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Abstract

This paper examines how second home users perceive their own and aggregate impacts on the environment, while also exploring the justifications they give for such impacts. We combine findings from two Norwegian studies. We find that second home users tend to perceive their own use as less environmentally detrimental than the average use. Positive perceptions about own impacts can partially be explained by the standard of second homes and number of years with access to it. Negative perceptions of aggregate impacts can likewise partially be explained by standard and years with access. Interviewees often justify impacts by relating to popular arguments presented in media and literature. Taking point of departure in a second home perspective, these findings are new to research, but support previous research from tourism studies. Our findings highlight the importance of narratives surrounding second home use and their ability to affect peoples' perceptions about the environmental friendliness of second homes.

INTRODUCTION

Second homes in Scandinavia are traditionally portrayed as recreational places that are in general environmentally friendly.[1] Increasingly however, second home development and use have negative impacts. Recent research has mapped environmentally negative consumption patterns based on lifestyles including second home ownership related mobility and housing standard.[2] Still, research has only to a limited extent addressed how users perceive the relation between second home use and environmental impacts.[3] Therefore, this paper examines how second home users perceive impacts on the environment, related to their own use as well as the Norwegian aggregated use. We distinguish between

individual and aggregate use because studies have shown a tendency to consider own behaviour superior to others.[4] By combining two Norwegian studies, we explore quantitatively which factors might influence perceptions and qualitatively which justifications people offer for their second home use.

Since recreational second homes are an integral part of the Scandinavian cultural heritage and a mainstream phenomenon, one might suspect to find a tendency to downplay negative environmental impacts of second home use.[5] Awareness of such impacts on the environment might similarly cause users to justify their actions by rationales embedded in the socio-cultural heritage. Motives for ownership and use of second homes have been studied widely,[6] and studies on how tourist behaviour is likely to change due to climate change have also been conducted.[7] However, there are few previous studies on how second home users perceive their own environmental impact.

Second home use is often related to tourism in literature,[8] and as second home developments increasingly are located near tourist locations, they play a great role for the viability of tourism services, e.g., ski facilities, shops, restaurants and entertainment facilities.[9] Environmental and climate change issues have long been a concern of tourism research, but in relation to second home research they do not seem to have been deemed important.[10] This is despite the Coppock anthology that already in 1977 acknowledged the environment as an important issue.[11] ". . . [I]t does seem that environmentalists have more important issues to pay attention to on a global scale, but it can be argued that second-home ownership might be the hidden giant that is being ignored unjustifiable[sic.]," Müller & Hoogendoorn argued, reviewing subsequent literature on second home tourism, and explaining why environmental issues had not caught attention in research.[12] Nevertheless, Müller & Hoogendoorn did not consider the topic irrelevant as it is ". . . still of great importance especially with movements towards the "greening" of the tourism industry."[13] A greater focus on environmental challenges from second home use should also include analysis on climate change.

Second home use is thereby recognised to have impacts on a range of environmental issues, among which a salient concern is climate change. As traditional narratives about second home use often connote nature-friendliness, researchers have yet to investigate in a contemporary

context how second home users perceive and justify environmental impacts. Understanding perceptions and justifications of second home users, allow policy makers and planners to align with, address or challenge such convictions towards a more sustainable future. This paper therefore sets out to address the following questions:

1. How do second home users perceive both their own and aggregate Norwegian environmental impacts from second home use?
2. Which justifications do second home users provide concerning environmental impact?

Answering these questions, this paper also addresses a wider discussion about learning points for policy makers targeting a transition towards a more sustainable second home development and use and the interrelated tourist destinations. As such, this paper does not indulge in discussions about how large, absolute, or relative the environmental or climate impacts of second homes are but adds an inquiry of peoples' perceptions and arguments about this.

In the next section, we will present a short literature review of current research on how impacts from second home use are framed in relation to the environment and climate. We then describe the mixed-methods research on which the present paper is based. Thereafter, the results of the questionnaire survey are presented, followed by the results from the interviews. As part of the conclusion, we discuss the scientific contribution of the paper. The paper identifies a form of understatement of own impact compared to that of aggregate use while justifications are well known arguments.

PERCEPTIONS OF IMPACTS ON THE ENVIRONMENT

Second home development has been scrutinized in terms of environmental impacts on several parameters. Hiltunen made a review of environmental impacts from second home construction and use and pointed out that second homes affect the environment in several distinct ways. Pressures on natural resources, harming of wildlife and habitats and pollution in different ways (including greenhouse gases) are among the

broad categories of impacts that second home researchers have identified. In the case of the Finnish Lake District, Hiltunen argued that negative environmental impacts from second home construction and use mainly derive from consumption of materials, energy, and land.[14] She argued that since second homes are often developed in amenity-rich natural areas, they are especially harmful and that "Negative environmental impacts of second home tourism are likely to increase yet should be reduced in order to mitigate human-induced environmental and climate change."[15] Staunstrup et al. point at outdated wastewater treatment as an environmental pressure, that increases with growing second homes use.[16] In Norway, Aall also found significant increase in the energy equivalents from second home development and use.[17] Næss et al. recently found that the second home mobility of Oslo metropolitan area residents to and from second homes in Norway contributes to sizeable emissions of greenhouse gases, and on average very high per capita emissions when the second homes are located abroad.[18]

As widely known, a continued rise in emissions of human-induced greenhouse gases is projected to increase temperatures across the globe by several degrees in the near future and is already thought to be influencing weather events globally.[19] While second home use is dependent on particular localized preferences towards natural environments and thus local weather conditions (e.g. summer and winter activities) it is remarkable how little research has been conducted into the effects of future climate change on second home use. A recent anthology on second homes and mobility did not include climate change issues in the contributions but pointed to rising emissions from travel and lifestyle as an important future subject for research—leaving out the consequences of climate change to second home use.[20] Nevertheless, the impact of climate change in the Nordic countries and the effect on second home use is especially relevant. During winter, skiing from second homes is a large business and in summer, second homes play an important role for carrying out activities near the coast. Both forms of recreational activity are projected to be particularly influenced in the future due to climate change, positively during summer and negatively during winter.[21] Awareness of these effects may increase second home users' willingness to mitigate climate change. Awareness of their own

contribution to these changes may further increase their willingness to change practices around second home use regarding e.g. their mobility pattern, and energy and material consumption.

With a Norwegian population of 5.37 million and approximately 438,000 domestic second homes, the relative number is high, as in most of the Nordic countries.[22] Norwegian second home use is traditionally narrated around austerity, getting in touch with nature, a simple way of living, and escape from modernity.[23] These ideals about second home use can be distinguished between a simple spatial setting of the second home in a landscape and the user's activities while staying there (e.g. fishing, hunting, and hiking). This narrative portrays a use that is respectful, friendly, and harmonious towards nature. In recent decades, however, second home developments have changed from the simple and low resource demanding "cabins" to larger houses, resembling modern detached single-family houses. Activities during stays have diversified and now also include resource and energy demanding activities such as alpine skiing or motor boating.[24] It might be suspected that perception of own impact on the environment is dependent on level of standard of users' second homes. As of today, a large proportion of the second home housing stock is comprised of low to medium standard dwellings (below average primary home standards), but the proportion of high standard dwellings (comparable with or higher standard than primary homes) is increasing.[25]

Quite a few studies investigating tourists' justification for environmentally unfriendly impacts from air travel have been conducted, however not many studies have a dedicated focus on second home use.[26] Since the motives for use of second homes are often argued to be rested in ideals about Nordic national identity, it could be presumed that users' perceptions of impact on the environment and climate are rather resilient, resulting in impacts being justified as socio-cultural necessities.[27]

Kaltenborn et al. found that 'environmental orientation' was a key determinant in local residents' attitudes towards new second home developments. Being generally positive towards environmental concerns was found to increase local residents' opposition towards new developments, while economic interests in developments would cause a positive attitude and local attachment did not influence attitudes.[28] One study on second home user perceptions on impacts from their own

second home use seems to suggest a rather fractured perception.[29] This study shows that concerns about environmental impacts in second home areas are not much present in users' conscience, and the impacts are often thought to be positive.

That the use of second homes has a positive effect on the environment is an argument also put forth by several researchers.[30] Hiltunen, for example, found that a positive impact from second home use is an induced human-nature relationship.[31] Due to this induced relationship, some researchers assume that being out in nature has an educational effect on people, leading them to do more for the environment in other aspects of life—also politically. Another argument to support the perceived positive environmental and climate effects of second home use is that it would substitute environmentally harmful forms of tourism and especially long-haul flights. However, the only studies that have investigated this show that second home use does not substitute long-haul flights, but rather constitutes additional leisure mobility.[32]

One theory among scholars, opposite to the idea about increased environmental awareness, holds that people in their leisure time tend to take time 'off' from environmental concerns.[33] Leisure time might then become arenas to indulge in luxury consumption for various reasons.[34] Second home use is a form of luxury consumption from which those outside the upper and upper middle class are increasingly precluded.[35] This form of consumption also serves the symbolic purpose of aligning with the narrative of cultural ties and national identity.[36]

This review shows that though a growing size of literature finds that second homes cause intricate environmental impacts and will become affected by climate change, there still seems to be a scholarly disagreement about whether second home use has in general positive or negative environmental impacts. This diversified account has caused us to question how second home users portray the relation between second home use and environmental impacts, as well as how users justify their use.

RESEARCH DESIGN AND METHODS

The research questions are investigated through a case study of Norwegian second home users using a questionnaire survey and interviews.

Norway is one of the leading second home countries in Europe with a long tradition of second home use. Norway is also a country likely to experience significant changes to local environments due to climate change both during summer and winter (see e.g. the Norwegian Meteorological Institute's 'new normal' average temperatures and thereby the tourism sector is believed to experience significant impacts from this, which makes Norway a relevant case area.[37] The survey and interview data include current second home owners and users. In the following, the methods related to this paper will be described.

A mixed method approach was chosen to support a broad and in-depth understanding. While the quantitative data from the survey aim at securing broad knowledge, representing perceptions among second home users residing in the Oslo metropolitan area, the qualitative data of the interviews aim at securing more in-depth knowledge and individual nuances of perceptions and their justifications for environmental impact. The survey data and interviews are drawn from two research projects conducted by authors of the present article, both investigating the Norwegian second home phenomenon. One project has a stronger focus on the environment (project 1), while the other has a stronger focus on climate change (project 2). The projects nevertheless ran parallel in their data collection and were partly conducted by the same researchers.

This paper draws on a questionnaire survey among 1,104 inhabitants of the Oslo metropolitan area (from project 1) and 18 in-depth qualitative interviews with persons having access to second homes (from project 2). Both the survey and the interviews were conducted in 2016. The survey respondents were drawn randomly within each of 47 postal zones representing geographically and socio-economically the inhabitants of the Oslo metropolitan area. In Table 1, characteristics of the questionnaire respondents are compared to the interviewees and to the population of the two counties from which the respondents were recruited. The interviewees were partly recruited through a similar questionnaire survey of a project on spatial planning, second homes and climate change (project 2), and partly through a snowball approach.

In the questionnaire survey, we asked respondents about perceived environmental impacts, which, due to the broadness of the term, also

includes climate change impacts. Similarly, while conducting the interviews, the talks about perceived impacts included both climate change and other environmental issues.

The questionnaire was designed in such a way that persons having access to more than one second home could for some questions answer about the two most used second homes separately. Other questions were based on general aspects of second home ownership and use, and thus represent all second homes in question. Questions included, among others, year of acquisition, type of access, level of standard, location, motives for ownership and use, and questions concerning opinions about environmental consequences of use. 1104 respondents participated, which makes a response rate of 11%. This is to be considered as a normal response rate for social science surveys in Norway.[38] Both owners, users and nonusers were asked to participate, but there was a considerable overrepresentation of owners/users (70.6%) compared to nonusers (29.4%). However, this paper's aim only requires us to draws on data from the owners and users, and the overrepresentation is therefore not considered a problem, which will be elaborated in the following. There will not be made any distinction between the owner and non-owning user categories, and when referred to, the term users is applied.

In the questionnaire survey, the households to which respondents belong have on average more members than for the average household of the population of the Oslo and Akershus counties (see Table 1). The area of the Oslo and Akershus counties is larger than the area from which the respondents were recruited, but it is the data set closest to and most suited for a general comparison. Respondents also have higher education level than typical for the county populations. Together, these circumstances contribute to household income levels being considerably higher among respondents and interviewees than among inhabitants of the counties. On the other hand, there is also a higher proportion of pensioners among respondents than in the general population of the counties, reflected in higher age and lower proportions of workforce participants in the survey sample. This is as expected due to the high proportion of respondents owning or having access to a second home, who could be expected to belong to the higher age and income groups.

With the higher response rate among second home users than non-users, the survey cannot be considered representative of the general population of Oslo metropolitan area. However, since the statistical analysis of the present paper focuses only on the owner/user group, there is little reason to believe that this group of respondents would not be sufficiently representative of the population of second home users in the survey area. Moreover, since the objective of this study is not to describe the univariate distributions of attitudes and perceptions but to explore their conditional relationship with characteristics of the respondents and their second homes, using multivariate analysis, the overrepresentation of certain groups of people in the sample is not expected to substantially affect the results.[39]

The interviewees are in similar ways skewed in demographic profile as the survey respondents, but again this is not necessarily a drawback, as second home users are the focus of the investigation. The interviewees all had Norwegian ethnic background and several had access to more than one second home. Apart from three interviewees living in Trondheim and with cabins in Oppdal, all interviewees had their permanent residence in the Oslo metropolitan area. The interviewees came from different household compositions and sizes and included both participants of the workforce and pensioners. Qualitative interview research does not aim at statistical representativeness, and the interviewees' answers thus cannot be generalized to any defined population. The answers nevertheless do represent to some extent culturally shared values perceptions and justifications. Combined with the quantitative analysis, the interviewees add a qualitative nuance to understandings about perceived impacts from second home use and the justifications of such impacts.

The semi-structured interviews (N=18) each lasted 1–1.5 hours and were conducted in either Norwegian or English, as not all researchers were fluent in Norwegian. The fact that some interviews were undertaken in English, did not prevent the interviewees to speak freely. The interviews aimed at illuminating the interviewees' perspective on matters of motives for ownership and use, activities, travel pattern, as well as perceptions of environmental and climate impacts of second home use.

Table 1. Characteristics of the survey respondents and interviewees, compared to the population of the counties of Oslo and Akershus

	RESPONDENTS QUESTIONNAIRE (N=1104)	INTERVIEWEES (N=18)	INHABITANTS OF OSLO AND AKERSHUS COUNTIES (INCLUDING THE GREATER OSLO)
Percent with access to one or more second homes	70.6	100	Approx. 40 (national figures)
Average number of persons per household	3.3	2.83	1.94
Average number of children aged 0–6 years per household	0.45	0.22	0.15
Average number of children aged 7–17 years per household	0.4	0.78	0.13
Average age among respondents (all aged 18 or more)	60	51	45.8
Gender (proportion female)	48.7%	44%	50.3%
Proportion of workforce participants among respondents	69%	83%	81%
Average annual household income (1000 NOK)	982	1065	812
Proportion with education at master level or higher	52%	90%	16%

For the interviews, specific future climate scenarios were developed as a focal point for parts of the interview. The reason for this approach was to explore the interviewees' responses to hypothetical climate-related changes in recreational possibilities, based on the future scenarios. Posing such hypothetical questions also served to make the participants more reflective about their own contribution to climate change and environmental degradation, which are aspects relevant for this paper. The interviewers presented the scenarios using simplified examples with focus on changed conditions for recreational activities, which the interviewees would be able to relate to—rather than presenting detailed information about precise increase or decrease in temperature or wind gusts.

The subsequent analysis of the transcribed interviews was conducted in two steps. First through a range of research questions for each interview and second, a cross-interview analysis of question groups. For this paper, it is the research questions regarding perceptions of environmental and climate change issues related to second home use that are of interest.

QUESTIONNAIRE RESULTS

In the survey, questions were asked about the extent to which respondents considered their own use of second homes and the national aggregate use of second homes, respectively, as environmentally friendly. The results are shown in table 2.

Table 2 shows that 57.3% regard their own use of second homes as environmentally friendly, of which 16.8% consider it very much environmentally friendly. In contrast, only 16.6% regard the aggregate use in Norway as either environmentally friendly or very much environmentally friendly. Very few (7.1%) consider their own use of second homes as environmentally unfriendly, while 41.8% consider the aggregate use as environmentally unfriendly. Relatively high proportions of respondents regard their own use of second homes (35.5%) and the aggregate use (41.9%) as neither environmentally friendly nor unfriendly.

Through the survey data, it is possible to investigate, among others, the assumption that people owning less luxurious second homes tend to view their own use less environmentally harmful than those owning high-standard dwellings. In table 3, the perceived environmental

Table 2. Respondents' answer to questions about perceptions of environmental friendliness of use of second homes.

	TO WHICH EXTENT DO YOU CONSIDER YOUR OWN USE OF SECOND HOME AS ENVIRONMENTALLY FRIENDLY? N=772	TO WHICH EXTENT DO YOU CONSIDER THE USE OF SECOND HOMES GENERALLY IN NORWAY AS ENVIRONMENTALLY FRIENDLY? N=667
Not at all environmentally friendly	0.6%	3.4%
Not environmentally friendly	6.5%	38.4%
Neither/Nor	35.5%	41.9%
Environmentally friendly	40.5%	15.3%
Very much environmentally friendly	16.8%	1.3%

friendliness of respondents' own second home use is the dependent variable, while independent variables are the standard of the second home[40], number of years with access, level of education, household income, age of the respondent and gender. The model's R-square indicates that 11% of the variation can be attributed to the chosen variables. The relatively low R-square levels for this and the following analyses will be addressed in the discussion.

The regression analysis indicates a significant negative correlation between the standard of peoples' second home and the perceived environmental friendliness of their second home use, which supports the notion that those using high-standard second homes are less likely to perceive their own use as environmentally friendly than those with lower-standard second homes. The analysis also indicates a significant positive correlation between the number of years the second home has been owned and perceived environmental friendliness, which also seems logical because the older the second home the higher is the likelihood

Table 3. Ordinal regression with the perceived environmental friendliness of respondents' own use of second homes as the dependent variable

		ESTIMATE	95% CONFIDENCE INTERVAL	P-VALUE
Threshold	Not at all environmentally friendly	-6.491	(-8.317 – -4.665)	<0.001
	Not environmentally friendly	-3.862	(-5.328 – -2.396)	<0.001
	Neither nor	-1.583	(-3.012 – -0.155)	0.030
	Environmentally friendly	0.556	(-0.866 – 1.978)	0.444
Location	Number of second homes with access	0.113	(-0.088 – 0.315)	0.271
	Standard of most used second home	-0.532	(-0.732 – -0.331)	<0.001
	Gender	-0.260	(-0.591 – 0.071)	0.123
	Level of education	-0.054	(-0.197 – 0.090)	0.463
	Household income	-0.077	(-0.179 – 0.024)	0.135
	Number of years with access	0.015	(0.002 – 0.029)	0.029
	Age of respondent	0.009	(-0.004 – 0.021)	0.193

Note. N=522. Pseudo R-Square (Naglekerke) = 0.112.

that it is more primitive, and then seemingly has lower impact than more modern ones. The effect of number of years with access may also reflect that the environmental effects of the building process become more distant in the mind of users over the years. Yet, the results do not reflect the fact that environmental concerns like insulation and sewage were not prioritized in older second homes, while they are in more modern ones.

Table 4 shows the results of an ordinal regression with the same independent variables as in Table 3, but this time with the respondents' perception of the environmental friendliness of the aggregate Norwegian use of second homes as the dependent variable. The model's R-square indicates that 8% of the variation can be attributed to the chosen variables.

Table 4. Ordinal regression with the respondents' perception of the environmental friendliness of the aggregate Norwegian use of second homes as the dependent variable.

		ESTIMATE	95% CONFIDENCE INTERVAL	P-VALUE
Threshold	Not at all environmentally friendly	-1.671	(-3.319 – -0.024)	0.047
	Not environmentally friendly	1.291	(-0.319 – 2.901)	0.116
	Neither nor	3.383	(1.746 – 5.020)	<0.001
	Environmentally friendly	6.809	(4.828 – 8.791)	<0.001
Location	Number of second homes with access	0.046	(-0.171 – 0.263)	0.678
	Standard of most used second home	0.452	(0.237 – 0.667)	<0.001
	Gender	-0.310	(-0.671 – 0.052)	0.093
	Level of education	-0.138	(-0.296 – 0.020)	0.087
	Household income	0.078	(-0.034 – 0.191)	0.171
	Number of years with access	0.003	(-0.012 – 0.018)	0.739
	Age of respondent	0.019	(0.005 – 0.033)	0.008

Note. N=459. Pseudo R-square (Naglekerke) = 0.082

Table 4 shows that there is a significant *positive* correlation between the standard of respondent's own second home and the perceived environmental friendliness of the Norwegian aggregate use of second homes. This indicates that respondents with access to high-standard second homes also tend to perceive the aggregate second home use as more environmentally friendly than those with access to lower-standard second homes. Comparing to the analysis in table 3, the result is interesting as it indicates that while respondents with higher-standard second homes might be less likely to perceive their own use as environmentally friendly, they are more likely than respondents with lower-standard second homes to perceive the aggregate second home

use as environmentally friendly. One reason for this could be that those who have high-standard second homes think that the aggregate effect is more environmentally friendly than their own use, simply because the average second home is of a lower standard (and probably also smaller) than their own second home.

The regression analysis in table 4 also indicates that the older the respondents are, the more likely they are to deem the aggregate use environmentally friendly, which might indicate a generational shift in environmental awareness.

INTERVIEW RESULTS

Interview data support the impression given by the questionnaire survey on how second home users perceive their own as well as the aggregate Norwegian impacts on the environment, but some nuances are found.

Accepting and Relativizing Environmental Impacts

While most interviewees are of the opinion that the aggregate Norwegian use is not environmentally or climate friendly, they mostly perceive their own use as environmentally and climate friendly, and often argue that it also makes a positive contribution.

> "I think that second home use is positive for the climate and for the environment, because then you're out in nature. Yes, you might use some petrol to get there, but you are interested in being out in nature, and I guess that people then are more willing to sacrifice on other parameters for the sake of the environment, compared to people just being outside [at home]. People living in the center of the city, not using the car, they are not that interested in nature activities et cetera. So, I think it's more positive that people go out and see nature, even though there is slight use of fossil energy to get there. The disadvantage or the negative effect on the environment I think is very limited, and it will be even less when everybody is driving electrical cars in the future." (Male, age 42.)

As the interviewee above, most interviewees acknowledge that transport back and forth involves some impact on the climate: "Eh, yeah. I think, we can affect it, the climate change, by driving there and the frequency of when we drive there." (Male, age 34). Nevertheless, some of the interviewees also justify driving and other impacts as a 'necessary evil' in order not to inflict more environmental damage induced by other forms of vacation. This is often from a perspective that "you have to spend your summer holiday somewhere":

> "Probably, the transportation to and from and also just the fact that you build something, you know, and the electricity we use when we are there, but at the same time, you have to spend your summer holiday somewhere, and I think if we didn't go to the cabin we would probably go somewhere where we would spend even more resources, either abroad or we would go to hotels where you spend more resources, you know, because, someone is making the food and doing the [sic.], of course it would be less impact on the climate if we just stayed here, but I don't know if that's a viable option in a way, so I don't know, yeah." (Female, age 40)

The above interviewee mentions the option of staying home without conducting any travel during holidays, but does not view this as a viable option. This point of view is also argued by other respondents, and some even go further to argue that travel in relation to second homes is a means to reach an end that serves a greater good.

> "I think that in a sense all travelling is bad, because there is some pollution, yeah. But when, if you think that Norwegians travel, then this is using a place that's already there, using almost no resources, just to keep it up to date. I think it's one of the best ways to give a, some environmental effort, yeah, but of course, we have a lot of ways to explain our own habits—No, this is good for the world, because it's good for me in a way, yeah. Maybe we shouldn't travel at all and that would be better. But for us it's important to live as, with so little pollution as we can." (Female, age 42).

The above quote also shows the uncertainty that some of the interviewees are expressing when asked about their own environmental impacts.

Realizing the environmental consequences at the same time as wanting to justify your own behaviour may present a tension between cognition and practice, especially for those who want to identify themselves as environmentalists.

Justifying Own Second Home Use, Blaming 'the Others', Ambivalence and Reflection

A woman with access to two second homes, who is usually concerned about climate change, was not used to ponder on the environmental impact of her own use of second homes, but had a clear opinion when reflecting on it.

> "Embarrassedly enough, I haven't really considered that before. And I'm very concerned about the climate, and of course my use affects it, because I'm driving back and forth. However, I certainly feel that it is necessary to use and to live in the houses. It would not be good if the places were left alone. I mean, the houses need people living in them and maintaining them. In that way, it affects the place and the houses in a good way." (Female, age 50)

The interviewee is here referring to the maintenance of the building and property that the second home might need. There seems also to be an element of socio-cultural attachment to second homes argued in the quote. If second homes are not used and lived in by people, then the houses and places will be affected 'not in a good way'. It seems to her a waste to just let it be unoccupied and unused. As such, this rationale plays along the lines of the Norwegian narrative about second homes and a view of people doing good when using and maintaining second homes. Nevertheless, the interviewee sees some troubling consequences of the use. She continues to reflect on the aggregate national use, in which she questions the general public awareness of impacts of second home use:

> "How aware and conscious are we really in terms of how we use our dwellings? There is a lot of small islands here in Kragerø and the area has changed extremely in terms of how huge and how the second

> homes have grown, they are large houses! People have many boats, they have this speed, these small speed things, several cars. It has become extreme! I'm not saying that I'm doing super well here, but it is such an arrogance towards the nature, the landscape and the environment. In attitude, in general, in some parts of Norway. Specifically, here in Kragerø, and in mountains, well it's going berserk. We have lost connection to our true nature, in ourselves, and in the nature." (Female, age 50)

Towards the end of the interview here, the interviewee opened up and expressed some strong opinions towards the high standard and modern second home developments and the consumption that follows, which she believes has become too disconnected from the true values behind the Norwegian second home tradition. She also agrees that her own use might not be as environmentally friendly as she would have wished, and she continues to use the pronoun 'we' to refer to second home users or Norwegians, which she sees herself as part of. In that sense she expresses some concern towards the increased material consumption and the high-consumptive lifestyle that seems to be at the spearhead of contemporary second home developments in Norway. Most interviewees seem to try to justify their own use as environmentally friendly and 'blame' other types of development as environmentally unfriendly. However, as the below answer to a question about the general impact on Norwegian second homes shows, these accusations, untied from own practices, might be influenced by media reports:

> "I don't know, in a way I'm just repeating what I have read and heard and so on, because I mean, when there are more cabins being built all over Norway all the time, so of course there are less, fewer areas that are not, let's say touched by humans and so and so. That has an impact. In the other way of course, I mean, if people enjoy being there and are feeling relaxed and so on, then that's good for the mental health." (Female, age 54).

Again, the interviewee quickly justifies the use of second homes, including the aggregate-level use, creating an argument to counterweigh the acknowledgement that second home use has an impact on the

environment and climate change. The interviewee thereby points at a trade-off between a positive contribution to her own quality of life and the negative environmental impacts. She justifies her use by referring to other rationales, such as mental health, still suggesting that environmental rationales play a role, but not determinate when it comes to second home use.

In general, the interviewees seem to express an opposition between traditional and modern second homes, often associated with environmentally friendly and unfriendly development, respectively. Many interviewees speak in favorable terms about the traditional second home areas and do not see the charm in modern ones.

> ". . . you know there's a long tradition of this cabin life, so there are a lot of old cabins built in the 40s and 50s and 60s and 70s where there are no roads or you have to walk to get to the cabin, no electricity and no water. So, there are quite a lot of these, and I find the quality is in those places much more important than in the modern cabins, where you can look into the window of the next-door neighbor. It's hard for me to understand why people would like that and they are so expensive, I mean they build them so big and they are like houses, and they cost 2 or 3 or 5 million kroner and I, well." (Male, age 55)

The interviewee here speaks about the idyllic aspects of the traditional second home developments, which he favors, rather than the modern developments. Still, several of the interviewees seem to be ambivalent about which type of development should be pursued. The above interviewee, for example, also sees the positive side of the modern type of developments:

> ". . . not far from my cabin at the Beitostølen, they have a plan for—was it another 700 cabins or something, it is crazy, but on one side it's OK. I wouldn't have that kind of cabin, but it's OK to have them, not to spread them all over the mountains of Norway, because, then we would lose the wild aspect of it, so to have many of them together in one place is actually better, even if I don't like that kind of cabin life." (Male, age 55)

The main points made here relate to how the mountain landscape can be best protected from second home developments and what the second home tradition is all about. The quotes above perfectly show the dilemma between pursuing a traditional second home use and a future second home development that inflicts less damage on appreciated mountain landscapes. The environmental and climate-related impacts from the use of natural resources when developing these modern second homes seem, however, not to be that present in the expressed opinions.

In the next section, the results from the questionnaire survey and the interviews will be discussed and the academic contribution of the study will be highlighted.

DISCUSSION AND CONCLUSION

The first research question this paper set out to answer was: How do second home users perceive both their own and aggregate Norwegian environmental impacts from second home use? The analysis of the questionnaire survey showed that the majority of second home-using respondents tend to perceive their own second home use as environmentally friendly (Table 3), while the aggregate use tends to be perceived as environmentally unfriendly (Table 4). The survey also reveals that modern second homes are perceived to have higher environmental impact than more traditional ones with primitive standards. The interview material supports these findings from the questionnaire survey. However, most interviewees also acknowledge that their own use has an impact on the environment and climate.

That the explained variance (R-square) in the regression analysis (table 3 and 4), did not climb 11% implies that several circumstances not included as variables in the analysis influence respondents' perceptions. One such influential circumstance could be political convictions, as indicated by Kaltenborn et al. (2008), but this was not included in the survey.

The second research question was: Which justifications do second home users provide concerning environmental impacts? The interviewees acknowledge that there are environmental impacts but tend to

relativize with other forms of recreation. The interviewees often justify their own environmental impacts by known arguments from literature and media. Some interviewees argue that there is a need to experience surroundings different from those of the primary home during holidays, and that second home use is an environmentally friendly form of vacation. Interviewees also argue that it is good for personal health to get out in nature; and that places and houses need to be visited and used. The interviewees do not express such justifications to the same extent for the aggregate-level second home use. Still, there seem to be some ambivalence towards own and aggregate induced impacts and the interviews seem to make people reflect on their own behavior as well as the national aggregate.

This study thereby indicates that Norwegian second home users living in the Oslo metropolitan area in general think positively of their own behavior and find ways in which environmentally unfriendly impacts can be justified, while blaming the collective behavior of high-standard second home users. According to social psychological research, this form of self-favoring bias is a form of 'illusory superiority' (Van Yperen & Buunk, 1991; Hoorens,1993). Illusory superiority indicates when a person is positively biased towards own attributes (in this case behavior) compared to others (Hoorens, 1993). If the future use of Norwegian second homes is unsustainable, it is important that people are aware. However, the tendency we find in the study, that people tend to justify their behavior, can constitute a challenge to deal with second home development towards sustainability in the future. That second home users in Norway tend to perceive the aggregate level use as generally environmentally harmful might indicate that people are able to look at the aggregate use in a less biased way when considering the national-scale impacts of second home use. This suggest that an informed national discourse about second home practices related to sustainability issues might stimulate changed views over time about the environmental friendliness of second home use.

In total, the findings are new to research, as individual users' perceptions of environmental impacts have previously not been a topic in Norwegian second home research. Our study supplements a recent investigation of consumption impacts from the Norwegian multi-dwelling lifestyle in which Norwegian second home users indulge.[41]

From a United Kingdom context, Dykes and Walmsley found that, when asked about impacts from second homes, owners only to a limited extent highlight environmental impacts from their use, but in general perceive second home use as more environmentally friendly than other forms of tourism. Our study adds a Norwegian perspective to their findings.

Some of the justifications put forth by the interviewees in our study relate to the national narrative around Norwegians and nature. The mythological folklore stories of a small people with abundance of awareness and attentiveness towards nature might especially play a role in such rationales, though arguable a subtle one.[42] Through the interviews, an opposition between the traditional and the modern form of second home developments was found, and some interviewees criticize the modern form of development and the associated environmental impacts. The narrative can however shield some second home users from making critical reflections on their own contribution to climate change and environmental degradation through their practices. This can become a problem if change is desired, but it also shows that narratives can play an important role for perceptions about second home use.

Skjeggedal et al. argue that modern second home areas are overrepresented in mainstream media and that they are often presented as environmentally unfriendly, which to some extent could explain the negative perception of the aggregate second home use. As most Norwegians do not have modern second homes, but use smaller and more traditional second homes, they might be inclined to view their own use as less environmentally unfriendly than the second home use highlighted in the media coverage. Our findings also suggest that those with higher-standard second homes tend to perceive the aggregate impact as less environmentally harmful than those with lower standard second homes do. As such, it might indicate that second home users are in general not completely illusory about their impacts.

Our interview data additionally indicate that some second home users realize some form of environmental and climate impacts from their own use. Especially the need to drive private car is highlighted as a negative impact. This is interesting because research has just recently focused on this aspect,[43] but the realization here probably comes from the media attention on the climate effects of car driving. Also, travel

patterns was the focus of 'research project 2' and the theme was thus included among the questions. Still, interviewees justify impacts from second home mobility as better if related to forms of traveling other than car driving. However, while it might be true that traveling to a domestically based second home is more climate friendly than a long-haul international flight, research has not shown that second home based vacations would restrict people from also flying internationally.[44]

Our findings also supplement the increasing research on how tourists see their own impact on environmental and climate issues, since second home use has not been extensively researched in this respect. Studies on air travel tourism and perceived own impact of travel behavior show a range of reasons for misalignment between environmental attitudes (e.g. not wanting to harm the environment or contributing to climate change) and behavior.[45] Such misalignment includes, among others, displacement of responsibility to other groups and individuals[46] or 'distant others' at national level discourse.[47] Our study adds to these results from a second home perspective. Researchers have previously suggested that tourists take time off from environmental concerns, which our results also indicate, at least when it in a retrospective situation comes to evaluating one's own practice.[48]

Our findings thereby point to challenges for policy intervention if a sustainability transition of second home use were to be pursued. More attention towards showing how second home use is harmful towards the environment and climate seems to be needed. That some second home owners and users deem parts of their behavior as environmentally unfriendly might suggest that these aspects are where behavioral change induced by new policies or regulations might be easiest to achieve. Establishing more environmentally friendly forms of, for example, transport to second home areas might, however, not be straightforward as second home areas are scattered across most parts of Norway, and the low density of second homes might therefore become an obstacle.[49]

Another point where the results indicate possible policy interventions is in the interviewees' different evaluations of traditional and modern second home developments. There seems to be a critical opinion towards developments that result in high levels of consumption

of land(scape), energy and materials. This might be explained by the media attention directed toward modern high-standard second home development during recent decades,[50] which suggests that more attention towards harmful practices might be helpful. However, this view on modern second home development also points at the embedded narratives around the socio-cultural tradition of second home use, where austerity ideals, getting in touch with nature, the simple way of living and escape from modernity are key elements. This nature relatedness-narrative is difficult for the interviewees to align with high-standard second home developments and associated lifestyles characterized by a high level of consumption. A national policy that balances traditional standards (e.g. small size) with modern planning (e.g. dense developments and shared facilities) might be a viable path forward. Hjalager et al., for example, points out that a densification strategy in second home areas could increase sustainability in terms of land take.

Further studies might also include additional aspects such as second home owners' perception of own impact on social and economic aspects in second home areas.

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