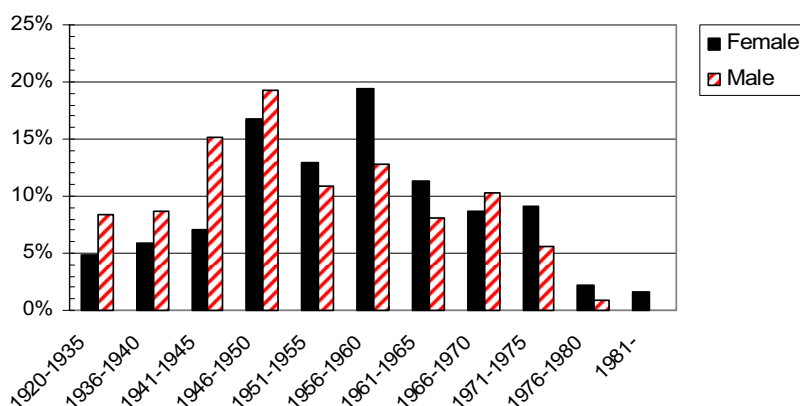
In the survey, the respondents were to mark on a map for how long they had stayed and what accommodation they had in the places they visited (question A29 in Appendix 1). The length of stay and the accommodation were incomplete in many of the questionnaires and unclear on the map. Thus the exposure time of each place is not documented, only the geographical places. Neither has it been possible to determine the exact geographical positions of the respondents with second homes since the addresses of the second homes of the area were not included in the study. The respondents should also encircle the place they appreciated the most during their stay. By making a grid of the map, the results have been systemised and thereafter put into SPSS. The results of the encircled areas are not included in the thesis since



the results have not been further transformed and analysed by the *Geographical Information System* (GIS).

#### 4.5 The respondents

Among the respondents, the Swedes dominated and only about five percent were from Norway, Denmark and Finland. A significant number (54 percent) of the respondents came from Luleå, and all together 78 percent came from the county of Norrbotten in northern Sweden.



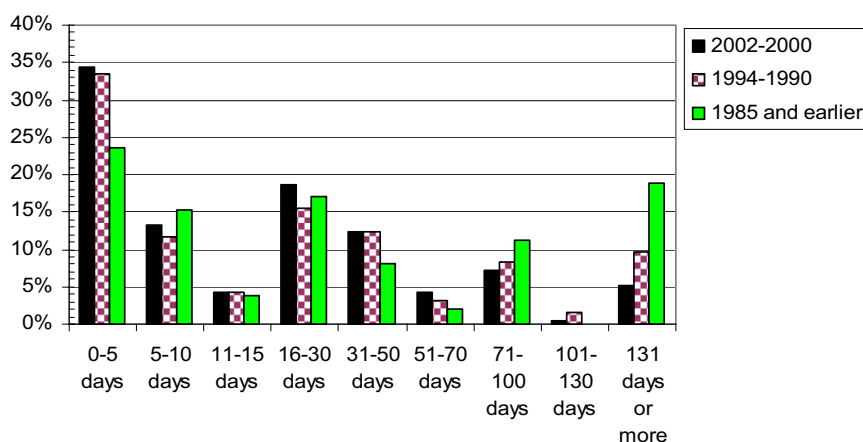
**Figure 4.1.** *The percentage of males and females within the respondents' age groups in the Luleå archipelago 2003.*

Of all respondents, 55 percent were born in 1946–1965 and 63 percent of the respondents in the survey are males. There are more males within every age group except from the ones born in 1976 and later, Figure 4.1. The mean age of all respondents is fifty years old. Notice that seven percent of the respondents are seventy years or older. The highest percentage of females is found in group 1956–1960, whilst the highest percentage of males is within group 1946–1950. As Figure 4.1 depicts, the *older* the respondents are the higher percentage of males. The *younger* the respondents are the higher percentage of females (with an exception of group 1966–1970).

#### 4.6 Past visits and duration of stay

Since the questionnaire survey was mainly directed to people visiting the area during the summer of 2003, the month most frequently visited was July (86 percent), followed by August (64 percent), and June (61 percent). However, March (33 percent) and September (38 percent) had many visitors, as well. Just above forty percent of the respondents had also been to the Luleå archipelago during September–December in 2002. The dominating way of transportation to the Luleå archipelago from the homestead was either by own car (54 percent) or by own boat (53 percent). Within the coastal area of Luleå, motorboats (57 percent) and going by tour boat (28 percent) were revealed to be the most frequent means of transportation. Also, sailing boat was used by twelve percent. 67 percent of the respondents have a positive or a very positive opinion of the accessibility in the area. On the other hand, seventy percent think that the accessibility with public transportation within the Luleå archipelago should be improved.

Fourteen percent of the respondents had their first visit to the area in 2003. The highest percentage of first visits (42 percent) occurred during the time period of 1961–1981. Of the respondents, fourteen percent had had their first visit in the Luleå archipelago during the 1940s, in comparison to sixteen percent in the 50s.



**Figure 4.2.** *How many days did you spend in the Luleå archipelago during the following time periods?*

Figure 4.2 illustrates how many days the respondents spend in the area during the time periods of 2002–2000, 1994–1990 and 1985 and earlier (question A11 in Appendix 1 for further information of the time periods 1999–1995 and 1989–1985). The peaks of visits were 16–30 days and 71–100 days in all three time periods. During all three time periods, a visiting length of 0–5 days had the highest percentage. It is a greater difference between the numbers of days in 2002–2000 where a short stay had a high percentage, while staying for many days had a very low percentage.

In 1985 or earlier, it was less common to be in the archipelago for 0–5 days in comparison to the other time periods (Figure 4.2.). One could question why more people in time period 1985 or earlier spend 131 days or more in the archipelago compared to the other time periods. A probable answer is because they had access to a second home. People in the peasant society in some parts of Sweden moved out from their main houses to summer houses on their farms, or went to cabins with the cattle. To spend the whole summer in another place was necessary from an economic point of view, but also a pleasant interruption of everyday life (SNA, 1993). According to Malmstad (2002) it was common to spend the whole summer in the archipelago during the 1950s and 60s.

Ultimately, 35 percent of the respondents would like to extend the time of their stay in the archipelago with a couple of weeks every year and 23 percent with some months. The majority of the respondents (56 percent) spend the night at one place during the visit, while 35 percent slept at different places.

#### 4.7 Reasons for visiting the Luleå archipelago

58 percent of the respondents partly or totally agree with the statement that they could identify with the lifestyle and the people of the area. Only ten percent totally or partly disagree with the statement, while 32 percent are neutral. Five percent partly or totally agree

with the statement that they occasionally feel as strangers when visiting the Luleå archipelago. 17 percent are neutral, while 78 percent partly or totally disagree to the statement that they feel like strangers when staying in the area.

The respondents were asked to consider why they had decided to visit the Luleå archipelago. They graded different statements according to five levels of importance – *of no importance* to *of very great importance* – for their decision to visit the archipelago. To begin with, 20 percent of the respondents view the possibility of a nature experience as of great importance and 64 percent of very great importance, in comparison to the possibility of an experience of culture, where 16 percent state to be of great importance and 17 percent of very great importance. The statement of high-quality water, beaches and bottoms is considered to be of great importance by 29 percent and of very great importance by 54 percent. The possibility of peace and quiet is viewed to be of great importance by 27 percent and of very great importance by 57 percent when choosing the destination.

As already mentioned, pleasure boats is a main activity in the Luleå archipelago. Nonetheless, as many as 55 percent regard sailing as of no importance, while only five percent think it is of great importance and 14 percent of very great importance when deciding to go to the Luleå archipelago. Instead, motorboating is of great importance to 14 percent and of very great importance to 40 percent. The means of transportation in the archipelago is of great importance to 17 percent and of very great importance to 24 percent.

Accommodation and service is viewed by 22 percent as of great importance and by 20 percent as of very great importance. 25 percent think that visiting family and friends is of great importance or of very great importance while 40 percent answer that it is of no importance. When the respondents decide to visit the archipelago, access to a second home is regarded as of great importance by 13 percent and of very great importance by 33 percent. In comparison, 31 percent think that access to a second home is not important.

The possibility of hiking is viewed as of great importance or of very great importance by 50 percent of the respondents. The absence of regulations and impediments within the area is regarded by 22 percent as of great importance and by 20 percent as of very great importance for their decision to go to the Luleå archipelago. The possibility of angling is of great importance to 18 percent and of very great importance to 25 percent of the respondents.

In relation to the question where the respondents were asked to mark specific parts that they appreciated the most during their stay, the respondents also explained what they appreciated with the area (question A31 in Appendix 1). The sea and the beaches are very popular; nearly 80 percent of the respondents regard these as valuable when paying the Luleå archipelago a visit. Feeling calm, and peace and quiet please 79 percent, and experiencing nature and come into contact with culture make 63 percent content. Furthermore, accommodation of good quality is appreciated by 38 percent and the accessibility is appreciated by 36 percent of the respondents. Sailing and boating is appreciated by 19 percent. Conclusively, the visitors are satisfied with their stay in the Luleå archipelago. A majority (90 percent) state that they surely will return for another visit. For 55 percent, the visit was very satisfactory, and for 33 percent the visit was satisfactory with only a few requests for improvements.

## 4.8 Activities

In the survey, the respondents were asked to point out what activities they had carried out during their stay. The activities were specified in the questionnaire but the respondents could also add other activities to their replies. The most common among these other activities were barbecuing, bird watching, relaxing and experiencing culture. Despite the tourist destination's location by the sea, kayaking and diving are the activities with the fewest performers. Being in the sun and swimming are popular activities (81 percent) followed by hiking (67 percent), taking a sauna (63 percent), and being with friends and family (61 percent). Many respondents mention taking a sauna as an activity during their stay in the Luleå archipelago. It is a service provided by the municipality on some of the islands and perhaps many have saunas in their second homes. It is a considerable difference between the activity of sailing (15 percent) and motorboating (49 percent). The activities fishing (43 percent), and picking berries and mushrooms (38 percent) together with being in second homes (45 percent) are common.

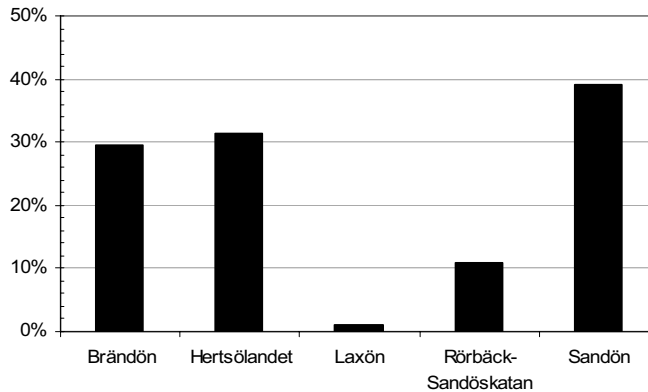
The respondents were asked to encircle the main activity of their specified activities. The main activity with the highest percentage is spending time in second homes (26 percent) followed by being in the sun and swimming (17 percent). Except for being with family and friends (14 percent), going by motorboat (14 percent) is viewed as one of the most central activities. In comparison, only ten percent state sailing as their main activity. Picking berries, kayaking, or diving is not viewed as the main activity by anyone. Lastly, 70 percent have a lot of experience of their main activity.

In coastal areas, boat activities are a major part of visitors' stay. 58 percent of the respondents had access to a motorboat during their holiday in the Luleå archipelago. 15 percent had access to a sailing boat. 60 percent think that there is an adequate amount of guest harbours in the area. But 30 percent of the respondents, who had been sailing in 2003, would have stayed longer if there had been more guest harbours. The judgement of the guest harbours' service with water, disposals, gas and shopping is positive or very positive to 50 percent of the respondents, while sixteen percent regard the service as negative or very negative.

Furthermore, all respondents had to consider the importance of service, like the purchase of general goods and gas. Eight percent view the service as not important at all, and 17 percent say service is virtually of no importance. 28 percent mean it is quite important and 23 percent consider it very important. Of the 81 respondents who had been sailing in the Luleå archipelago in 2003, 75 percent were experienced or greatly experienced with the activity of sailing. Of these, 98 percent think that the Luleå archipelago is big enough for several days of sailing. Finally, 71 percent of all respondents are little or not at all disturbed by back washes from larger boats, and only one percent mean that they have been disturbed much or greatly by this.

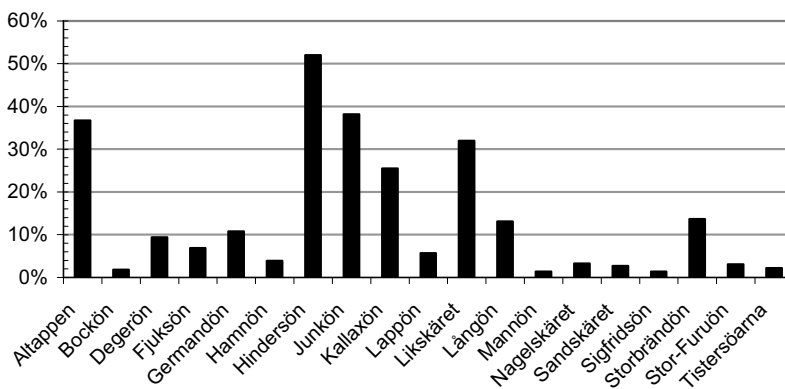
## 4.9 The geographical dispersion of the visitors and their activities

The islands Kluntarna, Hindersön and Småskären had the highest percentage of visits in the survey, followed by Brändöskäret, Sandön and Junkön (the visit percentage of the places is described in Appendix 1, question D13). The visited places with 10 percent or more of the visits then were geographically dispersed according to the Luleå municipality's unofficial zoning of the archipelago. The results are shown in Figure 4.3, 4.4 and 4.5. Note that one respondent could visit more than one island during his or her stay in the archipelago.



**Figure 4.3.** *The proportion of respondents who visited different islands in zone 1 in the Luleå archipelago 2003.*

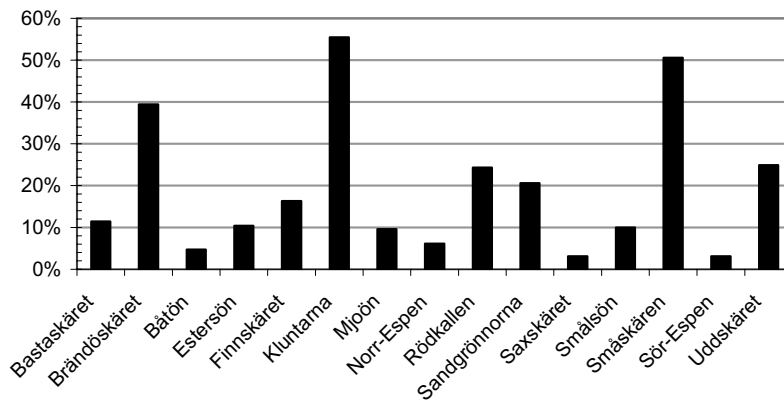
Figure 4.3 demonstrates the percentage of the respondents who were on the five places located in zone 1. Sandön, Hertsölandet and Brändön had 30–40 percent (each) of visits. Laxön and Rörbäck-Sandöskatan had fewer visits. These places are located in the northern part of the archipelago and Laxön has a lot of forest, some nice swimming places, but no service (Hederyd et al, 1999). The low percentage of visits might be explained by the geographical location – the places might be viewed as too peripheral. The only way to get to Laxön is by own boat, whereas the tour boat went to Rörbäck-Sandöskatan once a week on a special tour in 2003.



**Figure 4.4.** *The proportion of respondents who visited different islands in zone 2 in the Luleå archipelago 2003.*

In zone 2, the islands Hindersön, Junkön, Altappen and Likskäret had 30–50 percent (each) of visits, as shown in Figure 4.4. Hindersön is one of the biggest islands and has the most permanent residents in the archipelago. There is access to phone, toilets, sauna and fresh water on the island. The municipality holds a youth hostel and a restaurant, Jopikgården, and there are also nice places for camping in the area. The island Junkön has a newly built settlement in an old fashioned style that shows what a fishing village used to look like. There is also a café and an exhibition showing the old life style the archipelago (Hederyd et al., 1999). During the high season in 2003, the tour boat stopped at Hindersön and Junkön every day.

In comparison, Bockön in the northern archipelago offers no service. Some parts of Bockön are a nature reserve. Stor-Furuön is not easy to get ashore on and is also placed in the northern archipelago. In the northern part, Tistersöarna (a group of smaller islands) are located alone in a bay and are very exposed to wind, which makes it difficult to land with a pleasure boat (Hederyd et al., 1999).



**Figure 4.5.** *The proportion of respondents who visited different islands in zone 3 in the Luleå archipelago 2003.*

Among the respondents, the three islands in zone 3 with the largest amount of visits were Kluntarna, Småskären and Brändöskäret with 40–50 percent (each) of visits (Figure 4.5). These islands could be visited with the tour boat in comparison to the other islands in the outer archipelago. An exception is Rödkallen that was trafficked by a special tour boat twice a week during high season in 2003.

Kluntarna is a nature reserve and has a great variety of nature and also some ancient stone labyrinths. It has a guest harbour, and access to phone, toilets, sauna and fresh water. There is also a café and lodging. Småskären has about 120 second homes and several swimming-places. The island is not a good place for camping, but there is a rest hostel, a sauna, fresh water and toilets. The waters around Brändöskär offer good fishing and the island's fishing village is the archipelago's last civilisation with fresh water and toilets. Sör-Espen has no natural anchorage and is a nature reserve with prohibition against going ashore from 1 May to 31 July when the birds are breeding (Hederyd et al., 1999).

The geographical dispersion of the activities in the Luleå archipelago has also been analysed in this study. It was examined from question D10 (Appendix 1) where the activities were: being with family, sunbathing and swimming, sailing, motorboating, angling, staying in second home, sauna bathing, hiking, and other activities. In some places, the performance percentage was high for all the activities. In zone 1, this concerned Brändön, Hertsölandet and Sandön, and in zone 2 it concerned Altappen, Hindersön, Junkön, Kallaxön and Likskäret. In zone 3, Brändöskäret, Kluntarna and Småskären had a high percentage of performance for all activities. Bockön, Laxön, Stor-Furuön, Sör-Espen and Tistersöarna were the islands with no or the fewest activities (Appendix 3).

The activities being in second homes and taking saunas coincide clearly on some of the islands. Of all places in the archipelago, Småskären had the highest percentage of respondents being in second homes, followed by Hindersön and Kluntarna. Taking a sauna was most

frequent on Småskären, Kluntarna and Hindersön. In comparison to the number of people who went sunbathing and swimming, Brändön was not visited by many of the visitors who had a sailing-boat or motorboat, despite its marina with place for sixty boats.

#### **4.10 Permanent living and second homes**

The Environmental Advisory Council (SOU 1996:153) argues in its proposal for a sustainable development of the Swedish coastal areas that the process of sustainability concerns three factors linked to each other – economy, society and environment. Therefore, a sustainable development must include prospects for the local population to be able to live and prosper in the archipelagos. Of the respondents, 90 percent reply that they have not been disturbed at all by the traditional industries, while nine percent mean that they have been very little disturbed or to some extent. Of the respondents, nine percent think that a permanent population in the archipelago has no significance at all and eleven percent that it is almost no significance. Around 24 percent mean a permanent population has some significance.

Among all the respondents, 17 percent answer that they would like to have their home in the Luleå archipelago permanently. The respondents who could consider a permanent living were asked to specify where in the archipelago they would like to live. The island Sandön is regarded as the most appealing place to live, followed by Hindersön. Sandön is within zone 1 and is the biggest island located near the Luleå city. There are many pleasant beaches, a guest harbour and a car road through the island. The past few years, many of the second homes on Sandön have actually been transformed to permanent houses (Hederyd et al., 1999).

Many Swedish coastal areas have been subject to an expansion of second homes. The number of newly built second homes in Norrbotten archipelago after 1970 are as many as the ones built in the Swedish east and west coastal areas after 1970, but with less density. Along Norrland's coast, more than 50 second homes have been built every year between 1950 and 1980, while only a few numbers of permanent houses have been built (Boverket, 2003). One important factor why second homes are so common in Sweden is that the country is sparsely populated with large areas without buildings. Especially in the early stage of the expansion of second homes (1950–1970), it was possible to built second homes in attractive areas. A variety of culture and nature is appealing and most second homes are found at the boundary of different landscape types. The majority of the Swedish second homes are located in the archipelagos, in the areas around the big lakes, on the islands Gotland and Öland, and in areas close to the mountains (SNA, 1993). 13 percent of the respondents agree partly or totally that the expansion of second homes typifies the landscape of the Luleå archipelago. Almost 39 percent disagree totally or partly to the statement.

In the survey, the wish to buy a second home in the archipelago is not great. However, 17 percent could consider a purchase of a second home for visits during both summer and winter, while three percent would consider it only for use during the summer. As many as 78 percent are not interested to buy a second home, which may be explained by the fact that the respondents already own a second home or have access to one. In the survey, 38 percent have regular access to a second home in the Luleå archipelago. Mainly, the second home is owned by the respondent (79 percent) or by the family (14 percent). Eight percent would like to live permanently in their second home. Three percent would be interested to buy a second home for permanent living.

## 4.11 Attitudes towards developments and changes in the Luleå archipelago

### 4.11.1 Tourism

The respondents were asked if they viewed the area's industry as vital for the tourism development. 22 percent think the industry is important to some extent for the tourism development in the Luleå archipelago. Five percent answer that they regard it as not important at all, while four percent consider it as virtually not important at all. The respondents were also asked to comment on the number of tourists in the archipelago in 2003, and two percent regard there are to some extent too many visitors while non believed that there are much too many tourists. 44 percent consider the amount of tourists as to some extent too few or much too few. 61 percent disagree totally or partly with the statement that the landscape of the Luleå archipelago has had a development of crowding with too many visitors, while 34 percent are neutral (question B1 in Appendix 1).

Asked how the future development of tourism should proceed within the next five years, no one thinks that the number of tourists should decrease a great deal. 50 percent think the number of tourists should increase to some degree and 22 percent think it should increase a lot. 23 percent totally disagree with the statement that the landscape of the Luleå archipelago is characterised by an expansion of holiday camps, 16 percent disagree partly, while 42 percent are neutral (question B1 in Appendix 1). According to the survey, 19 percent totally disagree that an expansion of second homes is significant for the Luleå archipelago and 20 percent disagree partly. In comparison, eleven percent agree partly that the expansion of second homes is a significant development in the area and two percent totally agree.

Additionally, the respondents expressed if they agree or disagree with a variety of statements regarding the future tourism development in the Luleå archipelago (question B19 in Appendix 1). Three percent totally disagree and eight percent disagree partly that tourism *contributes* to a conservation of the nature and culture environment. In comparison, 25 percent totally disagree that tourism *threatens* the nature and culture environment, while 34 percent disagree partly with this statement.

Four percent totally disagree and eight percent disagree partly with the statement that *more* cabins and holiday camps should be established in the area. In contrast, 39 percent totally disagree and 24 percent disagree partly that there should be *less* cabins and holiday camps (question B19 in Appendix 1). Five percent totally disagree and seven percent disagree partly that there should be *more* bathing places in the archipelago, in the future. 35 percent totally disagree and 20 percent disagree partly that there should be *fewer* bathing places.

In the survey, 42 percent of the respondents think that there has been a pretty great alteration of the area since their first visit in the Luleå archipelago and 19 percent think there has been a great change. Among the respondents who have experienced any changes, the attitude towards the changes is predominantly positive (55 percent) and very positive (23 percent).

As a visitor, one may develop a relationship to the area, and 65 percent partly or totally agree that they have emotional strings to the Luleå archipelago and that the area mean something to them, while twelve percent partly or totally disagree. 70 percent partly or totally agree that the development of the area is important to them personally. 91 percent partly or totally agree that they feel relaxed and fulfilled when visiting the area, whereas one percent partly or totally disagree.



#### 4.11.2 Development, wear and litter

The respondents' experiences of the development of the landscape are investigated in the survey. 33 percent totally disagree that intense development is significant for the landscape, while 16 percent disagree partly. 42 percent are neutral of the statement and eight percent agree partly or totally that intense development is significant for the Luleå archipelago. Neither wear on land nor vegetation is considered as a significant development of the archipelago – 28 percent totally disagree and 25 percent disagree partly of the statement (question B1 in Appendix 1). Ten percent agree partly or totally agree that there is a wear on land and vegetation in the area.

In the survey, 92 percent of the respondents were positive to dredging of navigable fairways and harbours in the Luleå archipelago.

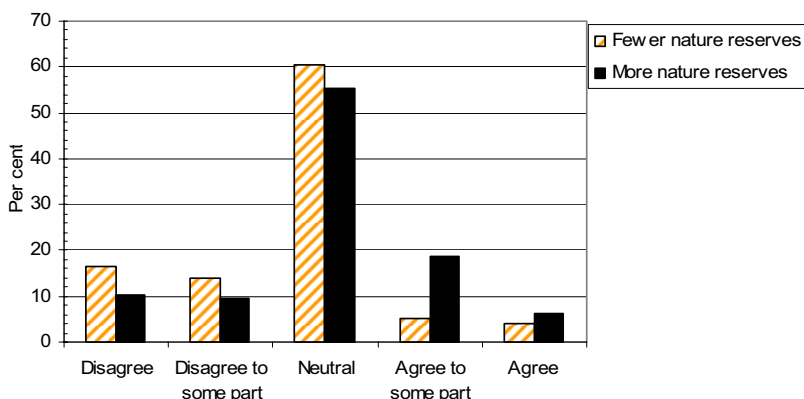
According to the survey, the Luleå archipelago is viewed as relatively spared from wear and litter. 60 percent of the respondents observed no or very little wear on land and vegetation during their visit in 2003. Not any or very little litter is spotted by 55 percent and quite little litter by 20 percent. Nor are lavatory disposals in the sea a problem. 85 percent have been very little disturbed or not at all by this sort of littering. Furthermore, 42 percent totally disagree with the statement that the area is crowded with too many visitors while 20 percent disagree partly.

#### 4.11.3 Protected areas

There are restrictions to some land areas in the archipelago since they are established as bird and/or nature reserves (Figure 3.3 for these areas). According to captain Hennix (16/7/03), there are no signs with 'Private' in the archipelago and Hennix seldom hears any complaints about the restrictions, with the exception of Skvalpen, which is part of the island Sandgrönnorna since it is only possible to go there by own boat. Some areas are prohibited to enter during the birds' breeding, but Hennix' opinion is that people in northern Sweden appreciate and have an interest in high-quality environments and the birds' well-being. 80 percent of the survey's respondents judge that bird sanctuaries or areas with protection of seal have not affected their planning of the visit in the archipelago. Neither have the restricted areas with protection of seal or the bird sanctuaries prevented the respondents from moving freely in the archipelago, 83 percent state.

50 percent of the respondents have been to any one or more of the nature reserves in the Luleå archipelago. Of the respondents, 21 percent think that the nature reserves were positive for the outcome of their stay, while nine percent consider them to have been very positive. Although a majority is neutral to this statement, only one percent state that the nature reserves have affected their stay negatively.

25 percent of the respondents in the Luleå archipelago agree or partly agree with the statement that there should be *more* nature reserves in the area. 19 percent disagree or disagree to some part, while a majority is neutral. 31 percent of the respondents disagree or disagree to some part with the statement that there should be *fewer* nature reserves. Nine percent agree or agree to some part that there should be fewer nature reserves. A majority is neutral.



**Figure 4.6.** *Attitudes toward the amount of nature reserves in the Luleå archipelago.*

If the attitudes toward more or fewer nature reserves in the Luleå archipelago are put together, one can see that a higher percentage of respondents *agree to some part* or *agree* that there should be more nature reserves (Figure 4.6). A higher percentage of respondents *disagree to some part* or *disagree* with the statement that there should be fewer nature reserves in the area. More respondents are neutral to fewer nature reserves than to more nature reserves in the area.

The shoreline protection is viewed as negative by 37 percent of the respondents in 2003. Of the respondents who had regular access to a second home, 56 percent were negative. In comparison, 75 percent of those who did not have regular access to a second home were positive.

#### 4.11.4 Wind power stations and telecommunication

In the survey, around 35 percent of the respondents have very negative or negative feelings towards future establishments of wind power stations in the Luleå archipelago, while 25 percent are positive and eight percent are very positive.

Wind power stations mean a visual change of the landscape and in the survey the respondents were asked to describe their opinion of seeing or knowing about wind power stations in the archipelago (question B17 in Appendix 1). The respondents were asked to take a stand to the possibility of viewing few or many wind power stations on either rare or repeated occasions. 1-2 wind power station(s) in the Luleå archipelago within sight on rare occasions was considered by 21 percent as very negative and by ten percent as negative. 20 percent were positive and 12 percent were very positive. To have 10–12 wind power stations (in a group) within sight on rare occasions was regarded as very negative by 30 percent and as negative by 14 percent. 16 percent considered it as positive and nine percent as very positive.

1-2 wind power station(s) within sight on repeated occasions was considered by 34 percent as very negative and by 20 percent as negative. Ten percent were positive and five percent very positive. To have 10-12 wind power stations (in a group) within sight on repeated occasions was regarded as very negative by 48 percent and as negative by 17 percent. Seven percent considered it as positive and three percent as very positive. The mere knowledge of wind power stations in the Luleå archipelago although not seen (within sight) was regarded as very

negative by 17 percent and negative by nine percent. This statement was viewed as positive by 14 percent and very positive by 19 percent.

47 percent of the respondents were neutral to telecommunication pylons, while 15 percent were negative and 20 percent were positive to this sort of development in the Luleå archipelago. 40 percent considered the coverage of mobile phone as pretty important or very important and 27 percent considered this as extremely important.

## 5. VISITOR EXPERIENCES OF PEACE AND QUIET – SILENCE OR NOISE?

### 5.1 Introduction

The sense of hearing is always present. Consequently, the sound environment is relevant for the visitors' experience of nature and culture in tourism and outdoor recreation. Peace and quiet are not only sought-after, but difficult to experience in society of today (Kariel, 1990; Mace et al., 1999; Cessford, 2000; Hamilton, 2003). Research and management attention is now being extended to include the impacts of noise in outdoor recreation. Silence and natural quiet (sounds of nature undisturbed by human-caused noise) are being recognized as an important and endangered resource (Newman et al, 2006).

Some sounds may be unwanted (for example, traffic, loud music, shouting), which is referred to as *noise*. In an area where individuals do not expect noise, even low sound-levels may be perceived as annoying in comparison to an area where noise is expected (Banverket, 2002). The problem with noise has to be viewed comprehensively since the concept is subjective; who is disturbed and where, by what noise and in what situations? Noise is an individual experience depending on, for example, one's expectations, the location, and the activities performed (Naturvårdsverket, 2005a). The lack of noise-free areas in the Swedish coastal areas has become an environmental problem. The level of unwanted sounds is increasing while areas with sound environments of quality are diminishing (Boverket, 2003).

In comparison to other areas, spending time in nature is associated with peace and quiet, where one should not be disturbed. If this is sought especially in an area, negative attitudes to motorized activities could be presumed, especially if they are regarded as unnecessary (SOU 1993:51). If silence is viewed as important in a visitor's experience, it might cause recreational conflicts if the wishes for a certain experience are not fulfilled. Noise in recreation areas is a concern to both managers and users (Harrison et al., 1980; Ewert et al., 1999; Gramann, 1999; Cessford, 2000). An extensive usage of different motor-driven vehicles in areas where silence is considered as vital can cause conflicts between different stakeholders. Noise disturbs birds, animals and fauna, which cause conflicts with the interests of nature conservation (SOU 1993:51).

If a sufficient amount of people are not disturbed by noise during their visit, the sound environment is of high quality. Measurements of noise should be adjusted to the area's preconditions and to the expectations of the people who use the area. Previous research has found that people tolerate or even be pleased with a *disturbing* sound (at least for a short time) if they believe that it will aid or benefit an experience or activity. The prior use history, recreational activity and the visitor's social context are apparent in such a research question (Mace et al., 1999). It is in this manner relevant to consider and not least be aware of the visitors' attitudes and wishes (Naturvårdsverket, 2005a). Because silence is a quality of significance for visitors and because noise may bring about conflicts, it is important to gather information of visitors' attitudes and their experiences of noise (Lindberg et al, 2001; Wang & Dawson, 2005). Except conflicts, another consequence is that visitors might decide not to return to an area if the expectations are not implemented. Noise is a factor that influences displacement (Anderson & Brown, 1984; Manning, 1999). Conflicts between different user groups have been scientifically researched where noise, speed and occurrence are some of the issues; such as snowmobiles (Lindberg et al., 2001; Vittersø et al., 2004), aircraft (Hunt, 1999; Aasvang & Engdahl, 2004), other visitors (Ruddell & Gramann, 1994), personal

watercrafts<sup>29</sup> (Holland et al., 1992; Burger & Leonard, 2000) and motorboats (Farrell & Marion, 2000; Kuhn, 2004).

The discontinuous landscape of the Swedish archipelagos gives great opportunities for different activities, for example, an active boat life. There are over a million pleasure boats in Sweden and a majority of those are equipped with a motor. The traffic with pleasure boats is mainly not regulated which may cause disturbance (SOU 2000:67). However, according to the Swedish Environmental Advisory Council, motor driven outdoor recreational activities should be limited within certain areas, especially in areas that are of environmental and outdoor recreational value. People's wish for peace and quiet together with nature conservation and environmental use should be the criteria for the selection of areas with restrictions against motorboats (SOU 2000:67). As stated in the national environmental quality objective *A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos*, noise from boat traffic will be negligible in 2010 in sensitive coastal areas. The environmental quality objective suggests silence by applying noise-free areas with limitations of motor driven outdoor recreational activities.

Noise has been researched in Swedish urban planning to a great part, for example the reports of the Mistra project *Soundscape support to health* ([www.soundscape.nu/](http://www.soundscape.nu/), 2007). Yet there is little knowledge of which areas that are still relatively undisturbed in the Swedish coastal areas and of the situation of disturbance (Boverket, 2003). When it comes to noise from boat traffic, there are no numbers on how many are exposed, neither residents nor people engaged in outdoor recreation (Boverket, 2003).

This study will investigate noise and silence in tourism and outdoor recreation in coastal areas, with a case study of visitors in the Luleå archipelago. The importance of silence in tourism and outdoor recreation, and how noise is considered in different levels of the Swedish planning will be examined. As the discussion above shows, noise is a cause of conflict in outdoor recreation areas. For example, the sound from motorboats may cause annoyance among other users, which lead to conflicts, dissatisfaction and displacement. Conflicts will be theoretically discussed in relation to Manning's (1999) conflict model.

This study will further analyse the method of zoning with restrictions of the usage of motorboats to get noise-free areas. The importance of getting knowledge of the visitors' attitudes and experiences in planning for tourism and outdoor recreation will also be acknowledged. The point of departure is that if there was a better knowledge of noise from the visitors' perspective in planning, silence could be better preserved and conflicts could be handled better. It is relevant to understand if noise is a problem perceived by the visitors as well as in planning. Who is disturbed by noise, what sort of noise, where and why? Thus the following questions will be examined in this study: Are there any conflicts of noise in the Luleå archipelago, and what are the respondents' attitudes to restrictions of motorboats when applying noise-free areas? Could zoning by the planning framework WROS be applied in an archipelago? How is noise considered in the planning of the Luleå archipelago?

The study's first inquiry consists of all the respondents' experiences of various noises during their visit in the Luleå archipelago. In the second inquiry, the respondents' activities are put in relation to their experiences of noise from motorboats. The respondents' attitudes to noise-

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<sup>29</sup> A personal watercraft (PWC) is defined as a vessel which uses an inboard motor powering a water jet pump as the primary source of motive power, and which is designed to be operated by a person sitting, standing, or kneeling on the vessel ([www.boatingbasicsonline.com](http://www.boatingbasicsonline.com), 2007).

free areas depending on whether they had access to a motorboat or not is thereby studied, to be followed by a fourth inquiry with comparisons of the respondents' attitudes and their geographical dispersion. Finally, the difficulties in applying zoning with noise-free areas in discontinuous landscapes as archipelagos will be discussed in relation to zoning and the planning framework WROS.

An examination of noise and conflicts sets off this chapter, with a discussion of visitors' experiences of noise and how silence is considered in planning. The method of the study and methodological problems are accounted for followed by the results. Finally, the chapter is concluded by a discussion.

## **5.2 Noise and conflicts in outdoor recreation**

### *5.2.1 Visitors' different experience of sounds*

Being in nature, people want to get away from noise. The possibilities to find outdoor recreation in noise-free environments are part of a good environment of life (SOU 1993:51). The expectations of experiencing peace and quiet are higher when being in nature. To be undisturbed, is a desired experience: *"For many there is a need to get away from noisy environments to experience the quality of life that is associated with peace and quiet."* (SOU 1993:51, p. 20. Author's translation).

How one reacts to a sound depends on the attitude to the sound, where it occurs, as well as the source of the sound (SOU 1993:51). For every environment, there may be a perception of which sounds are appropriate. These sounds are sometimes also the prerequisite of the qualities of that specific environment, because absolute silence is not always the best sound environment. According to the SEPA (2005a), individuals tend to like nature's own sounds, for example water or the wind whistling in the leaves. But sounds may also be positively associated to an experience, such as other skiers or the ski lift when being in the ski lope (Naturvårdsverket, 2005a). However, silence in nature is not absolute; there is a difference between sounds that are determined as natural in the environment (such as birds) and unfamiliar sounds (for example, mechanic sounds from human activities). Not experiencing noise is a prerequisite of hearing the sought sounds, and in general, silence is perceived when there are sounds that are normally part of nature (SOU 1993:51).

The demands on silence vary between different groups of users with different expectations. The Norwegian environmental government (Statens Forurensingstilsyn) has completed an overview of different levels of decibel are considered accepted in areas of outdoor recreation. Different areas, for example mountain areas and camping areas have different levels of accepted decibel before one becomes disturbed (Banverket et al., 2002). There are various sources of noise that may cause disturbances in a natural environment and areas for outdoor recreation. The SEPA (2005a) concludes that individuals being in coastal areas and archipelagos may be disturbed by noise from road traffic, air planes, shipping and pleasure boats, personal watercrafts, artillery ranges, wind power stations, snow mobiles (in northern Sweden) and other people. The noise from motorboats may vary depending on the type of boat and how it is driven. If one feels that the noise is caused by mischief, one is even more disturbed (Naturvårdsverket, 2005a).

If tourism and outdoor recreation based on nature experiences should remain of high value, the nature qualities related to silence have to be economized. In Sweden, it has been

suggested since the 1980's that there should be rules of how and where different motorized vehicles should be used to preserve silence (SOU 1993:51). The county administration board of Västra Götaland (2007) measured noise from pleasure boats in the Vänern archipelago in the summer of 2006, using a noise indicator. The results showed that speeding boats, increased traffic and the geographical location of fairways (close to shore) contributed to noise. In the investigation, nature reserves and national parks were regarded as the most natural places to choose as noise-free areas since speed limits can be articulated in the directions of nature reserves and national parks (Länsstyrelsen i Västra Götalands län, 2007).

In *The Recreation Opportunity Spectrum: A Framework for Planning, Management, and Research* (1979), Clark and Stankey had one of the first discussions on noise impacts in recreation areas. They maintain that managers should consider what level of impact is consistent with the type of opportunity supplied for the recreationists, where the planning framework ROS (the Recreation Opportunity Spectrum, Ch. 2) could be applied. Noise has been further hypothesized to be greater in highly developed urban campgrounds than in the primitive wilderness areas, in Harrison, Clark and Stankey's (1980) conceptual analysis of noise impacts in outdoor recreation:

*"We assume that most people would prefer to have a relatively quiet environment, whether they favour modern or primitive recreation opportunities. But, we must also assume that people expect that opportunities at the modern end of the spectrum will have a greater variety of human-related sounds than opportunities at the primitive end."* (Harrison, Clark & Stankey, 1980, pp. 6).

People vary in what they desire from their recreational pursuits; the expectations for mechanical noise would depend on the area's development (Clark & Stankey, 1979). Additionally, technical changes regarding boat material, engines, navigational aids, and so on, have made it easier for humans to get access to the sea, and have also lead to a growth in marine leisure (Orams, 1999). People visiting recreational environments contribute with noise characteristic of the urban, technological society from which they are trying to get away (Kariel, 1990).

According to Manning (1999), the ROS provides relatively specific descriptions of recreation opportunities, which can guide visitors more readily to identify the opportunities that may meet their desired experiences. This can also reduce potential conflicts between different activities (Manning, 1999). The planning framework WROS (Ch. 2), builds upon the ROS with different recreation settings from developed to primitive, and is composed of physical, social and managerial attributes. In a description of the recreation experiences in the settings, it is proclaimed that a primitive recreation experience is provided in an area where development, human activity and natural resource modifications are rare. The high speed and noise from motorized transportations is typically inappropriate for this area. A sense of solitude and peacefulness is important (Aukermann & Haas, 2004).

Conflicts frequently arise between those who want peace and quiet, and those who want to use mechanised equipment in the same area (Kariel, 1990). Hall (2000) claims that it is necessary to identify different conflicts of interest in coastal areas, to be able to understand whether planning towards a sustainable tourism development is successful or not. It requires management and understanding of the different kinds of conflicts that exist or may arise within a tourist destination. To improve the quality of planning and the discussion of the

increased motorizing in tourism and outdoor recreation, there is a need for better knowledge and information of visitors' experience of noise and their different attitudes (Emmelin, 1997). To enhance the understanding and management of a national park's soundscape, Newman et al. (2006) conducted a visitor survey, which proved that the park's soundscape was important to many respondents in determining the quality of the visitor experience. Some respondents reported that hearing the sounds of nature added to the quality of their experience, while others said that human-caused noise lessened the quality of the experience.

Cessford (2000) means that human-caused sounds and technological sounds detract from other preferred wilderness experiences. Conflicts between different user groups are not an activity versus another, but a question of how people value and define their recreation experiences, how they act to achieve these experiences, and how they differ in their perceptions of what are acceptable experience conditions. Recreational conflicts may be more of a response to perceptual differences between individuals or groups than clashes between activities (Ewert et al., 1999).

Manning has extended the conflict model by Jacob and Schreyer (1980) (Figure 2.5), where he suggests that the four variables of conflict determine sensitivity to conflict rather than conflict as it is experienced. The variables — activity styles, resource specificity, mode of experience and lifestyle tolerance — establish prerequisites that are more likely to lead to conflict; they are creating a 'catalyzing situation' for conflict. The model illustrates as well that the recreationists may engage in behaviours to adapt to the conflict. This could be *displacement* (either to another area or within the outdoor recreation area), *rationalization* (one refuses to be easily disappointed; the experience is rated highly regardless of actual conditions), and *product shift* (visitors who experience higher use levels than are expected or preferred may alter their definition of the recreation opportunity in equivalence to the conditions). The recreationists may also become less satisfied because of conflicts. Manning further discusses how the traditional definition of conflicts as goal interference and their elaboration in his model, implies that conflicts between different stakeholders often are expressed because of underlying causes. If these underlying causes are not recognised, management may not be effective. Management needs to maintain the quality of recreation for visitors who are sensitive to conflicting uses, otherwise these are to be expected to be dissatisfied or eventually move to other places (Manning, 1999).

### 5.2.2 Silence in Swedish planning

Within the European Union, noise is considered one of the major environmental problems. In the directive 2002/49/EG, a joint strategy of the member countries was established to prevent and reduce the damaging effects of noise in the environment (Naturvårdsverket, 2005a). In the following discussion, the recognition of the importance of silence in relation to tourism development and conservation in the planning on various levels of the governance of land use and environment in Sweden, has created visions of why noise should be regulated. This section begins from the national, the regional and the local levels to the attitudes, experiences and motives of the visitors.

Figure 5.1 illustrates how silence is apparent at the different levels of planning. Depending on the planning level, silence is considered differently. Also, at the different levels of planning, one should note that there is a combination of regulations and goals.



## **SILENCE IN SWEDISH PLANNING**

### **The national level**

The Planning and Building Act and the Environmental Code  
Areas of national interest and national parks  
The right of public access  
The Swedish national quality objectives

### **The regional level (sector integration and control of local level)**

Conservation (e.g. nature, culture and outdoor recreation)  
Spatial restrictions (e.g. bird sanctuaries)  
The regional environmental quality objectives  
Regional economical development (e.g. tourism)

### **The local level**

Planning for use and conservation  
Local economic development (e.g. tourism)

### **The visitor**

Attitudes  
Experiences  
Motives

**Figure 5.1.** *The concept of silence as it appears at different levels of planning in Sweden.*

The Planning and Building Act regulates the land and water use, and controls the establishment of buildings. It facilitates coordination of national, regional and municipal activity and provides a basis for decisions concerning the use and protection of resources and concerning development (The Planning and Building Act, 2005). The Environmental Code is the central environment legislation. On a national level, silence is regulated by these laws (Figure 5.1).

The importance of silence is integrated in the areas of national interest (these are included in the Environmental Code), which should represent main features of the Swedish nature and consist of the most valuable areas from a national perspective. The areas of national interest for outdoor recreation should be for nature experiences, physical activity and relaxation, which are, or could be, attractive for visitors from great parts of the country, or even from abroad ([www.naturvardsverket.se/index](http://www.naturvardsverket.se/index), 2007). The Swedish national parks are established by the Swedish Parliament and one attention is to give people access to nature. The national parks have different directions to handle disturbances, as in the Haparanda archipelago national park where radio should be used with cautiousness and where there are restrictions of motorized traffic ([www.naturvardsverket.se/index](http://www.naturvardsverket.se/index), 2007).

In 2009, the first marine national park will be established in the Koster Sea (the west coast of Sweden). It is a popular place to visit by boat which has resulted in the following discussion:

*“In the height of the summer, the boat traffic in certain areas will be a disturbance for seals and birds, and for the ones who are seeking peace and quiet. The great numbers of boats that anchor in the bays also increase the risk for damages on particular sensitive sea bottoms. In the future national park, the motor driven boat traffic will probably be limited and directed to certain areas. In some areas there could be prohibited to anchor.”* (www.o.lst.se/o/Projektwebbar, 2007. Author’s translation)

But even if regulations of access to obtain silence could be established on a national level (as in the case of national parks), the right of public access, and thereby the possibility of moving freely in nature, creates good prerequisites to get away from noise (SOU 1993:51). The SEPA (2007) states that many people visit nature for outdoor recreation in an undisturbed environment, but that our freedom in the countryside must not infringe upon the freedom of others. The public right of access means that nature and animal life should not be damaged and that one has to be considerate towards other people also being in nature. The essence of the right of public access is concisely expressed by the phrase, "Do not disturb, do not destroy" (www.naturvardsverket.se/allemansratten, 2007). However, the right of public access is not a law itself and it is not stated in any law what it consists of. The right of public access is enclosed by laws that set boundaries for what is permitted, as the Plan and Building Act and the Environmental Code (www.naturvardsverket.se/allemansratten, 2007).

Furthermore, government ordinances and regulations from authorities are not only governed by the purpose of the Environmental Code and the general rules of consideration, but also by other environmental goals not included in the Environmental Code. Licensing and supervision work is to be steered by the national environmental quality objectives, specified in the form of regional and sector goals (www.internat.naturvardsverket.se, 2007). The national goal of silence is present in the *A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos*, where it is stated in one of its interim targets that: “By 2010, noise and other disturbance from boat traffic will be negligible in particularly sensitive and designated archipelago and coastal areas.” (Miljömålsrådet, 2004 p. 59).

However, although there are certain regional environmental quality objectives with an interim target regarding noise, no goals or measurements are to be found how to make noise and other disturbance from boat traffic negligible by 2010 in the Gulf of Bothnia. In comparison to the national environmental quality objective with noise-free zones, the Swedish Environmental Advisory Administrative suggests no general measures regarding noise from motorboats. Instead, measures should be realised on a regional and a municipal level (SOU 2000:67).

According to the SEPA (2003), the Swedish government emphasizes that nature conservation and outdoor recreation are close together and that there is a need for politics regarding outdoor recreation. One of the aspects is to bring out the significance of noise-free areas and sound environments of high quality: “To guarantee that these areas are being preserved for their sound environments of high quality may be as important from the view of outdoor recreation as preserving [the areas] for biodiversity.” (Naturvårdsverket et al., 2003, p. 4. Author’s translation). In 2002, the Swedish Christian Democrats presented a bill to the Swedish parliament for silent zones as valuable resources in outdoor recreation, culture and

tourism with reference to the legislative support of protecting silent areas in the Environmental Code<sup>30</sup>. In the bill, it is said that silence is becoming infrequent in Sweden and that the need to protect silence in coastal areas is growing to be acute. The bill also states that there is a need for nature experiences and peace and quiet among people. The Swedish Christian Democrats express that inventory of undisturbed areas should be as obvious as inventories of nature and culture interests (Bill 2002/03: Bo265 [www.riksdagen.se](http://www.riksdagen.se), 2007).

The Swedish Parliament ([www.riksdagen.se/webbnav](http://www.riksdagen.se/webbnav), 2007) rejected the bill, however, after a report from the Building Committee. In the report, it was expressed that noise-free areas and a more silent society must be viewed as evidently to aim at, with an awareness of the problem of noise. Still, it was claimed in the report that silent areas to a great part is a municipal question when it comes to deciding what the needs are and what instances (for example, planning) are necessary to guarantee the needs of silent areas. Different authorities (for example, the SEPA) already work with measurement methods of noise ([www.riksdagen.se/webbnav](http://www.riksdagen.se/webbnav), 2007).

The regional level is the next level of silence in planning. The regional level controls the local level, and should make sure that the regulations and goals from the national level are implemented. As Figure 5.1 depicts, silence is relevant to a regional economic development and growth, where tourism development is important. The question of silence is visible in the regional level's spatial restrictions (for example, bird sanctuaries) for the conservation of nature and in the areas for outdoor recreation. An example of spatial restrictions of the Norrbotten county administration board is the regulation against driving snowmobiles on the islands in the Luleå archipelago (Fritidsnämnden Luleå kommun, 2004).

The county administration boards have elaborated their own regional environmental quality objectives that in many cases are identical with the national quality objectives and the interim targets. This applies, for example, to the county Norrbotten, with its regional environmental quality objective *A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos*. The ambition of the Norrbotten county is to fulfil the demands proclaimed in the national environmental quality objective (Länsstyrelsen i Norrbottens län, 2004). Yet, the Norrbotten county administrative board regards it as difficult to estimate whether their regional environmental quality objective as a whole will be achieved before the next generation ([www.bd.lst.se](http://www.bd.lst.se) 2005).

On the local level in Figure 5.1, the regulations and goals of the national and regional levels are congregated. The local level, consisting of municipalities, is an operative authority and plans the use and conservation of the local area (Naturvårdsverket, 2005a). As on the regional level, there is an interest in economic development. An instrument of the municipalities is the comprehensive plan. It has been suggested by the Ministry of the Environment (1993) that it should be specified where low levels of noise should be located in the municipal planning

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<sup>30</sup> **Ch. 3 Section 2** Large land and water areas that are not, or are only to a small extent, affected by development projects or other environmental intrusion shall, to the extent possible, be protected against measures that may significantly affect their character ([www.internat.naturvardsverket.se](http://www.internat.naturvardsverket.se), 2007).

**Ch. 3 Section 6** Land and water areas, as well as the physical environment in general, that is important for reasons of public interest on account of their natural or cultural value or for outdoor recreation shall, to the extent possible, be protected against measures that damage the natural or cultural environment. Special consideration shall be given to the need for green spaces in and near urban areas ([www.internat.naturvardsverket.se](http://www.internat.naturvardsverket.se), 2007).

process, to provide for the interests of outdoor recreation and nature conservation. The comprehensive plan is by this means suitable to deal with questions regarding the need of nature areas with low levels of noise (SOU 1993:51).

Finally, visitors should be considered in the Swedish governance of land use and environment, which Figure 5.1 illustrates. At present, however, the experiences and attitudes of the visitors are not represented in the planning process. Instead of being ranked into a certain level, the knowledge of the visitors should be from the bottom-up. To get a good connection between different levels of society for planning, the central and institutional rules have to be combined and influenced by the bottom-up perspective (Boverket & Naturvårdsverket, 2000). A planning process with a bottom-up perspective and communication must be open to the fact that previously unknown themes and interest groups could be revealed. There has to be openness for what values (attitudes, activities, groups) that has to be considered regarding the need of knowledge (Vuorio, 2003).

The wish for peace and quiet in outdoor recreation areas creates conflicts (see discussion above). To handle these conflicts, knowledge of the visitors (their attitudes, experiences, expectations and motives) would be an important complement in the planning. For example, there could be considerations of zoning and noise-free areas in a coastal area, but without the knowledge of the of the visitors it is difficult to understand in what way use limits affect people visiting an area and why some use limits are rejected (Freimund & Cole, 2001).

### 5.3 Method

All respondents of the questionnaire survey in the Luleå archipelago (Ch. 4) are included in the following analysis. In the examination of data, the software SPSS is used and the results are statistically tested by Chi-Square Tests<sup>31</sup>. Firstly, respondents' experiences of various sorts of noise are investigated. The sources of noise are motorboat ( $n=501$ ), personal watercraft ( $n=490$ ), road traffic ( $n=484$ ), airplane/helicopter ( $n=498$ ), and other sources of noise ( $n=282$ ), for example snowmobiles, other human beings, and birds. Additionally, there is a study to examine if there are any differences of the respondents' experiences of noise from motorboats that could be related to their activities ( $n=499$ ).

In the survey, the respondents are asked of their opinions of noise-free areas in Swedish coastal areas in general ( $n=505$ ) and in the Luleå archipelago ( $n=500$ ). The respondents' attitudes to noise-free areas are then studied from the aspect if the respondent have access to a motorboat ( $n=287$ ) or not ( $n=209$ ).

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<sup>31</sup> The Chi-Square Test procedure tabulates a variable into categories and computes a chi-square statistic. This goodness-of-fit test compares the observed and expected frequencies in each category to test either that all categories contain the same proportion of values or that each category contains a user-specified proportion of values. Examples: The chi-square test could be used to determine if a bag of jelly beans contains equal proportions of blue, brown, green, orange, red, and yellow candies. You could also test to see if a bag of jelly beans contains 5% blue, 30% brown, 10% green, 20% orange, 15% red, and 15% yellow candies ([www.richland.edu/james/lecture/spss/testing/](http://www.richland.edu/james/lecture/spss/testing/) 2007).

**Table 5.1.** *The respondents' dispersion in the Luleå archipelago 2003.*

Group	Number of respondents in the study of the attitudes to noise-free areas in the Luleå archipelago	Number of respondents in the study of the attitudes to larger areas with restrictions on motor traffic in Swedish coastal areas	Zone	Number of visited places in the zone
1	58	59	1	5
2	136	132	2	19
3	188	190	3	15
4	92	95	-	-
<b>Total</b>	474	476	-	-

In the questionnaire survey, the respondents reported what places they had been to. This information has then been correlated to the zoning of the Luleå municipality (Table 5.1) to make it possible to discuss geographical dispersion of attitudes. If a respondent had visited zone 1 to 50 percent or more, he or she was categorised within group 1 and so on. The archipelago's geography encourages travelling around mainly by a privately owned boat, for further discussion of methodological problems (Ch. 6.). Some respondents had visited an equal number of places among the zones, and were categorised to group 4.

## 5.4 Results

### 5.4.1 Experiences of various sources of noise

The first inquiry consists of all respondents' experiences of various noises during their visit in the Luleå archipelago.

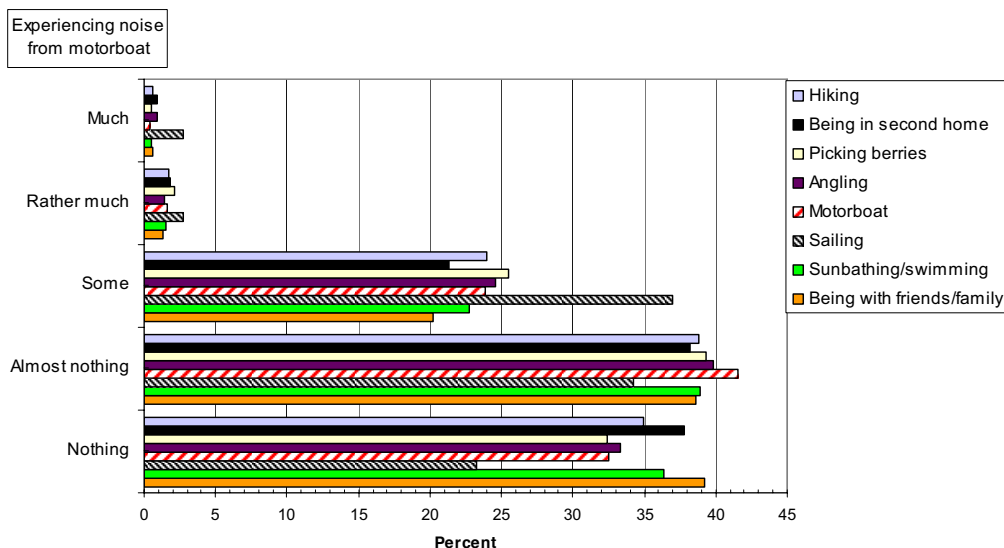
**Table 5.2.** *Experiencing noise from different sources in the Luleå archipelago 2003.*

	Motorboat	Personal watercraft	Road traffic	Airplane/helicopter	Other
Not at all	38,7%	79%	85,7%	56,2%	78%
Hardly any	37,9%	12,9%	12%	25,5%	7,4%
Some	21%	5,7%	2,1%	15,3%	7,1%
Quite a lot	1,8%	1,6%	0%	2,2%	3,9%
A lot	0,6%	0,8%	0,2%	0,8%	3,5%
<b>Total</b>	100%	100%	100%	100%	100%

A high percentage of the respondents had not experienced noise at all or hardly any noise (Table 5.2.). Nevertheless, among the various possible sources of noise, motorboat and airplane together with helicopter have a higher percentage of respondents experiencing this sort of noise, in comparison to noise from personal watercraft, road traffic and other.

### 5.4.2 Activities and experiencing noise from motorboats

In the second inquiry, eight different activities — hiking, being in second home, picking berries and mushrooms, angling, riding a motorboat, sailing, sunbathing and swimming, and being with friends and family — are put in relation to the respondents' experiences of noise from motorboats.



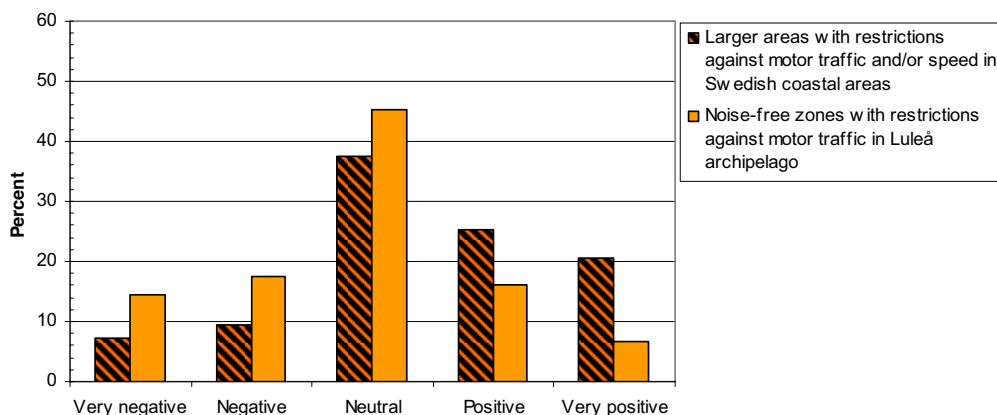
**Figure 5.2.** Activities and experiencing noise from motorboats in the Luleå archipelago 2003.

Most of the respondents experience no or almost no noise from motorboats during their stay (Figure 5.2.). However, the respondents who had been sailing express the highest percentage of experiencing some noise (37%), rather much noise (3%) and much noise (3%) from motorboats, in comparison to the respondents of other activities. In the survey, 58 percent have access to a motorboat in comparison to fifteen percent who have access to a sailing boat. The respondents, who had a motorboat as an activity, have a comparable percentage of experiencing noise from motorboats to the other respondents of activities.

#### 5.4.3 Attitudes to noise-free areas

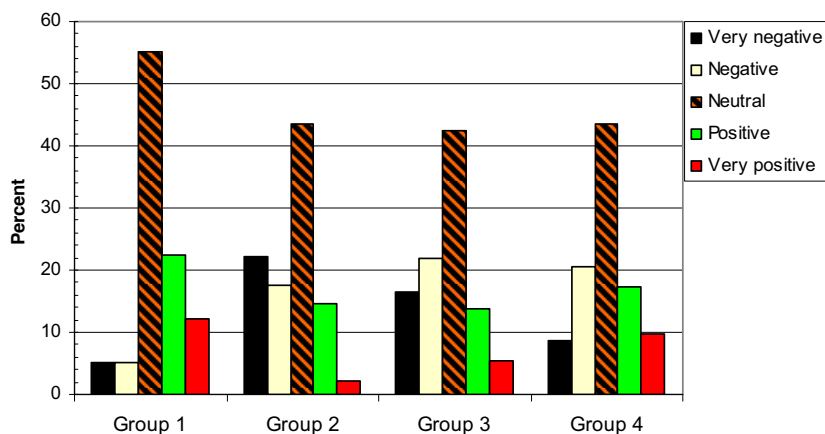
This part consists of a third inquiry of the respondents' attitudes to noise free areas depending on whether they had access to a motorboat. It is followed by a fourth inquiry with comparisons of the respondents' attitudes when categorised into the different groups depending on where the respondent has been in the area.

The respondents who have no access to a motorboat have a more positive attitude towards noise-free areas in the Luleå archipelago, in comparison to the respondents who have a motorboat. The respondents who have no access to a motorboat are very negative or negative by eleven percent, but very positive or positive to noise-free areas by 40 percent. The result of the study show that respondents who have access to a motorboat are very negative or negative to noise-free areas by 48 percent. As a result of a Chi-Square Test, there is a significant correlation.



**Figure 5.3.** *The respondents' views of zoning of motor traffic and noise in Swedish coastal areas in general and in the Luleå archipelago.*

All the respondents' attitudes to zoning of noise-free areas in Swedish coastal areas in general and in the Luleå archipelago are examined. These views are then compared, and the respondents are more negative to noise-free areas in the Luleå archipelago than in Sweden in general, as Figure 5.3 illustrates. When it comes to restrictions against motorboats in the Luleå archipelago, 16 percent are positive and seven percent very positive, compared to restrictions in the Swedish coastal areas, to which 25 percent are positive and 21 percent are very positive. The Chi-Square Test shows a significant correlation.



**Figure 5.4.** *The respondents' views of noise-free areas in the Luleå archipelago, categorised geographically.*

Additionally, comparisons are made between four groups of the respondents to put the attitudes in a geographical perspective to examine where the most sensitive respondents had been and if there are any differences (for percentage, Appendix 3a). Regarding the question of noise-free areas in the Luleå archipelago, around half of the respondents are neutral within all groups, although group 1 has a somewhat higher percentage. The respondents who had been in the middle zone (group 2) have the highest percentage of being very negative (22

percent) towards noise-free areas, in comparison to group 1 (five percent), group 3 (17 percent) and group 4 (nine percent). The respondents who had been in the inner zone are much less negative than the other respondents. Group 1 has the highest percentage of being very positive or positive. The Chi-Square Test shows a significant correlation.

Another comparison is made between the four groups of respondents and their attitudes to larger areas with restrictions against motor strength and/or speed in Swedish coastal areas in general. The negative or very negative attitudes do not differ much between the groups, with an exception for group 4 that has a somewhat lower percentage (Appendix 3b). Very positive or positive attitudes to larger areas of restriction in Swedish coastal areas have the highest percentage in group 1 (59 percent) and in group 4 (52 percent). The survey shows that respondents who had been in the middle zone (group 2) have a more negative attitude than the other respondents. The Chi-Square Test shows a significant correlation.

## **5.5 Discussion**

Being able to experience peace and quiet has become more important to visitors of coastal areas, especially as silence is becoming more and more rare. The purpose of this study was to investigate noise and silence in tourism and outdoor recreation in coastal areas, with a case study of visitors in the Luleå archipelago. A result of the survey proved that nearly 85 percent of the respondents declared that experiencing peace and quiet had been of great or very great importance when deciding to visit the archipelago. The respondents also mapped which area they appreciated the most during their stay, and what in particular they enjoyed the most with that specific place, and here, as well, experiencing peace and quiet got the highest percentage. The importance of silence in outdoor recreation areas and conflicts because of noise make it relevant to investigate how silence is considered in planning and how knowledge of the visitors could be integrated in planning. Zoning by restrictions of motorized traffic to attain noise-free areas have been discussed in this study and the possibility of applying the planning framework WROS in a discontinuous landscape as an archipelago will be further explored below.

The study's first inquiry consisted of all the respondents' experiences of various noises during their visit in the Luleå archipelago. The results showed that the respondents to a great extent had not experienced noise, but most of the respondents who had experienced some noise specified motorboats as the source. In the second inquiry of the survey, the respondents' activities were investigated together with their experiences of noise from motorboats. The respondents who had been riding motorboats had equivalent experiences as the respondents of other activities with the exception for the respondents who had been sailing. These had to a greater extent been disturbed by noise from motorboats. Sailing could thereby be estimated to create a group of users more sensitive to motorboat noise. It is a group whose motives and expectations of the visit in the Luleå archipelago make them more sensitive to noise from motorboats. Wang and Dawson (2005) point out that outdoor recreation planners and managers should identify the groups experiencing the most interference. Visitors who are sensitive to conflicts and thereby get a reduced outdoor recreation quality, may cause less satisfaction with displacement as a result or further conflict (Manning, 1999; Wang & Dawson, 2005).

As discussed above, the conflict model by Manning (1999) shows how different variables contribute to conflict sensitivity and when a conflict is reality, the outcome could be either reduced satisfaction or coping behaviours. The underlying causes of conflicts emphasize the



relevance of knowing more of the visitors. This is important in order to understand which groups who are sensitive of, for example, noise, and why conflicts take place, to improve the planning of development in outdoor recreation areas along with handling conflict and avoiding coping behaviours as displacement.

In the third enquiry, the respondents' attitudes to noise-free areas with restrictions of motorboats were investigated. The respondents who had access to a motorboat were more negative to future noise-free areas in the Luleå archipelago than the ones who did not have access to a motorboat. The respondents' activities affect their opinions of future restrictions and planning for the area they use for outdoor recreation. The respondents' attitudes to noise-free areas in the archipelago were compared to their attitudes to larger areas with restrictions against motor traffic in Sweden in general. The results proved that the respondents had a negative attitude to noise-free areas if applied in their own outdoor recreation area the Luleå archipelago, but a positive attitude to noise-free areas in Sweden in general. In the Luleå archipelago, it is a phenomenon of '*Not In My Backyard*' (NIMBY<sup>32</sup>) regarding the question of noise-free areas, although silence is a central reason for visiting the archipelago. NIMBY is a dichotomy between the public will and the will for everyone. Instead of (as a citizen) acting for the best of society (the public will), one acts from one's own interests (everyone's will). Thereby the representative democracy is in conflict with citizen participation and the views of the local opinion (Tonell, 2005).

Probably a concern of restrictions of one's own activities and accessibility creates an opposition against noise-free areas. Examples of such opposition have been discussed by Kaltenborn (1991) and Emmelin (1997), where visitors who have strong wishes and expectations of aspects that embody wilderness (for example, silence) but at the same time want service and facilities, are called 'contradictionists'. However, it is interesting to compare the result with a survey by Olofsson and Müller (2005), where the local population, tourism entrepreneurs and teachers in Kvarken (a coastal area in northern Sweden and Finland), expressed their attitudes to protected areas. A research question concerned noise-free areas in Kvarken, and a majority of the local population considered the existence of noise-free areas as positive or very positive. The tourism entrepreneurs also viewed noise-free areas as positive or very positive. The differences between these results and the ones in the Luleå archipelago could be explained by the fact that noise-free areas already are established in Kvarken where nearly 65 percent of the local population viewed noise-free and silent areas as very important or important reasons for protecting nature.

In the fourth inquiry, the respondents' attitudes to future noise-free areas were examined from the perspective of their geographical location during their stay in the archipelago. The study showed that the respondents who had been to the inner zone (group 1) were more positive to noise-free areas in the Luleå archipelago and in Swedish coastal areas in general. Also the respondents who had been to an equal number of places among the zones (group 4) proved to be positive. The minimal access to motorboats or sailing boats in group 1 could be an explanation (Appendices 3c and 3d). Thereby, this group's experiences and motives for visiting the area differ from the other groups. The most negative attitudes to noise restrictions were found amongst those who had visited the middle zone (group 2). The existing bird and seal sanctuaries in the middle zone could be an explanation, even though most of the reserves are located in the outer zone. Also, over 80 percent of the respondents state that such visit

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<sup>32</sup> NIMBY describes the phenomenon in which individuals oppose a development as inappropriate for their local area, but by implication do not oppose such development in another's (see for example, Meyer, 1999a).

restrictions did not prevent them from moving freely during their stay. The results confirm that there is a more sensitive group of visitors in the middle zone of the archipelago, which should be considered in future planning of noise-free areas.

By excluding certain outdoor recreation activities from some areas that are valuable or sensitive, and by restricting uses in contradiction, zoning may solve, or at least reduce, the problem of conflicts. By the management of conflicts, the visitors may reach a higher satisfaction (Manning, 1999). The questions of how and where zoning (as the WROS) should be applied in coastal areas are complex even if there already are some areas with restrictions, like bird and seal sanctuaries. To begin with, if one expects a wilderness experience with peace and quiet, noise from motorboats is not part of the presumed experience. This may cause conflicts. In the dimensions from the untouched to the developed, noise is a concrete experience of the visitors which is associated with the unnatural, a high density and the developed (Manning, 1999). But still, you have to be able to get to these areas, which mean you have to use some sort of transportation mean.

Zoning in Swedish archipelagos, follow a zoning logic from physical geography; the assumption being that the gradient from the inner, wooded zones to the outer treeless zones also represent urban or human influenced cultural landscape in the inner zones to a more pristine, 'marine wilderness' in the outer zones (for example, the Luleå archipelago, Wallin 14/4/04). The unofficial zoning that is used by the municipality in tourism development and planning of the Luleå archipelago could therefore be identified as too rough and large-scaled. The planning frameworks in the archipelago should be more insightful of the variation of such a landscape as an archipelago. It is also evident, considering the number of visitors in places in the outer zone of the Luleå archipelago (Ch. 3), that the municipality's zoning has not been developed with knowledge of the visitors. In the Swedish coastal areas, nature reserves have been applied to separate the use. However, Emmelin (1997) believes that there should be a more ranked clarification since there is a risk that the archipelagos will be divided into just two separate zones; very developed areas or protected areas with severe restrictions. There might be a need to minimize potential conflict for the affected groups by single-use outdoor recreation zones as attractions to concentrate such use where it can be better accommodated (Wang & Dawson, 2005).

As the discussions above highlight, noise can be viewed as the core of the ROS and the WROS. The planning framework WROS could be a method applied on the Luleå archipelago, but the question is how functional it will be in a discontinuous landscape like the Luleå archipelago. Zoning might be useful but there should be other principles than the spectrum of WROS from 'urban' to 'primitive'. One difficulty with applying zoning with noise-free areas in the Luleå archipelago is that the motorboat is a mean of transportation, an important implement in the fishing industry and a popular outdoor recreation activity. There are also two larger areas in the northern and southern part of the archipelago that are of national interest for commercial fishing (Stadsarkitektkontoret, Luleå, 1990). Sometimes motorboats have to be allowed in so called primitive areas in order to retain accessibility to remain a permanent population or the traditional fishing industry.

Day (2002) maintains that the zoning within a multiply used area should avoid sudden transitions from highly protected areas to areas of relatively little protection. The gradation in zone types should be applied wherever possible. Breeding sites should be included in zones with no public access or with an appropriate seasonal closure. Split zoning (for example, partial zoning, which might be used around one single feature like an island resulting in part

of the area as one type of zoning, while the remaining part is another type) may cause problems for public understanding, observance and enforcement (Day, 2002). However, in a discontinuous landscape as an archipelago it is difficult to avoid sudden transitions of totally different zones. Although an island consists of qualities that make it suitable to achieve silence, its geographical location could challenge the prospect of no disturbance. The need for transportation by boat, the commercial fishing, or a populated island nearby with further possibilities of development (for example, there could be silence on one island but because of an island nearby, there could be future noise) could make it troublesome to achieve complete conservation and silence of an island nearby.

The importance of silence in tourism and outdoor recreation, and how noise is considered in different levels of the Swedish planning have been analysed in this study. These visions of silence have developed from *why* noise should be regulated (where a balance between development and conservation is sought) to *how* noise could be decreased (for example, with spatial restrictions). Figure 5.1 illustrates how silence is considered in the Swedish governance of land use and environment. In that way, the planning of the Luleå archipelago in relation to noise from motorboats could be examined from a national to a local level. The archipelago is an area of national interest regarding nature, culture, commercial fishing and outdoor life. There are also several nature reserves, and bird and seal sanctuaries, and in the latter, restrictions prohibit access during summertime (Ch. 3). Furthermore, the Norrbotten county has composed a regional environmental quality objective with the same restrictions of noise in coastal areas as the one on the national level (discussion in Ch. 2). The county administration board has to report and inform the public of the work with the environmental quality objectives ([www.miljomal.nu/Pub/RegMal](http://www.miljomal.nu/Pub/RegMal), 2007).

Noise from motorboats in the Luleå archipelago is not believed to be a problem on a regional or a local level. Most of the visitors do not regard noise from motorboats as a great problem of the area, although there are some who see it as a disturbance. Emmelin (1997) has analysed how the use of snowmobiles in the Swedish mountain areas was allowed to develop without regulations until the disturbance had become so considerable that action had to be taken. Not until the public demanded a solution to the problem, there were legal regulations. The quality of being in nature and the right of experiencing silence were not protected, instead snowmobiles were viewed as part of the right of public access (Emmelin, 1997). This discussion could be related to boat traffic – being able to get to different islands of an archipelago is believed to be part the right of public access. As discussed earlier, however, the right of public access is also to experience silence (Figure 5.1). What the Luleå municipality should consider from this discussion of the importance of silence in tourism and outdoor recreation is to take action to monitor the silence of today in the archipelago. Having such a future prospect could be valuable in conserving nature and developing tourism and outdoor life. As affirmed above, peace and quiet is central to the visitors.

The regional environmental quality objective is partly fulfilled according to the county administration board, with regulations that do not allow boats to come closer than 300 metres to the beach in bird sanctuaries. However, the county administration board admits that the lack of knowledge makes the judgement of noise insecure. At present, the county administration board claims that “[n]oise from boat traffic is not an immediate problem in the county’s archipelago, but there is no gathered understanding of the local conditions today” (<http://miljomal.nu>, 2007. Author’s translation). Finally, the Luleå municipality has the comprehensive plan as an instrument regarding the planning of use and conservation. Noise from motorboats is not discussed in the comprehensive plan, however, as opposed to noise

from airplanes, which is subject to noise limited areas, such as the archipelago. In the municipal work with the environmental quality objectives, it is interesting that the goal — that noise from boat traffic will be negligible in 2010 in sensitive coastal areas — is not mentioned (<http://194.117.173.82/miljobarometern>, 2007). Information of the visitors have not been part of the planning of the archipelago, but a study as this one could be used in the planning and management to avoid displacement and conflicts in the work of nature conservation and tourism development.

The point of departure of this study was that if there was a better knowledge of noise from the visitors' perspective in planning, silence could be better preserved and conflicts could be better handled in a better way. The experience of noise is subjective, which makes it important to gather information of who is disturbed and where, by what noise and in what situations when it comes to the planning of coastal areas and methods of handling conflicts of noise. In planning and management of conflict and noise, various issues could be addressed. What sounds do the visitors find appropriate, what are their demands regarding silence, and what are the area's preconditions? Also, what is the cause of the sound (for example, mischief or necessity) and what is the area's mechanical development? Through knowledge of the visitors, conflicts could be better foreseen and handled, which would conserve the outdoor recreation area and could increase tourism and outdoor life.

## 6. VISITORS' EMOTIONAL BONDS TO THE LULEÅ ARCHIPELAGO

### 6.1 Introduction

The sense of physically being and feeling 'in place' or 'at home' can be considered as a sign that an individual has created an emotional tie to a place. Individuals or groups of human beings create a sense of meaning and attachment to settings, so called place attachment (Holloway & Hubbard, 2001). This concept has been used by recreation researchers and managers to explain different behaviour of leisure, such as recreationists' setting preferences, management preferences and activity participation where most definitions focus on the emotional bonds with special settings (Kyle et al., 2004b). The conceptualization of place attachment has been further developed into two dimensions in the measure by Williams and Roggenbruck (1989): *place identity* (Proshansky et al., 1983, Williams et al., 1992; Meyer, 1999a) and *place dependence* (Stokols & Shumaker, 1981; Moore & Graefe, 1994). Place identity is a component of the self-system and refers to how one views oneself in relation to the environment. Place dependence refers to connections based specifically on the activities that take place in an outdoor recreation area (Farnum et al., 2005). Sense of place is a concept derived from personal and interpersonal experiences, direct and indirect contact with an area, and cultural values and shared meanings. Because of its complex nature, it is a factor in many different aspects of recreation – from conflict, to environmental and management attitudes, to differences among user groups (Farnum et al., 2005).

If place attachment was further studied among visitors and was not limited to the local population (Williams & Stewart, 1998), it could result in useful knowledge for planning for tourism and outdoor recreation. Human beings are not rational; we are individuals with feelings and emotions that affect our reactions and attitudes. As visitors, we can thereby become either positive or negative (or of course neutral) to planning and management, changes of an area, or other human beings' activities and presence. The emotional bonds that visitors and second home owners may establish to different settings in Swedish coastal areas, is thus interesting to explore in relation to planning.

Depending on the strength of the emotional bonds, the acceptance of management actions and changes of the Luleå archipelago could vary between the zones. According to Warzecha et al. (2000), place attachment is another useful variable for segmenting visitors regarding their attitudes and preferences of recreation areas where such an understanding is critical in the development of a successful management plan. They found that the levels of place attachment varied between two rivers and were related to why the visitors decided to take a river trip, the encounter norms and the support for potential management actions (Warzecha et al., 2000). Given that the zoning of the archipelago is established in the work of the municipality, the archipelago's managers and planners would have an advantage knowing of the place attachment. For example, Williams and Stewart (1998) recommend that managers should pay close attention to places that have special but different meanings to different groups.

Several scientific researchers maintain that knowledge of emotional bonds to a place is important for planners and managers to consider. For instance, the concept has been used to help both researchers and managers to understand behaviour principally in outdoor recreation, as maintained by Kyle et al. (2004b). By identifying and examining place meanings, the understanding of conflicts and the stakeholders' attitudes could be better understood in landscapes with development and changes (Davenport & Anderson, 2005). Furthermore, Williams and Stewart (1998) argue that sense of place is a concept that proposes a way for

planners and managers to identify and respond to the bonds that people form with places. Considerations of sense of place has been maintained to make it easier to understand factors that influence reactions to management actions, since rational use concerns and economic considerations are not sufficient for understanding public perceptions of planning (Eisenhauer et al., 2000). In managing the recreational environment, managers need to identify the important features or attributes of the environment, and obtain knowledge of the users' evaluation of these attributes (Meyer, 1999a). Moreover, research of visitors' place attachment can enhance land managers' ability to address deeper landscape meanings in natural resource decision planning and development, according to Williams and Vaske (2003). Natural landscapes and places are more than containers of natural resources and areas for enjoyable activities. They are locations filled with history, memories, and emotional and symbolic meanings (Williams & Vaske, 2003).

Still, the significance of knowledge of visitors' place attachment in the planning and management of coastal areas and archipelagos should be discussed with further examination. How the important the sense of place is in planning and management of recreation areas are questioned by, for example, Farnum et al. (2005), who present critique claiming that there is no clear framework or approach for incorporating place-based values into the existing management strategies. Kaltenborn and Bjerke (2002) also deem that knowledge of place attachment is an indicative of what pleases visitors, and of limited use when making decisions of resource protection and setting priorities in land use planning.

In this study, the purpose is to get knowledge of the visitors' place identity in the Luleå archipelago and to discuss if and how knowledge of place identity would be of significance to planners and managers of the area. The Swedish coastal areas consist of valuable nature where different interests of land and water use should be combined, and where both conservation and development of tourism and outdoor recreation are of interest (Turistdelegationen, 1998). Several conflicts regarding conservation, usage, accessibility, development and management may arise between stakeholders or groups of stakeholders in these areas (Morf, 2006). This makes it important to study and discuss knowledge of visitors' emotional bonds to a place as a tool in the planning and management of coastal areas from the results of the study in the Luleå archipelago.

Place identity has earlier been explored by, for example, Meyer (1999) in Norwegian coastal areas. This study also focuses on the dimension of place identity in place attachment. This will be examined from the results of a visitor questionnaire survey carried out in 2003, with the use of the following questions: Do the visitors and second home owners have a place identity in the Luleå archipelago and if so, have the number of visits and the residency affected the place identity, what is the geographical dispersion of the visitors and second home owners, and is there a correlation between place identity and attitudes to development? Is knowledge of the visitors' place identity useful when applying zoning in an archipelago? Could knowledge of place attachment be a tool in handling conflicts in the Luleå archipelago? Finally, is knowledge of place identity of any use for the planners and managers of the Luleå archipelago?

The need for knowledge of visitors' emotional bonds to a place when it comes to planning, is in this study discussed in relation to the conceptual framework of eco-strategies by Sandell (2001; 2005), where landscape perspectives are affected by the way one feels connected to a place rather than the formal residence only. In Sandell's framework, the fact why people visit a place is explained either by the reason that one is looking for a place which suits the activity

one would like to perform, or that one finds a place with certain characteristics that one likes and feel connected to. Kyle et al. (2004a) maintain that much remains to learn about recreationists' relationship with the setting in which they enjoy their leisure experiences. Much of the research has focused on the activities alone (Emmelin, 1997) and ignored the settings where they take place. Recreational activities within public land are not only increasing, they are becoming more diverse and highly specialized within certain activity groups, and with this diversity, a varied and multifaceted population has demands and needs which become an increased challenge for managers to meet, according to Bricker and Kerstetter (2000). The analysis of place identity will also be theoretically discussed by relating to the conflict model by Manning (1999) where personal norms and values are important in creating a sensitivity of conflict among recreationists.

The results of the visitor questionnaire survey in the Luleå archipelago in 2003 are analysed by means of four inquiries in this study. In the first inquiry, the place identity of all the respondents of the survey is accounted for. The study further explores if there is a difference of place identity within the respondent group of first time visitors, and within the group of second home owners. The place identity of all the respondents in general is also accounted for. In the second inquiry, place identity is put in relation to the respondents' geographical dispersion to investigate if there are geographical differences of place identity in the archipelago. The unofficial zoning of the Luleå municipality is by this means used in the analysis. The third inquiry consists of a comparison of the place identity in four places in the archipelago. Finally, in the fourth inquiry, the respondents' place identity is tested against their attitudes to development of the area.

The chapter begins with a discussion of the concepts of place, sense of place, and place attachment. The relationship between recreationists and setting is discussed to be followed by a description of the methods and methodological difficulties. Finally, the study's results are accounted for, to be concluded by a discussion.

## 6.2 People and place

### 6.2.1 Definition of place

The concept of *place*<sup>33</sup> has been analysed by several authors of various disciplines (for example, Agnew, 1987; Low & Altman, 1992; Gieryn, 2000; Williams, 2002; Bott et al., 2003). The concept is closely linked to the concept of *space*<sup>34</sup>. As discussed by Hubbard et al. (2004), there are many ways of defining these concepts, and according to the authors, the concepts are still relatively diffuse, ill-defined and undeveloped. Different theoretical and methodological traditions have not made it easier to make the concepts less complicated. Thereby, the term place can be interpreted in different ways, which also has been the case in the scientific literature, where conflicting understandings have been put against each other. In the 1950s and 1960s, there was a movement towards quantification and spatial analysis

<sup>33</sup> Place is a portion of geographical space, which sometimes is defined as 'territories of meaning' or 'a node of activities' (Holt-Jensen, 1999). Place can have physical, spatial attributes where a person or thing occupies a geographical space. But this is a shallow understanding where a definition as place, is a territory of meanings instead of containers of things, according to Holt-Jensen. In a relational geographic framework, place unites the realms of meanings, nature and social relations which leads to the concept of sense of place.

<sup>34</sup> Holt-Jensen (1999) describes space as a central concept in geography, used in the form *absolute* (a distinct, physical and real entity), *relative* (the location of, and distance between, different phenomena), and *relational* (space and place are essential parts of our being in the world, where we relate to others and the physical environment).

within geography (Holloway & Hubbard, 2001). This ‘quantitative revolution’ with a search for spatial laws, claimed that one would get a greater understanding of human activity and spatial organization through descriptive mathematics and modelling. The specification of individual places was not important. However, the movement was criticised since it had little relation to the complexity of reality and since human beings were not viewed as multifaceted individuals with feelings and emotions (Holloway & Hubbard, 2001). Reactions to quantification and statistics resulted in some geographers being inspired by psychology which lead to a development of a behavioural perspective (Hubbard et al., 2004).

Nevertheless, the purpose of this section is not a critical discussion of theoretical specification of place and space (for example, Hubbard et al., 2004), but to discuss how the concept will be considered. In this study, the concept place is defined as “... *space that has been given meaning through personal, group or cultural processes.*” (Low & Altman, 1992 p. 5). It follows from this definition that a place is a spatial part of the environment that one is related to through one’s experiences, imagination, or feelings (Roberts, 1999). Additionally, Gieryn (2000) has considered the sociology of how places come to be, and how places matter to social life. He has defined three features that should be considered in the interpretation of place: geographic location, material form (place has physicality and is made by people where the social processes happen through the material forms), and investment with meaning and value (places are interpreted, described, perceived, felt, understood, and imagined). Place is space filled up by people, practices, objects, and representations (Gieryn, 2000).

Note, however, that the concept place does not have to have a certain meaning agreed upon by everybody since there may be a variety of views by individuals and/or social groups of what a place is, according to Gustafson (2006). These views can of course be in conflict with each other. It is also important to recognise that a place is not static; it is under constant development (Gustafson, 2006).

### 6.2.2 Definition of people-place interaction

Researchers of various disciplines — human geographers, anthropologists, sociologists, environmental psychologists and urban planners — study why certain places are of special meaning to people (Holloway & Hubbard, 2001). But understanding sense of place and related concepts often presents challenges for both researcher and managers (Farnum et al., 2005). There is an overabundance of concepts describing the relationship between people and spatial settings, such as topophilia<sup>35</sup>, sense of place, place attachment, environmental embeddedness, and meaning of place (Low & Altman, 1992).

Inconsistent application of terms, questions regarding their origin and a lack of awareness of research findings contribute to the ambiguity of these concepts. Hidalgo and Hernández (2001) have analysed the difficulty regarding the diversity of approaches when it comes to the concept of attachment. Similar terms (such as place attachment, sense of place, place identity, place dependence) often make it difficult to tell whether it is the same concept with a different name or different concepts. As Farnum et al. (2005) conclude, there is no single accepted definition of sense of place, since it traditionally has been decided by the author how to apply the concept. Nor is there a clear consensus on what the concept of sense of place should contain or how it should be constructed and measured scientifically (Kaltenborn, 1998).

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<sup>35</sup> Topophilia describes human love for a place; the affective ties a human may develop with a place (Holt-Jensen, 1999).



Williams and Stewart (1998) discuss how different authors use place, place attachment and sense of place to define similar but not identical concepts. They have suggested overlapping dimensions of the concepts that they mean summarize the complexity of *sense of place*:

- the emotional bonds that people form with places (at various geographic scales) over time and the familiarity with those places;
- the strongly felt values, meanings, and symbols that are hard to identify or know (and hard to quantify), especially if one is an 'outsider' or unfamiliar with the place;
- the valued qualities of a place that even an 'insider' may not be consciously aware of until they are threatened or lost;
- the set of place meanings that are actively and continuously constructed and reconstructed within individual minds, shared cultures, and social practices; and
- the awareness of the cultural, historical, and spatial context within which meanings, values, and social interactions are formed (Williams & Stewart, 1998 p. 19).

The concepts of place attachment and sense of place both appear in the scientific research that is examined in this study. This explains the mix of usage of these concepts when referring to different scientific research. The following discussion will explain how the author has decided which concept to use and how it is defined in this study.

Williams and Vaske (2003) describe how the research of place and attachment exist in various disciplines (such as sociology and anthropology), and also in human geography, where the concept sense of place is explored, which is similar to the notion of place attachment as developed by environmental psychologists. The conceptualization of place attachment into place identity and place dependence is supported by various studies where the measure of Williams and Roggenbuck (1989) is used (for example, Moore & Graefe, 1994; Bricker & Kerstetter, 2000; Kyle et al., 2005).

The validity and generalization of this conceptualization have been examined by Williams and Vaske (2003), who confirm the existence of a two-dimensional structure for place attachment. Place identity (an emotional attachment) is the meaning attributed to natural settings – because of the emotional and symbolic meaning. It is not necessarily a result of a certain experience in the place, even if it generally involves a psychological investment in the place, according to Williams and Vaske, 2003. Place identity has been described as a component of self-identity that enhances self-esteem and increases one's feeling of belonging to a community. It is an important part of communications about environmental values and policies (Williams & Vaske, 2003). An area can contribute to a person's belief in who he or she is, where for example recreationists of a coastal area feel that they are an 'archipelago person'. This identity is built upon a personal idea about such an identity, together with attributes that others have created (Meyer, 1999b).

Place dependence (a functional attachment) mirrors the importance of a place providing features and conditions that support specific goals or desired activities. This functional attachment is embodied in the area's physical characteristics and may increase if it is geographically close to the visitors, which thus implies an ongoing relationship with a certain setting (Williams & Vaske, 2003). However, even if a place is seen as suitable for activities, Williams and Roggenbruck (1989) state that it does not suggest a strong sense of attachment to the area. The emotional meaning is connected with what the setting symbolises or stands for. A coastal area is for example a stimulating environment for pleasure boats, swimming and diving. The sea and the islands of an archipelago also consist of qualities that encourage experiences of peace and quiet (Meyer, 1999b).

The meaning attributed to an environment or a place is not inherent in the nature's properties, but is interpreted and constructed by humans in especial contexts and situations (Kaltenborn, 1998). Hague (2005) discusses that the capacity to see and impart values and meanings to a place is not something that just happens; it is a socially learned process. When a place is experienced, it is primarily relational than subjective and the capacity to identify a place is shaped by what others tell us about the place. Our socialization (class, gender, age, nationality, ethnicity, profession etc.) also affects our capacity, and the identification consequently is comprised by the process of receiving, selectively reconstructing, and re-communicating a narrative. Although sense of place varies from person to person, it is not exclusively built upon individual feelings and meanings (Hague, 2005).

Farnum et al. (2005) define *sense of place* as the most general term referring to both affective and cognitive components of place<sup>36</sup>. They define *place attachment* as the emotional ties people have to places, which are typically defined in studies of tourism and outdoor recreation as a combination of place identity and place dependence. Consequently, how to define place attachment is debated in current literature, but the general definition of place attachment is that there is an emotional connection between people and specific places. Affect, emotion and feeling are central, but cognition (thought, knowledge and belief) and practice (action and behaviour) are also part of place attachment (for an overview, Altman & Low, 1992).

The general definition by Altman and Low (1992), and the conceptualization of place identity and place dependence by Williams and Roggenbuck (1989), is by this means the foundation of this study's definition of place attachment.

### 6.2.3 *The emotional bonds between recreationists and setting*

The concept of topophilia by Tuan (1974) began to influence leisure researchers and others involved with natural resources in the 1970s, and in the last decades place attachment has contributed to the field of outdoor recreation and leisure (for example, Meyer, 1999a; Kaltenborn & Williams, 2002; Kyle et al., 2003a, Kyle et al., 2004a; Fredman & Heberlein, 2005). The study of place attachment to recreation settings is relatively new in comparison to geography and other fields (Kyle et al., 2003b). There is also research studying different place related meanings and how these can be applied in ecosystem management (Williams & Stewart, 1998; Kaltenborn, 1998). Moreover, Farnum et al. (2005) have completed a review of research with current information on the role of sense of place in natural-resource-based recreation and tourism.

*“A sense of place relies far more on the individual, with places becoming significant places for them alone. To develop a sense of place requires that one knows the place intimately and reacts to it emotionally.”* (Holloway & Hubbard, 2001, p.74.). When individuals get to know a setting and endow it with value, place attachment develops (Kyle et al., 2005). There is often a multifaceted relationship between the recreationists and the setting, which explains the need for exploration of the different concepts of place attachment. Outdoor recreation settings have been viewed as a collection of attributes where the value of the setting depends on how the recreationists' needs are met (Payton et al., 2005), but the question is what generates the

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<sup>36</sup> For example Meyer (1999) has in his study of people-place interactions, defined them as cognitive, affective and behavioural processes by which people assign meaning to places. A cognitive process is the thoughts people have about places, and an affective process is the feelings or emotions that people experience in relation to places. Finally, a behavioural process is people's actions with respect to places.

development of place attachment. If one is going to investigate place identity in coastal areas, it is important to understand what the factors are that lead people to develop attachments to places within the natural environment. More and Scott (2003) suggest that the frequency of the practised activity, the participation of activity, and the nearness to the recreation site and activity commitment, are some factors that could explain place attachment.

Numbers of visits, length of stay and residency could be other factors to include when examining visitors' place identity in coastal areas. The Swedish coastal areas are visited by many, especially in summertime, and there are also many who own a second home, which they visit either regularly or more seldom. In his study of place identity among recreational boaters in Norway, Meyer (1999a) has showed that place identity is positively correlated to the length of connection, connection during the peak season, and level of satisfaction. The number of visits and length of stay affect the attachment level. Place identity differs between different groups, where cabin dwellers had the strongest identification with the area, followed by locals and boat tourists.

McCool and Martin (1994) have also examined the relationships between length of residency, tourism attitudes, level of tourism development, and feelings of community attachment. The results suggest that attachment can arise quickly, since newly moved-in respondents (with residence in the most tourism developed areas), had the strongest attachment. In comparison, the old-timers lived in areas where the tourism development was little. McCool and Martin's opinion is that the concept of community attachment is a major research issue for tourism communities in environmentally attractive areas. A newly moved-in person (who might have visited the area as a tourist) may have used the local physical environment as a frame of reference instead of the interpersonal relationships (such as friends and social life) as the old-timers' response may imply.

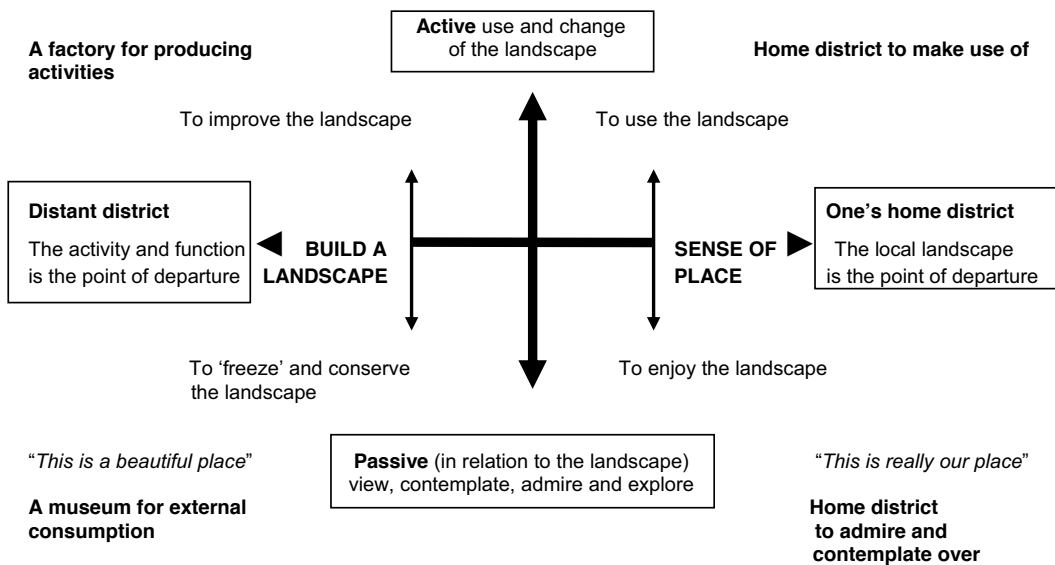
Even if there are studies that suggest an association between length of residency and place attachment, an increased mobility may allow people to establish emotional bonds to a place they have only visited or lived in temporarily or on part-time basis, according to Kaltenborn and Williams (2002). They state that place attachment captures a broader range of meanings related to the environment than demographic values do. One should not reduce the emotional bonds to place to simplistic categorical assignments based on residential history (Kaltenborn & Williams, 2002).

Müller (1999) considers the second home owners' attitudes towards the countryside as similar to the local population, because of the time spent in the area. As Cheng et al. (2003) state, the individuals who live in or frequently encounter a setting may have one set of place meaning, while occasional visitors, the media or policymakers may craft their own meanings by using certain images or focusing on a narrow set of biophysical attributes. In home places, the accumulation of ordinary experiences produces deep feelings of attachment to places that (to the outsider) lack distinction, according to Stedman (2006). Year-round residents value their community as 'home' while one-time tourist visitors value it as an 'escape' from their everyday lives. The second home owners' behaviour emphasizes recreation and relaxation, but at the same time there are relationships with neighbours, maintenance activities and worries about local issues (Stedman, 2006).

How emotional bonds to a place are considered in research of tourism and outdoor recreation should be adjusted to the modern forms of dwelling, working and travelling:

*“Owning and using a summer cottage or second home, for example, may represent a thoroughly modern kind of identity distributed across multiple places and, at the same time, an attempt to escape from modernity by constructing a more enduring sense of place, rootedness, or identity in a second home.”* (Kaltenborn & Williams, 2002 p. 191.).

However, what do Kaltenborn and Williams (2002) mean by an ‘*escape from modernity*’ in the quotation above? In the Swedish archipelagos, there are different studies (for example, Heldt Cassel, 2003; Nordin, 2005a) that suggest that visitors’ images of the Swedish archipelagos are built on the views of what is believed to be traditional life in these marine landscapes. What one associates with an archipelago might not exist in reality. The images are not adjusted to modern life, which for example the local population experience. To base a place attachment on a myth does not have to be wrong, people feel what they feel. Nonetheless, if visitors’ place attachment is to be considered in planning and management, it might be valuable to recognise the possibility that visitors may perceive that they have escaped modernity, and that their place attachment therefore is different from, for example, the local population’s. It might have an effect on the attitudes of the visitors and the second home owners to changes and development of the setting.



**Figure 6.1.** *Sense of place in the conceptual framework of eco-strategies.* (Adapted from Sandell, 2005).

This discussion links to a further examination of the emotional bonds between recreationists and setting, and in the following part the theoretical perspective of Sandell’s (2001; 2005) conceptual framework of eco-strategies will be discussed. It illustrates humans’ behaviour and attitudes to nature and landscape, and the man-nature relationship (Figure 6.1.).

The framework is a four-field figure with one axis illustrating the tension between ‘functional specialisation’ vs. ‘territorial adaptation’ as the point of departure for landscape perspectives. The other axis illustrates the tension between the strategies of ‘active’ use vs. ‘passive’ contemplation. The first axis depicts the dichotomy of landscape perspectives between functional dependence with exchange with other areas and territorial dependence with the best use of the local resources. The dichotomy of the other axis consists of utilization vs. conservation (Sandell, 2005). The concept of sense of place is placed in the right field of Figure 6.1, where it affects the recreationists’ attitudes of the home district. If an area is considered as ‘one’s home district’, it is a question of identity and to feel at home, according to Sandell (2005).

Which sort of landscape humans seek, signifies an orientation in the model. For example, if a visitor decides to go to the Luleå archipelago because he or she is very interested in sailing, and especially because of the possibility of seeing different islands where there are different options of facilities, that visitor would be placed in the *left field* of Figure 6.1. The activity is the most important where sailing in, for example, the Stockholm archipelago, could be another option to obtain the experience. However, if he or she rather comes to the Luleå archipelago because of its setting, the visitor would be placed in the *right field* since there is a sense of place. The Luleå archipelago means something special to that visitor. Because of this emotional bond, he or she gets an experience with activities that the setting offers, such as sun bathing, sailing or picking berries. As Kyle et al. (2003b) express it, a place can be valuable because it is perceived as ‘special’ for emotional and symbolic reasons, or it can be valued as a ‘good’ place to carry out an activity, or both.

In planning and management, there has been a history of focusing on activities. In Sweden, for example, the development of outdoor recreation has been planned for activities and not to conserve the individuals’ exchange of values or characteristics of outdoor life (Emmelin, 1997). Planning for development of activities is represented in the left field of Figure 6.1. However, in the right field, the framework illustrates how visitors and second home owners can have different perspectives of the landscape regarding utilization or conservation, nature tourism and outdoor recreation depending on their sense of place. Kyle et al. (2004a) have in their study of the relationship between activity involvement and place attachment found that for recreationists for whom the activity is very important, an emotional bond with the recreation setting is also expected. It should be recognised that an understanding of the activity involvement and place attachment provides information concerning how the motives for recreationists’ experiences connect with their attachment to recreation settings (Kyle et al., 2003a).

The perception of the importance of the physical landscape in relation to place attachment varies in literature. Stedman (2003) has tested characteristics of the environment, human uses of the environment, constructed meanings, and place attachment and satisfaction, and concludes that the landscape characteristics matter. Also, place attachment is vulnerable to changes; the physical landscape may change to such a degree that preferred meanings become invalid or are maintained only through effort (Stedman, 2003). In the study by Kyle et al. (2004a) of recreationists’ relationships with activities and setting (included were hikers along the Appalachian Trail, boaters along the South Fork of the American River in California, and anglers in New England), it is suggested that for recreationists for whom the activity is very important, an emotional bond with the recreation setting is also likely. There should be greater consideration of the physical environment (Kyle et al., 2004a). Where tourism and outdoor recreation take place is of interest for both researchers who attempt to improve the

understanding of leisure and outdoor recreation, and to managers who seek to maintain and create opportunities for recreational experiences. Therefore, people's emotional ties or attachment to a place are researched (Meyer, 1999a).

#### *6.2.4 Attachment – a catalyst for sensitivity to conflict?*

Place attachment can unite individuals and groups to shared meanings and identity but also cause conflicts among groups. Identifying the values that are assigned to different uses and their relative importance to diverse stakeholders, provide a way of approaching the issue of competing uses (McIntyre & Pavlovich, 2006). Kaltenborn and Williams (2002) emphasize the importance of how people form diverse ties to places and how these ties shape the views towards management of the setting. Understanding different people's viewpoints on natural resource use and conservation, and how these views contribute to conflict and conflict resolution is a major challenge (Yung et al., 2003).

Some researcher in tourism and outdoor recreation maintain that when stakeholders have a strong place attachment, conflicts may arise (Farnum et al., 2005). Müller (1999) concludes that because of the second home owners' place attachment, conflicts between stakeholders are more likely to arise between second home owners and other visitors than between second home owners and the local population.

In the conflict model by Manning (1999, Ch. 2), personal norms and values are important parts. In one category of the model's variables, place attachment is considered central in defining sensitivity of conflicts. Place attachment is a precondition that is more likely to lead to conflict given certain behaviours or stimuli (Manning, 1999). A group identifying with a place and establishing what they have in common is at the same time establishing a relation of difference with other places and other groups, according to Hague (2005). In place identity there is a relation based on similarity but also on difference where identity is about 'us' and 'the others', where shared experiences and beliefs set us apart from others and influence policy and practice. An awareness of place identity is necessary in planning (Hague, 2005). This is also discussed by Manning (1999) who state that by identifying with a place, there can also be a relation of difference established with other places and other social groups. Without planning and active management, visitors who are sensitive to conflict are likely to be dissatisfied and this could eventually lead to a choice of another area (Manning, 1999).

### **6.3 Method**

#### *6.3.1 Place identity index and categorisation of respondents*

This study is based on the results of a questionnaire survey directed to visitors and second home owners in the Luleå archipelago in 2003. In the questionnaire there were statements concerning place attachment (Appendix 1) similar to the statements of the place attachment scale by Williams and Roggenbruck (1989). They developed a place attachment scale consisting of Likert-scaled statements in order to define place attachment and designed to measure two dimensions of place attachment: place identity and place dependence<sup>37</sup>. The capability of the place attachment scale developed by Williams and Roggenbruck (1989) has

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<sup>37</sup> This measure of place attachment has been further developed by Williams et al (1995), where another approach to measuring place attachment is the "sense of place" measure. The advantage of the sense of place measure is according to Williams (2000) that places at multiple geographic scales can be examined, unlike the place attachment measure which focuses on tourist and recreation places.

been used and tested by several authors (Moore & Graefe, 1994; Kyle et al., 2003b; Williams & Vaske, 2003). Williams and Vaske (2003) have studied the validity of the two dimensional model of place attachment (place identity and place dependence) and the results show that such place bonds can be systematically identified and measured. People develop different levels and forms of attachment to different places. Kyle et al. (2005) have also tested the construct validity of the place attachment scale by Williams and Roggenbruck, but have extended the work by testing an additional dimension of social bonding.

Place identity in the Luleå archipelago was examined by an index derived from three statements in the questionnaire survey (question B10 in Appendix 1):

- a) The development of the area is important to me.
- b) I have emotional bonds to the area; it means something to me.
- c) Sometimes I feel like a stranger when I am visiting the area.

In addition, the statements concern the place identity of the entire Luleå archipelago, and not place identity of a zone or a place, and are graded by a Likert scale from 1 (Totally disagree) to 5 (Totally agree)<sup>38</sup>.

Using the statements and the Likert scale, the place identity (PI) index was constructed as follows:  $PI = (Q1+Q2+Q3)/3$ . The degree of place identity was rated from 'Very strong PI' to 'Very weak PI' (Table 6.1). The software SPSS was used in the analysis of the data and place identity was statistically analysed by Chi-Square Tests.

**Table 6.1.** *The place identity index.*

Degree of place identity (PI)	
<i>Very strong PI</i>	PI = 5
<i>Strong PI</i>	$4,9 > PI \geq 4,0$
<i>Moderate PI</i>	$3,9 > PI \geq 3,0$
<i>Weak PI</i>	$2,9 > PI \geq 2,0$
<i>Very weak PI</i>	$PI \leq 2,0$

In the first inquiry, the place identity is studied among all respondents of the survey ( $n=522$ ). The study continues by investigating the place identity depending on whether they are returning visitors ( $n=432$ ) or first time visitors ( $n=61$ ). The total of respondents is 493. The ownership of a second home is also investigated where ( $n=150$ ) of the respondents own a second home and ( $n=345$ ) do not. The total of respondents is 495.

To see if the place identity differs geographically, an initial position is the geographical division of three zones in the Luleå archipelago in the second inquiry. Firstly, the study includes the respondents ( $n=115$ ) who have visited places within one zone only. They have been to one zone by 100%, and have not visited any other places or islands outside this specific zone during their stay in the archipelago (Table 6.2.).

<sup>38</sup> The scale of the last statement (c) was reversed to be similar to the other two. Author's comment.

**Table 6.2.** *Number of respondents in the 3 zones of the Luleå archipelago 2003.*

<b>Only one zone visited by the respondent (100%)</b>	<b>Zone 1</b>	<b>Zone 2</b>	<b>Zone 3</b>	<b>Total of respondents</b>
Number of respondents	52	15	48	115
<b>A zone visited by the respondent by 60%</b>	<b>Zone 1</b>	<b>Zone 2</b>	<b>Zone 3</b>	<b>Total of respondents</b>
Number of respondents	59	56	111	226

However, many of the respondents proved to have been to islands and places located in different zones. Therefore, in the third inquiry, the respondents ( $n=226$ ) who have visited places in one zone by 60% are included as well. For example, if a respondent has been in zone 1 by 60% in comparison to the other zones he or she has visited, the respondent was categorised into zone 1 (for example, 6 out of 10 places are in zone 1), Table 6.2.

### *6.3.2 Methodological difficulties*

In a discontinuous landscape like the Luleå archipelago, with a physical environment consisting of a coast, various islands and the sea, the respondents have often travelled around in the whole geographical area. Sailing or going by motorboat makes it easy to transport oneself to various places in the area and these activities are one of the major reasons for the decision to visit the archipelago. Therefore, an acknowledged problem should be that in the analysis of the respondents' place identity, there is a difficulty to guarantee that the respondents' attachment solely relate to one zone or a specific area. The index also consists of statements that concern the respondent's feelings to the entire Luleå archipelago and the same goes for the questions regarding changes and development.

The data allows two approaches: to examine the respondents who at their latest visit only visited one zone, alternatively make a division of the respondents regarding their second homes' geographical location. However, the second approach is impossible here since the respondents did not state these addresses. Even if data should be interpreted by some cautiousness, the assumption is that if a respondent exclusively has visited one zone or place in the Luleå archipelago, it will give reliable results to analyse. However, a consequence is that the number of respondents proved to be few, and the study therefore includes the respondents who had been to a zone by 60% as well.

Because of the few respondents in the various zones, there were not enough observations to test place identity against the variables of development (Ch. 6.4.4) by a Chi-Square Test. This thus excludes a geographical dimension of place identity and development in the archipelago's zones and places. Comparisons are made between the returning visitors and first time visitors, where there is a higher number of returning visitors ( $n=432$ ) than first time visitors ( $n=61$ ).



Finally, it could be discussed whether place attachment is best investigated by quantitative or qualitative methods. Regarding the dilemma of either quantitative or qualitative methods, both pro or cons could be recognised:

*“Constructing an empirical scale measuring sense of place using quantitative methods may appear to violate the nature of the concept. The problem may be more philosophical than methodological, however. Like any human phenomena in time and space, sense of place has a phenomenological content which is highly subjective, but almost any collection of individual experiences can be said to have certain common traits or structures across individuals and groups.”*  
(Kaltenborn, 1998, p. 187).

This study is based on a quantitative survey, where a questionnaire was concluded to be the best alternative to gather knowledge about the visitor in the Luleå archipelago. This also includes the measurement by Williams and Roggenbruck (1989) which has been tested scientifically by Williams and Vaske (2003) and others, see above. The items of place attachment have been used in other Swedish visitor questionnaire surveys (Vuorio, 2003; Wall Reinius, 2006).

Nevertheless, there could be more improvement of methodologies in the research of place attachment in tourism and outdoor recreation (Farnum et al., 2005). It is a broad and subjective concept where different authors have tried diverse data collection methods, such as ethnographic interviews, participant observation, document analysis, questionnaires, cognitive mapping and oral histories (Cheng et al., 2003). Another method is using photographs as Beckley et al., (2004) and Stewart et al. (2003), where the latter let 20 participants have disposables cameras to take pictures of places, people and environments that were important to them. They were then interviewed while viewing their photographs. Although the findings in general supported landscape change, participants only supported it when it enhanced a sense of locality in which landscapes revealed connections between people and their environments. Moore and Scott (2003) discuss alternative methods with cognitive mapping and other qualitative methods to distinguish between attachment to a general area or class of areas and attachments to specific places within that area.

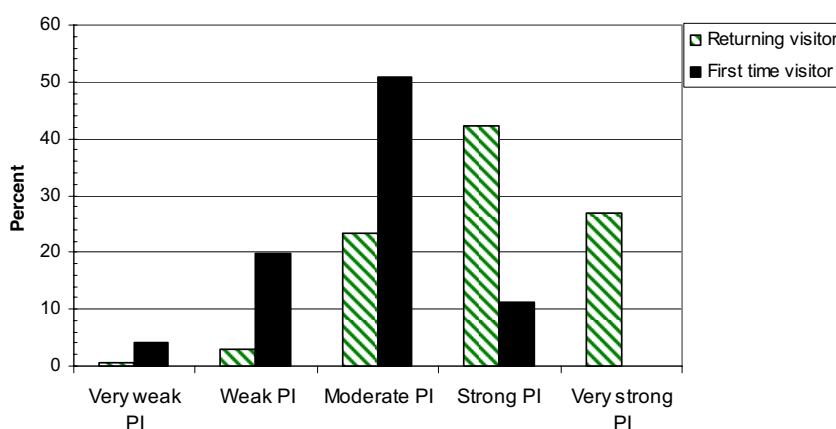
Farnum et al. (2005) have noted that it is important how place questions are asked (especially in questionnaires) so that the respondents feel at ease. Questions that bring forth longer descriptions of places might be a solution, but earlier attempts (Bricker & Kerstetter, 2002) have had low response rate. Therefore, Farnum et al. (2005) are concerned that it might imply that those who do not feel strong place attachment fail to respond. Williams and Vaske (2003) also note that a general limitation of previous on-site place attachment studies is the low variance and high scores observed on attachment. They explain this problem to be a function of on-site sample bias. One is more likely to sample the long-staying, frequent and seemingly more attached visitors than the opposite (Williams & Vaske, 2003).

## 6.4 Results

### 6.4.1 Place identity among all respondents with regard to number of the visits and the residency

This part accounts for the study's results (for percentage see Appendix 4). The first inquiry includes all the respondents of the questionnaire survey. The place identity among all respondents of the 2003 survey shows that 23 percent feel a *very strong PI* and 38 percent feel a *strong PI*. In addition, 27 percent express a *moderate PI* and six percent a *weak PI* and a *very weak PI*.

If the number of visits and the residency affect the level of place identity is investigated with comparisons of returning visitors and first time visitors, along with the respondents who do or do not own a second home in the Luleå archipelago.



**Figure 6.2.** Place identity of returning visitors and first time visitors in the Luleå archipelago 2003.

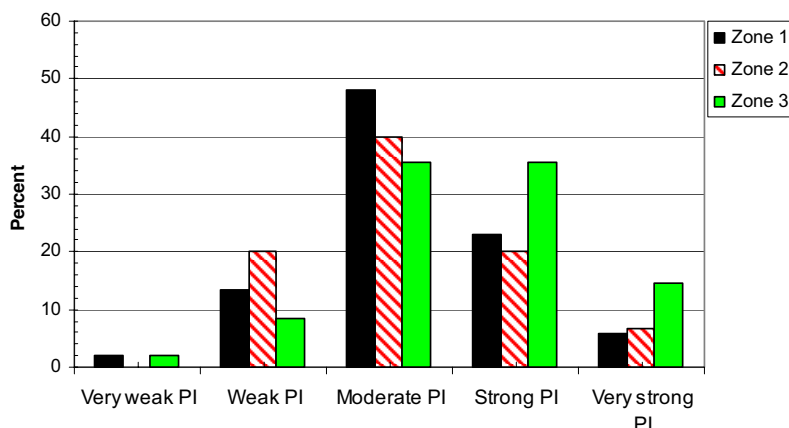
To begin with, the examination of the respondents' place identity shows that the returning visitors have a stronger place identity than the first time visitors (Figure 6.2.). For example, 20 percent of the first time visitors express a *weak PI* and four percent a *very weak PI*. In contrast, three percent of the returning visitors' have a *weak PI* and one percent a *very weak PI*. None of the respondents visiting the archipelago for the first time, have a *very strong PI* in comparison to 27 percent of the returning visitors.

In the comparison of the respondents who own a second home and the ones who do not, the study proves that the place identity is stronger among the respondents who have a second home. 43 percent of the second home owners express a *very strong PI*, and 41 percent a *strong PI*. Of the respondents who do not own a second home in the archipelago 15 percent have a *very strong PI* and 37 percent a *strong PI*.

### 6.4.2 Place identity between the zones

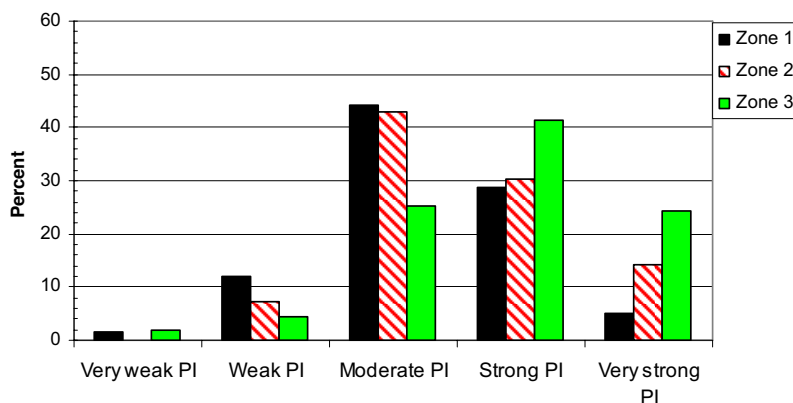
In the second inquiry regarding the place identity in the Luleå archipelago, differences of place identity between the zones is examined. As mentioned above, both the respondents who

visited only one zone (they have been to a zone by 100%) and the respondents who have visited a zone by 60% are included.



**Figure 6.3.** Place identity (100%) in the zones of the Luleå archipelago 2003.

Among the respondents who have been to separate zone by 100% (Table 6.2 and discussion), a *very weak PI* and *weak PI* proved to have the highest percentage in zone 2 (20 percent), followed by zone 1 (15 percent) and zone 3 (10 percent). *Strong PI* and *very strong PI* (Figure 6.3) was felt by half of the respondents in zone 3 followed by zone 1 (29 percent) and zone 2 (27 percent). However, the Chi-Square Test proves that there is no correlation between the place identity and the zones visited by 100%. The place identity of a respondent is not stronger if he or she has visited only one zone.



**Figure 6.4.** Place identity (60%) in the zones of the Luleå archipelago 2003.

The place identity is thereafter examined among the respondents who have been in each zone by 60% (Table 6.2 and discussion). The respondents who have been in zone 3 by 60% have a stronger place identity than the other two zones (Figure 6.4.). A Chi-Square Test shows that there is a significant correlation of place identity and the zones. Also, there is a correlation of place identity between zone 3 and zone 1. The difference of the results in Figure 6.3 and 6.4

is because many of the respondents who have been to a zone by 60% have been to both zone 2 and 3, but not to zone 1. These respondents have a strong place identity.

#### 6.4.3 Place identity between places

In the third inquiry, the respondents' place identity is examined comparing four places: Brändön and Rörbäck in zone 1, and Kluntarna and Småskären in zone 3 (for percentage, see Appendix 4). It is an analysis of the place identity of the respondents who have been to just one place in the archipelago during their visit; they have not visited any other place but this one explicitly. These were the four places in the survey with the highest number of respondents that respectively have been solely to one place, hence the selection (Table 6.3). The total number of this group of respondents is 72.

**Table 6.3.** *Number of respondents on Brändön, Rörbäck, Småskären and Kluntarna.*

	Brändön	Rörbäck	Småskären	Kluntarna	Total of respondents
Number of respondents	28	20	12	12	72

In comparison to the other three places, Brändön proves to have a higher percentage of respondents feeling a *weak PI*. None of the respondents visiting Kluntarna and Rörbäck express a *very weak PI*. Few feel a *very weak PI* on Brändön and Småskären. Visiting Rörbäck and Kluntarna, 50 percent express a *moderate PI*.

All together, the respondents who have been to Brändön and Småskären feel a *very strong PI* in comparison to no respondents in the other two places. However, if one studies the results from a *very strong PI* together with a *strong PI*, the respondents who visited Rörbäck and Småskären prove to have the strongest place identity.

#### 6.4.4 Attitudes to changes of land and water use

This section includes the forth inquiry where all the respondents' place identity is tested against their attitudes to various questions of development in the Luleå archipelago (Table 6.4). These questions concern various sorts of developments (second homes, intense development, noise-free areas and tourism development) to study the degree of place identity among the archipelago's visitors.

**Table 6.4.** *Questions regarding the development in the Luleå archipelago 2003.*

a)	<i>Do you think that the expansion of second homes is a development which characterises the Luleå archipelago?</i>
b)	<i>Do you think that intense development is a development which characterises the Luleå archipelago?</i>
c)	<i>What is your opinion of noise-free areas with restrictions against motorboats in the Luleå archipelago?</i>
d)	<i>Which change do you want to occur regarding the number of tourists in the Luleå archipelago within the next 5 years?</i>

According to a Chi-Square Test there was a correlation between all the questions a) to d) in Table 6.4 and the respondents' place identity.

## 6.5 Discussion

Except for identifying place identity in the archipelago, the purpose of this study was to discuss if and how place identity would be considered as important to the planners and managers of the Luleå archipelago. For instance, Farnum et al. (2005) question how important sense of place is to tourism and outdoor recreation managers and planners. Their conclusion is that they cannot be completely sure, but that there is enough evidence to suggest that it should be of at least moderate importance.

In the Luleå archipelago there is a zoning which divides the area into three zones (the inner, middle and outer part of the archipelago), depending on the wanted number of visitors in correlation to nature conservation. One should notice that although the zoning is unofficial, it does guide the managers in their work with planning for the archipelago (Wallin, 2003). Yet this zoning is not visible to the local population, the visitors or the second home owners since there is no information of the zoning or its goals. Initially, through the results of the Luleå archipelago survey, planners and managers could acknowledge that 61 percent of the respondents felt strong or very strong place identity with the area. In the archipelago, there are differences of place identity in different geographical areas. The Luleå municipality would like to have the highest number of visitors in the inner part of the archipelago, but according to the survey results (Ch. 4), they have not succeeded since most of the respondents had been to the outer zone. In addition, the outer zone had the highest place identity, according to the survey results. There was also a comparison of the place identity of four places (Brändön, Rörbäck, Kluntarna and Småskären) in the study. The respondents who had been to Brändön, in zone 1, proved to have a weaker place identity, but when the results of a very strong and strong place identity were put together, the respondents who had visited Rörbäck and Småskären had the strongest place identity, where the latter is an island in the outer zone.

Place attachment offers a possibility to get a sense of the differences in how the resource is defined and valued by the visitors, and when managing for quality experiences (like the ROS) place attachment could be useful, according to Bricker and Kerstetter (2000). Furthermore, recreationists' level and type of attachment have been shown to affect their setting preferences and behaviour (Kyle et al., 2004b). There has been criticism, stating that when using the ROS, there is too much focus on activities at the expense of sense of place (Farnum et al., 2005). Knowledge about visitors in planning could be improved by adding research of the visitors' relationship with the setting. The relevance of gaining knowledge of visitors' place attachment has been further discussed by the analysis in this study of Sandell's (2001; 2005) conceptual framework of ecostrategies.

The framework could be viewed as an instrument in planning, where visitors travel to a local landscape which is their home district because of their emotional bonds (sense of place) — although they are not full time residents. The framework of Sandell enlightens the need for knowledge of visitors' emotional bonds to a setting, where the right field of the framework (Figure 6.4) has been less represented in research, in comparison to research of activities, which are represented in the left field. According to this study, the knowledge in planning and management of sense of place (represented in the framework's right field) should be improved to get a greater understanding of humans' behaviour and attitudes to nature and landscape, and of the man-nature relationship. This does not mean, however, that there is no need for knowledge of why visitors search for settings that are suitable for the activities they

would like to perform. If planning frameworks, like the ROS or the WROS, are to be applied in a Swedish archipelago, both the fields of Sandell's framework should be included.

Whether number of visits or residency (having a second home) have an impact on place identity, have been discussed in this study. The ownership of a second home was also investigated in relation to place identity, where 84 percent of the second home owners in the Luleå archipelago felt strong or very strong place identity to the area. Thus, having a residential connection as a second home in the Luleå archipelago is an indicator of strong place identity, which also has been acknowledged by Meyer (1999a), and by Stedman (2006) who found that second home owners in Vilas County, Wisconsin, revealed stronger place attachment than the year-round residents. Even so, it could be interesting to study if the emotional bonds change over time (for example, Stewart et al., 2003) where the respondents reflect on their past in order to complement the factors that may affect place attachment.

Vorkinn (1998) found in her study of visitor response to management regulations in southern Norway, those visitors who had been to an area frequently and during long periods of time should be given great consideration in management. The reason is that management action could have a heavier impact on this group of visitors, since they almost certainly are attached to the area. The results of this study showed that the returning visitors had a strong and very strong place identity, whilst the first time visitors' place identity was measured with lower percentage. The results of the Luleå archipelago are in addition confirmed by earlier studies by Williams et al. (1992), and by Moore and Graefe (1994).

As earlier research proposes, stakeholders with stronger emotional bonds to a place could be more sensitive to changes and development. In this study, the respondents' place identity was tested against their attitudes to development of the area. The statements of development were selected because they concern issues that may cause conflicts and because they were evaluated by the author as important in the future planning of the archipelago. These statements considered the expansion of second homes, intense development, noise-free areas with restrictions against motorboats, and what changes the respondent wanted to see regarding the number of tourists within the next five years. The results of the Luleå archipelago showed that, for all the respondents there was a correlation between place identity and the questions of development. Since place identity varies in the archipelago, the development planned by the Luleå municipality could also be received differently by the visitors and the second home owners. The strength of place identity can have an influence on how changes are perceived by these stakeholders. Other studies have found that the length of residency, identification with the area and source of attachment affect the residents' reactions to changes (Williams et al., 1995). Meyer (1999) concludes that if the studies of people-place interactions cover attributes (for example, past experiences, trip characteristics, norm encounter etc.) and symbolic levels (place identity), they could be of relevance to the management of recreational areas. These recreationists probably would be more vulnerable to planned or unplanned changes in the area.

Knowledge of visitors' emotional bonds may also be valuable when planning and managing for the prevention of displacement (see above). Manning (1999) emphasizes that displacement may occur within a recreation area; it does not have to involve a movement to another recreation area. Still, displacement is a behavioural coping mechanism which leads to a geographical movement and changed patterns of activity by the visitors because of decreasing satisfaction and conflict (Manning, 1999). Place attachment could hinder displacement, however. The reason could be that there are no alternatives of similar

emotional and symbolic value (Vorkinn, 1998). In further studies, it would be interesting to include investigations of the visitors' attitudes to displacement in relation to place attachment. Is there a risk for displacement? What would cause a possible displacement, and would it be to another area (which perhaps is similar to the present) or within the area?

In this study's analysis of the conflict model by Manning (1999), it is proposed in the model that when defining conflict, place attachment is vital. Personal meanings, values and norms are subjects that lead to sensitivity to conflicts. With the conflict model as a basis, one could suggest that knowledge of place attachment could increase the possibilities of handling conflicts in the Luleå archipelago. The difficulties of expected behaviour could, for example, in the urban-wildland interface, be less distinct: *"Conflicts emerge not only over competing uses, such as between nonmotorized and motorized recreation users, but also over the meanings – and therefore, expectations of appropriate behaviour – assigned to the place."* (Cheng et al, 2003. p. 91).

However, according to Farnum et al. (2005), much of the discussion of place in natural resources focuses on its contribution to conflict of resource management. They conclude that although it is tempting to view place attachment as a catalyst for conflict, the empirical findings of scientific research suggest that place attachment is not necessarily directed to conflict or conflict potential: *"... although there are some examples where place attachment is intertwined with conflict, bondedness does not inherently lead to conflict."* (Farnum et al., 2005, p. 31). To simply regard place attachment as something that inherently leads to conflict would be problematic to planning and management. If one instead viewed place attachment as one reasons for conflict among others (as in the model by Manning), and combined knowledge of place attachment with the knowledge of the visitors' activity style, mode of experience and lifestyle tolerance, it is this study's conclusion that there could be a better understanding of sensitivity of conflict.

This study should be seen as an initial stage of further research. The results confirm that some of the indicators of place identity proposed in theoretical and empirical work (for example, Proshansky et al., 1983, Williams et al., 1992; Meyer, 1999a) could be applied to a coastal area in Sweden, where the items of place attachment were viewed as significant to include in questionnaire surveys. The results of the Luleå archipelago show the respondents' degree of place identity, but place dependence has been excluded in the study. Williams and Vaske (2003) mean that the two dimensional place attachment models (place identity and place dependence) suggest that there are distinct origins and meanings in people's bonds to places. Being able to measure both these differing forms of attachment may prove to be useful in management.

Kyle et al. (2003b) have examined the relationship between place attachment (place identity and place dependence), attitudes toward paying fees, and visitor preferences for spending fee revenue at the Mono Basin Scenic Area, U.S. The results indicated that place identity was a significant positive moderator of fee support, while place dependence contributed little in each of the models examined. Williams and Vaske (2003) conclude their study of the validity of measurements of place attachment by stating that more research is needed to advance the social-psychological understanding of the attachment process. It is necessary to explore how the attachments are formed and by what factors, and how these attachments influence attitudes towards land management policies and participation in planning (Williams & Vaske, 2003). Social bonding has seldom been incorporated in quantitative research of place attachment. It as an important component of human-place bonding and Kyle et al (2005)

would like to encourage a stronger consideration of including social bonds in conceptualizations of place attachment. Kyle et al. (2005) have in their examination of Williams and Roggenbruck's place attachment scale adapted twelve items representing place identity and place dependence, but also social bonding since places are settings for interpersonal, social and cultural relationships. It is to those types of relationships people are attached; place attachment is in reality attachment to the people who live in that place (Hidalgo & Hernández, 2001). To get enhanced knowledge of place attachment and use it in planning, it is this study's conclusion that in future studies of visitors' place attachment in Swedish archipelagos, it will be fundamental to include not only items of place identity in the investigation, but items of place dependence and social bonding.

The results of this study imply that through knowledge of the visitors' emotional bonds to a place, the planners and managers of the Luleå archipelago would improve its tourism and outdoor recreation planning and management, its zoning and the handling of conflicts. However, how to attain the knowledge of visitors' emotional bonds needs to be developed and implementing this knowledge in practise are complicated matters.



## **7. DISCUSSION**

### **7.1 Introduction**

In this thesis, knowledge about visitors and second home owners in the planning for tourism and outdoor recreation in coastal areas has been examined. If and how planning for tourism and outdoor recreation in coastal areas could be improved with knowledge of visitors' attitudes, experiences, activities and geographical dispersion have been discussed from different analyses of a questionnaire survey directed to visitors and second home owners in the Luleå archipelago in 2003.

Conflicts in Swedish coastal areas have been the point of departure with zoning as a method to handle such conflicts. To be able to introduce tourism and outdoor life better in the comprehensive plans, it is important to identify conflicts. In the Swedish planning, there is a need for understanding and knowledge of the different interests for land and water use; the decisions of planning may improve by comprehensive knowledge. An appropriate and effective management of nature areas for tourism and outdoor life presume good knowledge of the visitors, according to Emmelin et al., 2005. The conclusion of this thesis is that the problems (such as conflicts) that planners are trying to solve and handle should be established in the users' reality and not only in the planners' conceptions. Knowledge of the visitors' and second home owners' experiences, activities and effects on the environment may thereby contribute to the decreasing of conflicts.

The results of the questionnaire survey together with the analysis of the attitude to silence in the Swedish planning show that the possibility for people to be able to experience silence, peace and quiet is an important aspect. Nearly 85 percent of the respondents declared that experiencing peace and quiet had been of great or very great importance when deciding to visit the Luleå archipelago. The respondents had not experienced noise to a great extent, but when they had, motorboats were particularly specified as the source. The respondents who had been riding motorboats had experiences equivalent to those of the respondents of other activities – with the exception for the respondents who had been sailing. These had to a greater extent been disturbed by noise from motorboats. Sailing can thereby be estimated to create a group of users more sensitive to motorboat noise.

A conclusion is that in the Swedish coastal areas, protection of silence in the work with development and conservation is of significant matter; silence is an important reason for visiting the coasts and archipelagos. Also, disturbance of silence – noise – is a cause of conflict. Even if county administration boards and municipalities do not view noise as a problem at the present, there should be an awareness of the value of silence for the visitors. How and where silence could be kept in the archipelagos is, however, a complex issue since noise is a subjective concept (who is disturbed and where, by what noise and what situations?) and because of the archipelago's discontinuous landscape.

Also, planners and managers could benefit from knowledge of the visitors' and the second home owners' place attachment to an area. Humans are not rational; we are guided by our feelings, which are also mirrored in our attitudes to a place. Through the results of the Luleå archipelago survey, planners and managers could acknowledge that 61 percent of the respondents felt a strong or very strong place identity with the area. In addition, the outer zone had the highest place identity. Having a residential connection, like a second home, in the Luleå archipelago was an indicator of strong place identity. The returning visitors had a

strong and very strong place identity, whilst the first time visitors' place identity was measured with lower percentage. Place attachment should be considered in planning since it could give understanding for different individuals' negative or positive reactions to, for example, changes or the presence of other people in an area. Knowledge of place attachment could by this means help when handling conflicts in a coastal area. The results of the study indicate that the planners and managers of the Luleå archipelago, through knowledge of the visitors' emotional bonds to a place, could improve the archipelago's tourism and outdoor recreation planning and management, its zoning and the handling of conflicts. However, how to attain the knowledge of visitors' emotional bonds needs to be developed.

Furthermore, zoning as a method to handle conflicts has been analysed in this thesis. The analysis and discussion of the Luleå archipelago has revealed that an archipelago is a challenge to zoning, such as the ROS and the WROS. In an evaluation in 2002, the Environment Office of the Luleå municipality states that: "*Consequently the larger amounts of visitors are directed to the inner parts [of the archipelago] that are judged to tolerate relatively high stress while there is a significantly more restrictive attitude to the outer archipelago.*" (Kommunstyrelsen Luleå kommun, 2002 p. 126 §60. Author's translation.). The Environment Office's evaluation concludes that the visitors are directed to certain areas of the archipelago – but not by which means and if it actually is effective. Neither is there any information of the zones communicated to the visitors; it is impossible for the visitors of the archipelago to perceive the diversion of the geographical area. The conclusion is that the unofficial zoning of the Luleå archipelago has not been successful and that it is a mere vision. The present zoning is not an actual instrument in the planning or management, which of course is also emphasized by being unofficial.

In the following of this chapter, different possible directions for further research will be discussed where the central issues of this thesis' analyses and results will be the starting points. In the future research, the work with examining knowledge of visitors and second home owners in Swedish coastal areas will continue based on a questionnaire study in the Blekinge archipelago (located in southern Sweden), directed to visitors and second home owners visiting the area in the summer of 2007.

## **7.2 Zones of a discontinuous landscape**

In the study of the Luleå archipelago, a comprehensive plan from 1990 was used to discuss planning in the archipelago. In future research with the study of the Blekinge archipelago, the process of applying for becoming a *Biosphere Reserve*<sup>39</sup> will be the focal point together with an analysis of comprehensive plans. At the time of writing, the Blekinge county administration board and four different municipalities (Karlskrona, Ronneby, Karlshamn and Sölvesborg) participate in a preliminary study concerning a potential application of becoming a Biosphere Reserve. The participation in planning will be examined in the future studies, which does not mean that the various stakeholders will have control of the knowledge that will be examined. However, different stakeholders (for example, the county administration board, the municipalities, the local population and visitors) may influence which sorts of

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<sup>39</sup> Biosphere reserves are sites recognized under UNESCO's *Man and the Biosphere Programme (MAB)*, which innovates and demonstrates approaches to conservation and sustainable development. They are under national sovereign jurisdiction. The MAB proposes an interdisciplinary research agenda and capacity building, aiming to improve the relationship of people with their environment globally: to reduce biodiversity loss, to improve livelihoods, and to enhance social, economic and cultural conditions for environmental sustainability (Thorell et al., 2005).

knowledge there should be in the planning of the archipelago and in the area's management. This depends on what the stakeholders consider important, which conflicts they acknowledge and perceive, and which geographical areas they believe as important to include.

In a discontinuous landscape (such as the Blekinge archipelago) it is a complicated matter to apply this type of zoning, which is why it will be investigated further. Zoning is of significance in a Biosphere Reserve, which is organised into three inter-related zones (core area, buffer zone and a transition area) to carry out different activities involved. According to Thorell et al. (2005), this zoning was conceived to be flexible enough to be adapted to very different ecological and socio-economic situations world wide.

In further research, it should be discussed if zoning is meaningful in a discontinuous landscape. The purpose will be to get knowledge of the visitors and second home owners in order to improve the planning for a Biosphere Reserve in the Blekinge archipelago. It will be examined if and how a zoning may be applied in an archipelago, if there are any other zoning alternatives, how various characteristics of a discontinuous landscape (for example, the geography, the accessibility and the different industries) should be considered, and if various conflicts (existing and potential) may be identified. Could zoning function and what are the possibilities?

### 7.3 The power of silence

In a sound environment of high quality it is important to find “... *a balance of wanted and unwanted sounds*” (Naturvårdsverket, 2005b). In the culture environments it is more evident that some sounds belong to an area. In agriculture areas, one expects sounds from cattle and agriculture machines. If the unwanted sounds disguise the sounds that one would like to hear, the disturbance is worse (Naturvårdsverket, 2005b). But what sounds ‘belong’ to a certain area? In a fishing hamlet it could be positive to hear the sound from a fishing boat, while hearing a motorboat when being on a sea cliff in the sunset could be viewed as negative. Motor-noise does more than just disturb natural quiet. A person can experience the sound from a motor driven vehicle used for fun as more disturbing than the sound from commercial traffic – even if they are at the same sound level. The user of, for example, a motorboat, is for the same reason less disturbed by motorboats than a person who is involuntarily exposed to that sound (SOU 1993:51).

There may be differences between motorized and non-motorized recreation activities and differences in the motivations, goals, environmental values and behaviours of different recreation participants. However, there is little knowledge about how the perceived need for mechanical noise may affect visitors’ experience of noise and there are reasons for believing that the perceived need would influence the perception (Gramann, 1999). These questions and the differences between the visitors’ attitudes and visions will be examined further in the Blekinge archipelago study.

Some of the Swedish county administration boards<sup>40</sup> have, on a governmental commission, written a plan of action for the establishments of ‘consideration areas’ in the coastal areas (Länsstyrelserna, 2006). This has been made in order to determine which actions are necessary to achieve the national environmental quality objective *A Balanced Marine Environment, Flourishing Coastal Areas and Archipelagos*, and its interim target:

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<sup>40</sup> Stockholm, Uppsala, Södermanland, Östergötland, Kalmar, Gotland, Blekinge, Skåne, Halland, Västra Götaland, Gävleborg, Västernorrland, Västerbotten and Norrbotten (Länsstyrelserna, 2006).

“... by 2010 noise and other disturbance from boat traffic will be negligible in particularly sensitive and designated archipelago and coastal areas.” The Blekinge county administration board states together with the other county administration boards in the plan of action, that is it required to develop simple rules to delimit the sound levels. Visitors should not have to measure their noise levels, but instead people should follow rules concerning, for example, speed limits and the limitations for certain activities and of the usage of particular vehicles, and also show general respect sea and on land in the consideration areas. In 2007, three different consideration areas will be chosen in the counties, to be established in 2008. These areas will be evaluated regarding the process of selection, regulations, supervision, cost-efficiency, effects and consequences (Länsstyrelserna, 2006). Since questionnaire surveys are one suggested method in the consideration areas, it will be interesting to compare these results with the results of the Blekinge study and discuss zoning.

Except for the discontinuous landscape, the public right of access makes the implementation of restrictions complicated. Speed limitations of pleasure boats are considered as one way to decrease noise, where information to the users is one suggestion to achieve a change of attitudes (Länsstyrelsen i Västra Götalands län, 2007): *“If there was an increased acceptance of speed limitations, the ‘social control’ would be endorsing. Just consider the bird sanctuary which is strongly established and respected. What if there could be the same respect for the speed limitations, then there would perhaps not be any problems with noise.”* (Länsstyrelsen i Västra Götalands län, 2007, p. 15). In summer 2007, there will be speed checks by cameras in a fairway in the Blekinge archipelago (Dagens Nyheter, 28/4/07). In the study, it will be investigated if the respondents have perceived any differences regarding noise from motorboats because of the establishment of the cameras.

One method to restrict noise is noise-free areas with regulations of the motor traffic. However, in a discontinuous landscape as the archipelago, there are several factors (for example, bird sanctuaries, activities and NIMBY) that have an impact on the attitudes to and the possibilities of applying noise-free areas. There is the need of a boat, not only as an activity, but as a necessary means of transportation. It is important to see that noise is an aspect of power; who has the right to decide how, where and when there should be silence? Moreover, in future research, it will be analysed if there are any instruments to reduce noise from motorboats. Studies of coastal management practice tend to regard voluntary agreements for zoning and exclusion to be more likely to succeed than legal mechanisms (Roe & Benson, 2001). Also, noise as a cause of conflict and displacement will be further explored. Could there be effective ways to achieve silence and reduce conflicts caused by noise, and would the public apprehend these restrictions as legitimate?

Perhaps the ROS and the WROS could develop to be more useful in planning and in handling conflicts in Swedish coastal areas, by including the opinions, attitudes and experiences of visitors (and non-visitors). This is an issue that will be analysed further together with a discussion regarding if and how noise-free areas with restrictions of motorboats could be implemented in a potential Biosphere Reserve in the Blekinge archipelago.

#### **7.4 Place attachment in planning**

Williams and Stewart (1998) claim that by initiating a discussion about sense of place, managers can build a working relationship with citizens that reflect the complexity of lifestyles, meanings and social relations in a place. The concept offers managers a way to identify and respond to the emotional ties that people have with places. The introduction of

new land uses becomes a symbol of external threats to the local sense of place. Such plans express the sense of place defined by an outsider (the scientist, government official, or special interest group), where the subconscious meanings of a place seem threatened (Williams & Stewart, 1998).

To what extent place attachment has an effect on the stakeholders' interest in *participating* in planning is difficult to comprehend. Managers can recognize stakeholders that should be ultimately incorporated or accounted for in the planning process by an understanding of the individuals who are attached to an environment (Bricker & Kerstetter, 2000). Place identity increases one's feelings of belonging to community and it is an important part of communications about environmental values and policies (Williams & Vaske, 2003). Hague (2005) views planning as place-making where the key purpose is to create, reproduce or mould the identities of places through the manipulation of feelings and meanings that combine into place identity. The planners do not have control of the power to determine a place identity; they have to be able to engage with other members of society who have other meanings and identities of places (Hague, 2005). Clark and Stein (2003) discuss that including stakeholders in planning is still problematic for public land management having an ecosystem-based management with a holistic and collaborative approach, where the views of how to manage an area should become wider: *"An ecosystem-based management approach considers humans to be part of ecosystems, recognizes the importance of people's values and behaviours, and requires these values and behaviours be integrated into the decision-making process."* (Clark & Stein, 2003, p. 867).

Recognising place attachment could result in a stronger support from visitors and second home owners regarding land and water use. Place identity may make a person have strong emotions for an area, but if there are too much development or changes viewed as negative, one could decide not to return because of one's place dependence. Could knowledge of visitors' place attachment sway the planning processes of coastal areas? What implications does knowledge of place attachment have for management? The complexity of the concept of place attachment and its uncertain relationship to planning means, however, that it will not be pursued in further studies.

## **7.5 A wider picture of reality in the Swedish planning of coastal areas**

Knowledge of tourism and outdoor life is insufficient in the Swedish municipal planning (Vuorio, 2003; Emmelin et al., 2005). The principal knowledge and information about the visitors, is to be found among the visitors themselves. An effective way to get this knowledge is visitor surveys, for example, questionnaire surveys (Manning, 1999; Kajala et al., 2007). It gives knowledge that supplements the expert view in planning (Emmelin et al., 2005). The visitors could thereby be better incorporated in the comprehensive planning, which in that way would be based on a greater understanding of the users' opinions and patterns.

To be able to develop and offer recreation experiences of high quality, an understanding of conflicts is necessary, but as Emmelin et al. (2005) state, conflicts are an expression of different values and opinions. Conflicts may be perceived differently among individuals. Evaluation and insight of which kind of knowledge that is needed, is necessary to be able to handle conflicts. Which conflicts exist according to whom, where, how, when and why? Also, there is a need for knowledge with a future prospect. Which reactions may occur because of development, interference and regulations? To predict the effects on the environment, to follow the development and to understand the consequences of visitors' attitudes, experiences

and geographical dispersion through knowledge about the visitors, would give a greater possibility for the planning of handling conflicts, and for balancing development and conservation (Vuorio, 2003).

There may be a difference between what the visitors want and the actual planning and management of a coastal area. There is a question regarding which knowledge is used, in comparison to the knowledge of what actually occurs in an area. Are these two aspects of knowledge the same? Also, there could be a conflict between the wish for a democratic process and being directly involved. The planning in the Luleå archipelago and the Blekinge archipelago is (in principal) rational, but there is a possibility to participate offered by the public exhibitions, which citizens may comment or appeal against. Different planning paradigms have been theoretically discussed in Ch. 2 and will be further analysed together with planning for tourism and outdoor recreation in Swedish coastal areas, in order to analyse what knowledge might be relevant and useful in the planning for tourism and outdoor recreation, and how this knowledge should be achieved. The problem of legitimacy will be discussed in relation to different planning paradigms and methods.

The process of applying for becoming a Biosphere Reserve is, in the case of the Blekinge archipelago, a shared planning where a regional level cooperates with the municipal level, and where certain stakeholders are invited to participate by giving their opinions before the stage of public exhibitions. However, neither the regional nor the municipal level has any knowledge of tourism and outdoor recreation that could be integrated in the planning process. When collecting data through a questionnaire survey, the results will be incorporated in a potential application of becoming a Biosphere Reserve.

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## Informal interviews

Göran Wallin. Head of the Department *Archipelago/Outdoor life* of the Luleå municipality.  
Date 11/3/03.  
Lennart Hennix. Captain of tour boat *M/S Ronja*.  
Date 16/7/03.

**E-mail**

Göran Wallin. Head of the Department *Archipelago/Outdoor life* of the Luleå municipality.  
Date 14/5/03.

Göran Wallin. Head of the Department *Archipelago/Outdoor life* of the Luleå municipality.  
Date 15/11/05.

Bo Fjeldstad. Planning architect at the Town Planning Department of the Luleå municipality.  
Date 30/11/05.

Appendix 1: *Questionnaire survey directed to visitors and second home owners in the Luleå archipelago 2003*

## QUESTIONNAIRE

**A. First of all, a number of general questions regarding your visit to the Luleå archipelago in 2003 – the time of your stay, what you did, and whether you have visited this area before.**

**A1. During which months in 2003 did you visit the Luleå archipelago?**

January	12.8%	April	29.5%	July	86.2%
February	21.2%	May	27.8%	August	63.5%
March	33.4%	June	61.2%	September	37.7%

**A2. Did you also visit the Luleå archipelago in September-December, 2002?**

Yes 42.1%                      No 57.9%

**A3. Where did you principally receive information of the Luleå archipelago?**

Own experience from earlier visits	65.3%	
Family and friends	15.9%	
The Internet	2.6%	
Radio, TV, newspapers	1.4%	
Travel agency, catalogues, brochures	5.4%	
Other ways	9.4%, of which	
		2.8% has a second home
		1% lives in Luleå
		0.6% lives/has grown up in the archipelago
		5% other

**A4. What company did you have during your visit to the Luleå archipelago in 2003?**

Family and relatives	81.5%
Friends and acquaintances	14.1%
Colleagues	1%
Other people	0.7%
No company	2.7%

**A5. What means of conveyance did you use to travel to the Luleå archipelago from your home in 2003?**

Own car	54.4%	Train	0.8%
Rental car	0.6%	Car with a caravan/motor home	6.8%
Own boat	53.3%	Bus	1.7%
Plane	2.3%	Tour boat	6.3%
Snowmobile	10.7%	Other	6.8%

**A6. With what did you travel in the coastal area of Luleå during your visit in 2003?**

Sailing boat	12.7%	Hiking paths	6.2%
Motorboat	56.9%	Bicycle	3%
Tour boat	28.4%	Car	10.2%
Canoe/kayak	3.4%	Snowmobile	12.6%
Other	12.1%		

**A7. How do you feel about the accessibility of public transports in the Luleå archipelago?**

Very negative	1.2%
Negative	3.6%
Neutral	28.5%
Positive	48.4%
Very positive	18.4%

**A8. Should there be an improvement of the accessibility of public transports in the Luleå archipelago?**

Yes 69.6%	No 30.4%
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**A9. Have you visited the Luleå archipelago before 2003?**

Yes 86.3%	No 13.7%
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**A10. In what year did you visit the Luleå archipelago for the first time?**

1930-1940	1.7%	1941-1950	13.5%	1951-1960	16.3%
1961-1970	19.5%	1971-1980	22.8%	1981-1990	12%
1991-2000	8.7%	2001-2003	5.5%		

**A11. State the approximate number of times you have visited the Luleå archipelago during the following periods of time:**

**Year 2000-2002 379 responses:**

0-5 days	34.3%	5-10 days	13.2%
11-15 days	4.2%	16-30 days	18.7%
31-50 days	12.4%	51-70 days	4.2%
71-100 days	7.1%	101-130 days	0.5%
131 days or more	5.3%		

**Year 1995-1999 348 responses:**

0-5 days	31.6%	5-10 days	12.9%
11-15 days	3.4%	16-30 days	15.8%
31-50 days	12.1%	51-70 days	4%
71-100 days	9.2%	101-130 days	1.4%
131 days or more	9.5%		

**Year 1990-1994**

**323 responses:**

0-5 days	33.4%	5-10 days	11.8%
11-15 days	4.3%	16-30 days	15.5%
31-50 days	12.4%	51-70 days	3.1%
71-100 days	8.4%	101-130 days	1.5%
131 days or more	9.6%		

**Year 1985-1989**

**324 responses:**

0-5 days	33.3%	5-10 days	13.3%
11-15 days	4.6%	16-30 days	15.1%
31-50 days	10.2%	51-70 days	2.5%
71-100 days	9.9%	101-130 days	1.9%
131 days or more	9.3%		

**Year 1985 or earlier**

**293 responses:**

0-5 days	23.5%	5-10 days	15.4%
11-15 days	3.8%	16-30 days	17.1%
31-50 days	8.2%	51-70 days	2%
71-100 days	11.3%	101-130 days	0%
131 days or more	18.8%		

**A12. Do you think that the Luleå archipelago has changed in 2003, compared to your first visit?**

No	3.2%
Very little	8%
Some	28.5%
Pretty great alteration	41.7%
A great change	18.7%

**A13. If you feel that there have been changes in the Luleå archipelago since the first time you visited it, what is your main opinion of these changes?**

Very negative	0.2%	No opinion	3.7%
Negative	4.7%		
Neutral	13.3%		
Positive	55.1%		
Very positive	23%		

**A14. What is your opinion of the number of tourists in the Luleå archipelago in 2003?**

Much too few	22.1%
To some extent too few	21.5%
Just right	54.5%
To some extent too many	2%
Much too many	0%

**A15. What changes would you like to see in the next 5 years when it comes to the number of tourists in the Luleå archipelago?**

Decrease a lot	0%
Decrease to some extent	0.8%
Unchanged	27.4%
Increase to some extent	49.4%
Increase a lot	22.4%

**A16. What significance did the permanent population of the Luleå archipelago have to your visiting experience?**

No significance	8.5%
Almost no significance	10.9%
Some significance	24.1%
Rather big significance	35%
Great significance	21.6%

**A17. During your visit in 2003, where you disturbed by the permanent population?**

Not at all	95.9%
Not much	4.3%
A bit	0.2%
Rather much	0.2%
Very much	0.4%

**A18. Where you disturbed by farming, forest industry, or fishing industry during your visit to the Luleå archipelago?**

Not at all	90.2%
Very little	5.7%
To some extent	3.1%
Rather much	0.6%
Very much	0.4%

**A19. Do you think that the farming, forest industry, and fishing industry are important to the tourism development in the Luleå archipelago?**

Not at all	4.6%
Very little	4%
To some extent	22.2%
Rather much	36.4%
Very much	32.9%

**A20. Of what importance is the access to service (selling of goods, petrol, etc.) in the Luleå archipelago to you?**

Not important at all	8.4%
Not very important	17.4%
To some extent important	23.4%
Rather important	28.3%
Very important	22.5%

**A21. What were the important factors as you decided to go to the Luleå archipelago?**

	Of no importance		Of some importance	Of great importance	
The possibility of an outdoor experience...	0.6%	1.4%	12.7%	21.4%	64%
The possibility of a cultural experience.....	10%	17%	40%	16%	16.8%
Nice water, beaches, and sea bed.....	2.2%	2.6%	12.1%	28.8%	54.4%
Access to a second home.....	30.9%	10.8%	2%	13%	33.3%
Sailing possibilities.....	55.1%	11.4%	14.9%	4.7%	13.9%
The possibility of using a motorboat or other boat...	22.6%	8.3%	15.1%	13.7%	40.3%
The possibility of angling.....	22.6%	12.4%	22.2%	18%	25%
The possibility of hiking.....	9%	7.8%	31.3%	29.5%	22.4%
The means of communication to the islands.....	22.2%	13.2%	23.2%	17.4%	23.8%
The access to accommodation and service.....	15.8%	12.2%	30.5%	22%	19.6%
Visiting relatives and friends.....	41.3%	10.6%	23.6%	11.6%	12.8%
The absence of restrictions and impediments.....	19.5%	7.8%	30.9%	21.5%	20.3%
The possibility of peace and quiet.....	1%	2%	13.6%	26.7%	56.7%
Are there other factors that were <u>very important</u> to your decision? If so, what were they?					

**A22. Do you have regular access to a second home in the Luleå archipelago?**

Yes 38%                      No 62%

**A23. Who owns the second home you have access to?**

I do	79.2%
I rent it/borrow it <u>regularly</u> from someone else	3.6%
Relatives	14.2%
Friends or acquaintances	3%

**A24. If you have access to a second home, would you like to extend the period of staying in the Luleå archipelago?**

Yes, a couple of weeks every year	34.4%
Yes, a couple of months every year	22.6%
Yes, to live there permanently	8.2%
No	34.9%



**A25. Would you like to live permanently in the Luleå archipelago?**

Yes 17.3%

No 82.7%

**A26. Where in the Luleå archipelago would you like to live permanently?**

**A27. Are you interested in buying a second home in the Luleå archipelago?**

Yes, to visit during the summer 3.4%

Yes, to visit during both the summer and the winter 16.6%

Yes, to live in permanently 2.5%

No 77.6%

**A28. Where did you stay the night during your visit to the Luleå archipelago in 2003?**

I did not stay the night in the area 8.7%

I stayed the night in one place 56.4%

I stayed the night in several different places 34.9%

**A29. Use the symbols below, indicating different kinds of accommodation, and mark on the map on the next page where you stayed the night in the Luleå archipelago, and what kind of accommodation you had. ➔ Also, next to each marking, write down the number of nights you stayed there!**

■ Own holiday house

P Rented private house or second home

X Youth hostel, hotel, or conference building

▲ Tent

H Caravan or motor home

S Family and/or friends

B Boat

(Has not been decoded for the thesis. For example of map, see Figure 3.3.)

**A30. Look at the map on page 6 again. Circle the part of the Luleå archipelago that you appreciated the most during your stay. (Has not been decoded for the thesis.)**

**A31. What did you appreciate in the area you have marked on the map?**

Peace and quiet 79.1%

Nice accommodation 38.1%

The chance of experiencing outdoor life and culture 63.1%

The easy access 35.5%

The sea and beach 79.5%

Sailing and boating 19.1%

Sauna 3.8%

Fishing 4.2%

Other 13.8%

**B. Here are some questions about your experiences during your visit to the Luleå archipelago in 2003. We would also like to know your emotional relation to the Luleå archipelago and to the development of the area in regard to tourism.**

**B1. Which of the following developments, in your opinion, characterise the Luleå archipelago?**

	Dis- agree	Disagree to some extent	Neutral	Agree to some extent	Agree
Intense development.....	33.6%	16%	41.9%	6.4%	2.1%
Wear of ground and vegetation...	28.5%	24.9%	36.3%	8.5%	1.9%
Crowding (too many visitors).....	41.5%	19.9%	34%	4.1%	0.4%
Expansion of second homes.....	18.7%	19.9%	47.9%	11.4%	2.1%
Expansion of holiday establishments.....	22.9%	15.7%	42.1%	14.5%	4.8%

**B2. Did you experience that the ground and the vegetation were worn during your visit to the Luleå archipelago in 2003?**

No	23.8%
Very little	37.2%
Rather little	17.8%
Little	14.1%
Rather much	5.9%
Much	0.2%
Very much	1%

**B3. Did you experience littering during your visit to the Luleå archipelago in 2003?**

No	14%
Very little	40.9%
Rather little	19.7%
Little	18.1%
Rather much	6.1%
Much	0.8%
Very much	0.4%

**B4. What is your attitude towards dredging the fairways and wharfs in the Luleå archipelago?**

Positive 92.3%                      Negative 7.7%

**B5. What is your attitude towards the shoreline protection (which makes it prohibited to build anything within 100 metres from the shoreline) in the Luleå archipelago?**

Positive 62.8%                      Negative 37.2%

**B6. Did the bird and/or seal sanctuaries (with visit restrictions) affect your planning of the visit to the Luleå archipelago in 2003?**

Yes, to some extent	15.7%	No, not at all	82.4%
Yes, a lot	2%		

**B7. Did the bird and/or seal sanctuaries (with visit restrictions) prevent you from moving about freely during your visit to the Luleå archipelago in 2003?**

Yes, to some extent	14.7%
Yes, a lot	2%
No, not at all	83.3%

**B8. Did you visit one or more of the nature reserves during your stay in the Luleå archipelago in 2003?**

Yes 49.6%

No 50.4%

**B9. How were you affected by the nature reserves in the Luleå archipelago during your visit in 2003?**

Very negative	0.2%
Negative	1.2%
Neutral	68.5%
Positive	21.4%
Very positive	8.7%

**B10. Decide on the statements below regarding your relation to the Luleå archipelago.**

	Dis- agree	Disagree to some extent	Neutral	Agree to some extent	Agree
The development of the area is important to me.	1.6%	1.8%	26.1%	31.7%	38.8%
I have emotional bonds to the area; it means something to me.	8.7%	3.4%	23.4%	23%	41.5%
I identify with the life style and the people I meet in the area.	5.8%	4.6%	31.7%	35.1%	22.8%
I do not know of any other area that gives me the same opportunity of activities in my spare time.	16.6%	16.2%	28.8%	19.4%	19%
I feel relaxed and at ease when visiting the area.	0.2%	0.6%	8.4%	25.7%	65.1%
Sometimes I feel like a stranger when visiting the area.	65.7%	12.4%	16.9%	4.8%	0.2%

**B11. What is your opinion on phone masts in the Luleå archipelago?**

Very negative	10%
Negative	14.6%
Neutral	47.4%
Positive	20.7%
Very positive	7.3%

**B12. How important is it to you to have mobile phone reception in the Luleå archipelago?**

Not at all	2.3%	Rather much	19.9%
Very little	6.2%	Much	21.2%
Rather little	7.8%	Very much	26.9%
A little	15.6%		

**B13. Where you disturbed by larger boats (backwash, noise etc.) during your visit to the Luleå archipelago in 2003?**

No	43.7%
Very little	27.6%
Rather little	12.9%
A little	12%
Rather much	2.5%
Much	0.6%
Very much	0.6%

**B14. Where you disturbed by toilet waste in the water during your visit to the Luleå archipelago in 2003?**

No	72.4%
Very little	14.2%
Rather little	4.9%
A little	4.1%
Rather much	1.6%
Much	0.8%
Very much	2%

**B15. Did you experience any kind of noise during your visit to the Luleå archipelago in 2003?**

	Nothing	Almost nothing	Some	Rather much	Much
Boat engine.....	38.7%	37.9%	21%	1.8%	0.6%
Personal watercraft.....	79%	12.9%	5.7%	1.6%	0.8%
Road traffic.....	85.7%	12%	2.1%	0%	0.2%
Plane/Helicopter .....	56.2%	25.5%	15.3%	2.2%	0.8%
Other.....	78%	7.4%	7.1%	3.9%	3.5%

**B16. What is your attitude towards noise free zones with restrictions for motor traffic in the Luleå archipelago?**

Very negative	14.4%
Negative	17.6%
Neutral	45.2%
Positive	16%
Very positive	6.8%

**B17. An expansion of wind power involves a great visual change of the landscape. Being a visitor in the Luleå archipelago in 2003, please evaluate the following scenarios:**

	Very negative	Negative	Neutral	Positive	Very positive
1-2 wind power station(s)					
within sight on <u>rare</u> occasions	21.2%	9.9%	36.5%	20.4%	12.1%
10-12 wind power stations (in a group)					
within sight on <u>rare</u> occasions	29.8%	13.9%	31.6%	16.1%	8.7%
1-2 wind power station(s) within sight on <u>repeated</u> occasions	34.1%	19.9%	31.2%	10.1%	4.7%
10-12 wind power stations (in a group) within sight on <u>repeated</u> occasions	48.1%	17%	24.4%	7.1%	3.4%
The mere knowledge of wind power stations in the archipelagic area, although I do not see them	15%	8.7%	43.6%	13.8%	18.9%

**B18. What is your attitude towards building wind power stations in the Luleå archipelago?**

Very negative	21.4%
Negative	13.9%
Neutral	32.2%
Positive	25%
Very positive	7.5%

**B19. Below are a number of statements regarding future tourism development in the Luleå archipelago. Please, mark your opinion.**

	Dis- agree	Disagree to some extent	Neutral	Agree to some extent	Agree
The tourism helps <u>conserving</u> the landscape	3.4%	7.8%	25.3%	47.1%	16.4%
The tourism <u>threatens</u> the landscape	24.7%	33.5%	23.3%	16.8%	1.6%
There should be <u>more</u> nature reserves	10.4%	9.4%	55.3%	18.6%	6.2%
There should be <u>fewer</u> nature reserves	16.5%	3.9%	60.4%	5.1%	4.1%
There should be <u>more</u> bathing-places	5%	6.6%	40.9%	30.7%	16.8%
There should be <u>fewer</u> bathing-places	34.8%	19.8%	42.2%	2.1%	1.2%
<u>More</u> sleeping cabins and holiday camps should be set up	3.6%	8%	29.6%	37.4%	21.5%
There should be <u>fewer</u> sleeping cabins and holiday camps	38.6%	23.6%	34.5%	1.8%	1.4%

**C. Next question concerns what is generally important to you when visiting archipelagos or coastal landscapes throughout Sweden.**

**C1. When visiting a Swedish coastal or archipelagic landscape, how do you feel about being there:**

	Very negative	Negative	Neutral	Positive	Very positive
Camping grounds and sleeping cabins	0.8%	2%	17.8%	42.6%	36.8%
Guest harbours	0.4%	0.4%	16.8%	33.7%	48.7%
Access to toilets, hot showers, indoor kitchen facilities, etc.	1.2%	1.2%	15.4%	40.9%	41.3%
Bathing-places with lifeguards and service	4.4%	5.4%	43.2%	28.9%	18.1%
Protected natural areas	0.8%	1.6%	23.2%	41.6%	32.9%
Marked out hiking paths	0.8%	1.8%	17.6%	48.5%	31.4%
Marked fairways/boating routes	0.6%	0.2%	16.3%	22.8%	60.1%
Information boards on nature and culture	0.2%	0.4%	5.9%	43.7%	49.8%
Boats running regularly to the islands	0.8%	0%	14.2%	38.3%	46.7%
Guided tours in the area	2.2%	6.1%	48.6%	29.4%	13.6%
Public transportation within the area (touring boat, bus, train, etc.)	1.8%	2.8%	26.7%	40.7%	28.1%
Larger areas having speed and/or engine power restrictions	7.3%	9.3%	37.4%	25.3%	20.6%
Traces of other visitors (e.g. fireplaces, wear, rubbish)	43%	37.9%	16.2%	2.4%	0.6%
Noise (e.g. motor sound)	15%	39.9%	40.5%	4.2%	0.4%
Installations (phone masts, wind power stations)	13.6%	22.4%	48%	11.8%	4.2%
Other people around you	0.2%	1.2%	19.8%	51.1%	27.7%
Local population	0.6%	0%	17.2%	44%	38.2%
Possibility to experience peace and quiet		0%	0.4%	9.3%	36.5%
					53.8%

Areas more than 5 kilometres from the nearest settlement, harbour, road, etc.	3.6%	9.5%	59.7%	19.2%	8.1%
Possibility to stay the night without seeing or hearing other people	1.6%	3.2%	41.9%	34.6%	18.8%
Easy accessible beaches	0.2%	0.6%	20.1%	40.6%	38.4%
Nature untouched by humans	0.2%	2.2%	19.2%	40.7%	37.7%
Emergency phones	0.2%	0.6%	20.8%	35.6%	42.9%
Rare animals and plants	0.4%	1.4%	23.8%	39.2%	35.2%
Possibility to spend the night freely in a tent, sailing-boat, etc.	0%	0.6%	12.1%	31%	56.3%
Possibility to move around freely in the area	0%	0%	4.7%	32.9%	62.3%
	<b>Very negative</b>	<b>Negative</b>	<b>Neutral</b>	<b>Positive</b>	<b>Very positive</b>

**D. This part contains questions regarding your activities during your stay in the Luleå archipelago in 2003.**

**D1. Did you have access to a sailing-boat in the Luleå archipelago in 2003?**

Yes	14.7%	No	85.3%
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**D2. Did you have access to a motorboat in the Luleå archipelago in 2003?**

Yes	57.6%	No	42.4%
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**D3. Where you out sailing during your visit to the Luleå archipelago in 2003?**

Yes	16.2%	No	83.8%
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**D4. Did you have earlier experience of sailing?**

Of those who answered 'Yes' to question D3:

No	8.8%	A little	16.3%
Yes	25%	Much	50%

All answers to question D3:

No	28%	A little	26.8%
Yes	16.7%	Much	28.6%

**D5. Do you find the Luleå archipelago big enough for travelling several days with boat?**

Of those who answered 'Yes' to question D3:

Yes	97.5%	No	2.5%
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All answers to question D3:

Yes	96.9%	No	3.1%
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**D6. Are there enough guest harbours in the Luleå archipelago, in your opinion?**

Of those who answered 'Yes' to question D3:

Yes	60.5%	No	39.5%
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All answers to question D3:

Yes	62.6%	No	37.4%
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**D7. If your answer was 'no' to the previous question, where do you think there should be more guest harbours in the Luleå archipelago?**

**D8. Would you have stayed longer in the Luleå archipelago in 2003 if there had been more guest harbours?**

Of those who answered 'Yes' to question D3:

Yes	29.3%	No	70.7%
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All answers to question D3:

Yes	19.7%	No	80.3%
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**D9. What is your opinion on the service in the guest harbours of the Luleå archipelago when it comes to waste disposal, drinking water, selling of petrol, and sales in general?**

Of those who answered 'Yes' to question D3:

Very negative	1.6%
Negative	14.5%
Neutral	33.9%
Positive	35.5%
Very positive	14.5%

All answers to question D3:

Very negative	3.2%
Negative	13.8%
Neutral	42.3%
Positive	34.9%
Very positive	5.8%

**D10. What were your activities during your stay in the Luleå archipelago in 2003?**

Being with friends and family	14.3%	Sunbathing and swimming	80.9%
Spending time in the holiday house	45.1%	Taking sauna baths	63.3%
Sailing	14.5%	Kayak trips	5.1%
Motorboat trips	48.8%	Hiking by foot	67.4%
Fishing	43.2%	Diving	2.3%
Picking berries and mushrooms	37.5%	Other activities	18.8%

**D11. See question D10 above. Circle your main activity. Even if you have only stated one alternative above, please circle that one!**

Being with friends and family	14.3%
Spending time in the second home	25.7%
Sunbathing and swimming	17.2%
Sauna	1.2%
Sailing	9.9%
Kayak trips	0%
Motorboat trips	14.3%
Hiking by foot	7.3%
Fishing	3.4%
Diving	0%
Picking berries and mushrooms	0%
Other activities	6.8%

**D12. Do you have experience of the activity you circled?**

No	1.4%	Very little	5.4%
Yes	23.9%	Much	69.3%

### D13. What island(s) did you visit in the Luleå archipelago in 2003?

Altappen	36.7%	Hindersön	52%	Sandskäret	2.7%
Bastaskäret	11.4%	Junkön	38.2%	Sandön	39.2%
Bockön	1.8%	Kallaxön	25.5%	Saxskäret	3.1%
Brändön	29.6%	Kluntarna	55.5%	Sigfridsön	1.4%
Brändöskäret	39.4%	Lappön	5.7%	Smålsön	10%
Båtön	4.7%	Laxön	1%	Småskären	50.6%
Degerön	9.4%	Likskäret	32%	Storbrändön	13.7%
Estersön	10.4%	Långön	13.1%	Stor-Furuön	3.1%
Finnskäret	16.3%	Mannön	1.4%	Sör-Espen	3.1%
Fjuksön	6.9%	Mjoön	9.6%	Rödkallen	24.3%
Germandön	10.8%	Nagelskäret	3.3%	Rörbäck-Sandöskatan	10.8%
Hamnön	3.9%	Norr-Espen	6.1%	Sandgrönnorna	20.6%
Hertsölandet	31.4%	Tistersöarna	2.2%		
Uddskäret	24.9%	Other islands	19.6%		

**E. Here are some questions regarding your expenses for travelling to and within the Luleå archipelago in 2003. Please note, that you are only to include your own journey, your own accommodation etc., even if you travelled together with other people. If you, for example, went by car with other people, please calculate your share of the car expenses. This should also be considered when someone else has paid for your journey or parts of it. Try to calculate the cost of your participation, although you have not paid for it yourself. In some cases it may be difficult to remember all amounts exactly, but try to answer as accurate as possible.**

### E1. For how many days were you travelling altogether, from leaving your home until returning?

0-5 days	46.9%	6-10 days	14.5%
11-15 days	11.2%	16-25 days	12.8%
26-35 days	5.9%	36-45 days	2.8%
46 days or more	5.9%		

### E2. How many days did you spend in the Luleå archipelago?

0-5 days	38.3%	6-10 days	12.8%
11-15 days	8.4%	16-25 days	9.3%
26-35 days	11.8%	36-45 days	3.4%
46-65 days	7.3%	66-85 days	1.4%
86-115 days	3.2%	116 days or more	4.2%

### E3. State your total expenses for the journey and the visit to the Luleå archipelago in 2003:

Transport to and from the Luleå archipelago (including accommodation, food, petrol, etc.):

0-999 SEK	55.3%	1,000-2,999 SEK	23.9%
3,000-4,999 SEK	6.5%	5,000-9,999 SEK	9.7%
10,000-14,999 SEK	2.9%	15,000-19,999 SEK	0.3%
20,000 SEK or more	1.3%		

Accommodation in the Luleå archipelago (e.g. camping fees, tent charges):

0-999 SEK	74.9%	1,000-2,999 SEK	18.3%
3,000-4,999 SEK	2.6%	5,000-9,999 SEK	2.6%
10,000-14,999 SEK	1%	15,000-19,999 SEK	0%
20,000 SEK or more	0.5%		

Guest harbour charges:

0-999 SEK	99.3%	1,000-2,999 SEK	0.7%
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Purchase of food in the Luleå archipelago:

0-999 SEK	72.8%	1,000-2,999 SEK	95%
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3,000-4,999 SEK	3.3%	5,000-9,999 SEK	1.1%
10,000-14,999 SEK	0.6%	15,000-19,999 SEK	0%
20,000 SEK or more	0%		
Local transports (e.g. touring-boats):			
0-999 SEK	97.7%	1,000-2,999 SEK	1.5%
3,000-4,999 SEK	0%	5,000-9,999 SEK	0.8%
Gas:			
0-999 SEK	42.2%	1,000-2,999 SEK	24.2%
3,000-4,999 SEK	15.2%	5,000-9,999 SEK	12.7%
10,000-14,999 SEK	4.1%	15,000-19,999 SEK	0.8%
20,000 SEK or more	0.8%		
Courses and guided tours:			
0-999 SEK	95.3%	1,000-2,999 SEK	4.7%
Amusements, entrance-fees, etc:			
0-999 SEK	97.3%	1,000-2,999 SEK	1.4%
3,000-4,999 SEK	1.4%		
Restaurant visits, cafés etc:			
0-999 SEK	81.1%	1,000-2,999 SEK	18.4%
3,000-4,999 SEK	1.4%		
Purchase of souvenirs and gifts in the Luleå archipelago:			
0-999 SEK	91%	1,000-2,999 SEK	6.4%
3,000-4,999 SEK	2.6%		
Equipment rental in the Luleå archipelago:			
0-999 SEK	100%		
Equipment rental <u>outside the Luleå archipelago</u> (of equipment that you brought to your destination and used there):			
0-999 SEK	95.2%	1,000-2,999 SEK	2.4%
20,000SEK or more	2.4%		
Purchase of food <u>outside the Luleå archipelago</u> (that you brought to your destination and used there):			
0-999 SEK	44.5%	1,000-2,999 SEK	22.7%
3,000-4,999 SEK	13.4%	5,000-9,999 SEK	13.4%
10,000-14,999 SEK	4.3%	15,000-19,999 SEK	1%
20,000 SEK or more	0.7%		
Purchase of equipment, clothes etc. in the Luleå archipelago:			
0-999 SEK	74%	1,000-2,999 SEK	12.3%
3,000-4,999 SEK	2.7%	5,000-9,999 SEK	4.1%
10,000-14,999 SEK	2.7%	15,000-19,999 SEK	2.7%
20,000 SEK or more	1.4%		

**E4. What was the approximate amount of your total expenses during the visit to the Luleå archipelago in 2003?**

0-999 SEK	20.1%	1,000-2,999 SEK	24.4%
3,000-4,999 SEK	13.5%	5,000-6,999 SEK	9.2%
7,000-9,999 SEK	7.4%	10,000-14,999 SEK	10.2%
15,000-19,999 SEK	6.1%	20,000-24,999 SEK	4.8%
25,000-29,999 SEK	1.5%	30,000-34,999 SEK	1.5%
35,000 SEK or more	1.3%		

<p><b>F. Finally, a few questions about you and your household. Of course, all answers will be dealt with confidentially, and the result will not reveal individual answers.</b></p>
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**F1. Please provide the following information, valid at the time for your visit to the Luleå archipelago in 2003:**

Home town:

Boden	7.5%	Bureå	0.6%	Linköping	0.6%
Luleå	54.2%	Gammelstad	3.6%	Piteå	1.9%
Göteborg	0.6%	S Sunderbyn	2.9%	Kalix	1.5%
Skellefteå	1.9%	Kiruna	1%	Älvsbyn	0.8%
Kåge	0.8%	Other towns	22.1%		

Home country:

Sweden	95.4%	Norway	4.2%
Denmark	0.2%	Finland	0.2%

**F2. When were you born?**

1924 – 1935	7.1%	1936 – 1945	19.9%
1946 – 1955	30%	1956 – 1965	24.5%
1966 – 1975	16.6%	1976 –	2%

**F3. Sex:** Female 36.4% Male 63.6%

**F4. What is your highest completed education?**

Compulsory school/Junior secondary school	13.4%
Upper secondary school	24.7%
Folk high school	4.7%
University/college, 3 years or less	21.5%
University/college, more than 3 years	27%
Other education	8.7%

**F5. What was the approximate disposable income of your household in 2002, after deducted taxes?**

Up to 99,999 SEK	2.1%
100,000 – 199,999 SEK	13.2%
200,000 – 299,999 SEK	28.2%
300,000 – 399,999 SEK	28.2%
400,000 – 499,999 SEK	16.9%
More than 500,000 SEK	11.3%

**F6. Will you visit the Luleå archipelago again?**

Yes, definitely	90.2%	No	0%
Maybe	9.8%		

**F7. What is your overall impression of the visit to the Luleå archipelago in 2003?**

Very good	55.1%
Good, only one or two things could have been better	32.5%
Rather good, but some things could have been better	12%
Bad, most things could have been better	0.4%
Very bad	0%

*Thank you for your valuable contribution to research!  
Please, use the post-free reply envelope and return the questionnaire  
as soon as possible!*

Appendix 2: *Registration card in the Luleå archipelago 2003.*

**Skärgårdsbesökare 2003/ Archipelago visitors 2003/ Schärengartenbesucher 2003**

**Fyll i ett kontaktkort per person.** Om ni är flera i gruppen ber vi alla över 15 år att fylla i ett kort./

One card per person, please./ Eine Karte pro Person, bitte.

**Ifyllt/** Filled in/Ausgefüllt am:

**Dag/Day/Tag**

**Månad/Month/Monat**

**Namn/Name/Name** \_\_\_\_\_

**Adress/Address/Strasse u Hausnr.** \_\_\_\_\_

**Postnr/Postcode/Postleitzahl** \_\_\_\_\_

**Hemort/Town/Wohnort** \_\_\_\_\_

**Land/Country/Staat** \_\_\_\_\_

**Födelseår/Date of birth/Geburtsdatum** \_\_\_\_\_

**Man/Male/Männlich** ☐

**Kvinna/Female/Weiblich** ☐

1. **När anlande Du till Luleå skärgård och när planerar Du att lämna området?/** When did you arrive to the archipelago of Luleå and when do you think you will leave the area?/ Wann sind Sie im Schärengarten von Luleå angekommen und wann gedenken Sie, das Gebiet wieder zu verlassen?

**Dag/Day/Tag**

**Månad/Month/Monat**

**Ankomstdatum/Day of arrival/Tag der Anreise** \_\_\_\_\_

**Avresedatum/Day of departure/Tag der Abreise** \_\_\_\_\_

2. **Vilken är Din huvudsakliga aktivitet under besöket? /What is your main activity during the visit?/ Welche ist die hauptsächliche Aktivität während Ihres Besuches?** \_\_\_\_\_

**Tack för Din hjälp!/ Thank you for your help!/ Vielen Dank für Ihre Mithilfe!**

*Rosemarie Ankre*

*Lars Emmelin*

*Göran Wallin*

*Projektleddare*

*Prof. Fysisk planering*

*Avd. chef Skärgård/Friluftsliv*

*ETOUR*

*ETOUR*

*Luleå kommun Fritid*

Appendix 3: *The respondents' attitudes to noise-free areas in relation to their geographical dispersion.*

A) *What is your attitude towards noise-free areas with restrictions for motor traffic in the Luleå archipelago?*

		Group 1	Group 2	Group 3	Group 4	Total
<b>Very negative</b>	Count	3	30	31	8	72
		5,2%	22,1%	16,5%	8,7%	15,2%
<b>Negative</b>	Count	3	24	41	19	87
		5,2%	17,6%	21,8%	20,7%	18,4%
<b>Neutral</b>	Count	32	59	80	40	211
		55,2%	43,4%	42,6%	43,5%	44,5%
<b>Positive</b>	Count	13	20	26	16	75
		22,4%	14,7%	13,8%	17,4%	15,8%
<b>Very positive</b>	Count	7	3	10	9	29
		12,1%	2,2%	5,3%	9,8%	6,1%
<b>Total</b>	Count	58	136	188	92	474
		100%	100%	100%	100%	100%

B) *What is your opinion of larger areas with restrictions against motor strength and/or speed in Swedish coastal areas in general?*

		Group 1	Group 2	Group 3	Group 4	Total
<b>Very negative</b>	Count	5	11	15	5	36
		8,5%	8,3%	7,9%	5,3%	7,6%
<b>Negative</b>	Count	3	18	20	6	47
		5,1%	13,6%	10,5%	6,3%	9,9%
<b>Neutral</b>	Count	16	61	67	35	179
		27,1%	46,2%	35,3%	36,8%	37,6%
<b>Positive</b>	Count	13	22	52	31	118
		22%	16,7%	27,4%	32,6%	24,8%
<b>Very positive</b>	Count	22	20	36	18	96
		37,3%	15,2%	18,9%	18,9%	20,2%
<b>Total</b>	Count	59	132	190	95	476
		100%	100%	100%	100%	100%

C) *Did you have access of a motorboat during your stay in the Luleå archipelago 2003?*

	Yes	No	Total
<b>Group 1</b>	2,4%	28,3%	12,7%
	7	54	61
<b>Group 2</b>	35,7%	17,8%	28,6%
	104	34	138
<b>Group 3</b>	44,3%	31,4%	39,2%
	129	60	189
<b>Group 4</b>	17,5%	22,5%	19,5%
	51	43	94
<b>Count</b>	291	191	482
	100%	100%	100%

*D) Did you have access of a sailing boat during your stay in the Luleå archipelago 2003?*

	<b>Yes</b>	<b>No</b>	<b>Total</b>
<b>Group 1</b>	1,4%	14,9%	12,8%
	1	60	61
<b>Group 2</b>	36,5%	27%	28,5%
	27	109	136
<b>Group 3</b>	40,5%	38,9%	39,1%
	30	157	187
<b>Group 4</b>	21,6%	19,3%	19,7%
	16	78	94
Count	74	404	478
	100%	100%	100%

## Appendix 4: Percentage of the place identity in the Luleå archipelago 2003

### A) The respondents' PI as returning or first time visitors.

Place identity (PI)	Returning visitor	First time visitor	Non response	Total
Very weak PI	1%	4%	0%	1%
Weak PI	3%	20%	0%	5%
Moderate PI	23%	51%	0%	27%
Strong PI	42%	11%	33%	38%
Very strong PI	27%	0%	33%	23%
Total	100%	100%	100%	100%
Non response	4%	14%	33%	5%

### B) The respondents' PI as second home owners or not.

Place identity (PI)	Respondents who own a second home	Other respondents	Total
Very weak PI	0%	2%	1%
Weak PI	1%	7%	5%
Moderate PI	12%	34%	27%
Strong PI	41%	37%	38%
Very strong PI	43%	15%	23%
Total	100%	100%	100%
Non response	4%	6%	5%

### C) The respondents' PI among the 3 zones.

Place identity (PI)	Zone 1 (100%)	Zone 1 (60%)	Zone 2 (100%)	Zone 2 (60%)	Zone 3 (100%)	Zone 3 (60%)
Very weak PI	1,9%	1,7%	0,0%	0,0%	2,1%	1,8%
Weak PI	13,5%	11,9%	20,0%	7,1%	8,3%	4,5%
Moderate PI	48,1%	44,1%	40,0%	42,9%	35,4%	25,2%
Strong PI	23,1%	28,8%	20,0%	30,4%	35,4%	41,4%
Very strong PI	5,8%	5,1%	6,7%	14,3%	14,6%	24,3%
Total	100%	100%	100%	100%	100%	100%
Non response	7,7%	8,5%	13,3%	5,4%	4,2%	2,7%

### D) Percentage of the respondents' PI between the places in the Luleå archipelago.

Place identity (PI)	Brändön Zone 1	Rörbäck Zone 1	Kluntarna Zone 3	Småskären Zone 3
Very weak PI	3,6%	0,0%	0,0%	8,3%
Weak PI	17,9%	10,0%	8,3%	8,3%
Moderate PI	39,3%	55,0%	58,3%	16,7%
Strong PI	17,9%	30,0%	25,0%	41,7%
Very strong PI	10,7%	0,0%	0,0%	25,0%
Total	100%	100%	100%	100%
Non response	10,7%	5,0%	8,3%	0,0%



## ABSTRACT

Avoidable rework consumes a large part of development projects, i.e. 20-80 percent depending on the maturity of the organization and the complexity of the products. High amounts of avoidable rework commonly occur when having many faults left to correct in late stages of a project. In fact, research studies indicate that the cost of rework could be decreased by up to 50 percent by finding more faults earlier. Therefore, the interest from industry to improve this area is large.

It might appear easy to reduce the amount of rework just by putting more focus on early verification activities, e.g. reviews. However, activities such as reviews and testing are good at catching different types of faults at different stages in the development cycle. Further, some system characteristics such as system capacity and backward compatibility might not be feasible to verify early through for example reviews or unit tests. Therefore, the objective should not just be to find and remove all faults as early as possible. Instead, the cost-effectiveness of different techniques in relation to different types of faults should be in focus.

A department at Ericsson AB was interested in approaches for assessing and improving early and cost-effective fault detection. In particular, there was a need to quantify the value of suggested improvements. Based on this objective, research was during a few years conducted in the industrial environment.

The conducted research resulted in this thesis, which determines how to quantify unnecessary rework costs and determines which phases and activities to focus improvement work on in order to achieve earlier and more cost-effective fault detection. The thesis describes and evaluates measurement methods that make organizations strive towards finding the right faults in the right phase. The developed methods were also used for evaluating the impact a framework for component-level test automation and test-driven development had on development efficiency and quality. Further, the thesis demonstrates how the implementation of such improvements can be continuously monitored to obtain feedback during ongoing projects. Finally, recommendations on how to define and implement measurements, and how to interpret obtained measurement data are provided, e.g. presented as considerations, lessons learned, and success factors.

The thesis concluded that existing approaches for assessing and improving the degree of early and cost-effective software fault detection are not satisfactory since they can cause counter-productive behavior. An approach that more adequately considers the cost-efficiency aspects of software fault detection is required. Additionally, experiences from different products and organizations led to the conclusion that a combination of measurements is commonly necessary to accurately identify and prioritize improvements.

