



Attitudes towards Local Carnivores in Umeå, Sweden

– Investigating species and individual effects on attitudes towards Carnivores in the confines of a local community

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Abstract

The expanding human population is leading to increases in urbanisation and changing land-use. The space between wildlife and humans is diminishing as wildlife adapts to environmental changes caused by urbanisation. With an increasing number of species moving into an urban environment we see increasing encounters between humans and wildlife. This increases the risk of dealing with human-wildlife conflicts, which could have negative outcomes for both parties. There is limited knowledge about human attitudes towards smaller species of carnivores in Sweden, as well as potential drivers of attitudes. This paper aims to investigate attitudes in Umeå Municipality towards all species of carnivore found in Sweden. This is done to be able to distinguish the differences in attitude among species, and the potential predictors that explain them. To answer this question, I employ the assistance of participants in a citizen science project called “Meet Your Wild Neighbours” to aid in collecting data through surveys and camera traps. Citizen science is a growing field, with the potential to both improve data collection and shape perceptions. By separating potential covariates to explain attitude variance into two sections; species effects and individual effects I discerned some potential drivers of attitude. Differences were found among attitudes towards the species of carnivore in Sweden. The potential predictors; distance, body mass, experience and housing density did not affect attitudes as strongly as previously thought. However varying types of education systems in Sweden accounted for some variation in attitudes among participants. This study emphasises the need to understand the differences in attitudes between species, and what factors affect attitudes towards carnivores. In order to identify what conservation policies can be implemented with increased support from the public.

Keywords: Carnivore attitudes, nature attitudes, animal ecology, conservation biology, citizen science

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Abbreviations

MYWN	Meet Your Wild Neighbours; name of project
SLU	Swedish University of Agricultural Sciences
B1	Survey question: Do you accept this animal existing Sweden?
B2	Survey question: Would you accept having these animals near where you live?
B3	Survey question: How important are these animals for you?
B15	Survey question: What changes would you like to see the coming years in the populations of the following species of wild animals in your local area?

1. Introduction

Wildlife communities are changing globally in response to changes in the human population. As the human population grows, we see an increase in urbanisation and changing land-use (Young et al., 2016), which may pose threats to wildlife communities. In terrestrial environments habitat loss and modification is often cited as a leading cause of defaunation as a result of urbanisation (Young et al., 2016). The numerous environmental pressures caused by increasing urbanisation are disturbing wildlife. Nevertheless, some species of mammals have adapted to these changes (Santini et al., 2018). As wildlife populations expand into urban environments, we see increasing encounters between people and wildlife. The media reports that the increases in encounters are spreading fear amongst the local communities (Västerbottens-Kuriren, 2019; Haupt, 2020) in Sweden. Due to the potential for individuals to perceive the increase in encounters as a threat, it may potentially act as a driving factor in how decisions will be made to address human-wildlife conflicts. As fear may affect people's acceptability of wildlife and policy measures (Krange et al., 2017).

The lack of large carnivores in developed areas are presumed to lead to increases in populations of smaller carnivores (Parsons et al., 2019). Increasing competition between smaller carnivores reduces populations of prey species that in turn seek refuge in urban areas using humans as shields (Berger, 2007), followed by smaller carnivores. Various smaller species of carnivore have already moved into urban areas in Europe, as red foxes (*Vulpes vulpes*), pine martens (*Martes martes*), and stone martens (*Martes foina*), expand their ranges into human dominated landscapes (Balestrieri et al., 2010; Geiger et al., 2018; Walter et al., 2018). However, it has become evident that there are more species of carnivores that are adaptable to urban environments than originally predicted. Certain traits have been found to correlate to adaptation and living in urban environments (Santini et al., 2018). We could then expect some species to be more adaptable to an urban environment, in particular generalists like red foxes and martens. Specialists on the other hand, like the lynx (*Lynx lynx*) or arctic fox (*Vulpes lagopus*), may be less likely to adapt to the urban environment. Different traits potentially contribute to species' ability to endure, even thrive, in urban contexts and there is a diversity among effective strategies in mammals (Santini et al., 2018). Several large species of carnivores are more adaptable to an urban environment than predicted, such as

bears, wolves and mountain lions (Rauer et al., 2003; Yom-Tov 2003; Beckmann & Lackey, 2008; Chapron et al., 2014; Parsons et al., 2018; Santini et al. 2018; Parsons et al., 2019). Thus, more species of carnivores could potentially become present in urban environments, which may impact human attitudes towards carnivores. It may also be dependent on the species, as there are differences in attitudes between species of carnivores, such as bears, wolves, lynx and wolverines (Røskoft et al., 2007; Sandström et al., 2014).

Negative attitudes may be misdirected between carnivore species due to perceptions towards carnivores. There are several factors that have been tied to attitudes towards carnivores such as species characteristics, individual identity, different experiences and perception of occurrence. Species characteristics like distance to larger carnivores have been found to influence people's acceptance towards wildlife, or at least the perception of a distance. Larger distances appear to be promoting a higher level of appreciation and acceptance of the animals in Sweden (Karlsson & Sjöström, 2007; Sandström et al., 2014). Less direct impacts of wildlife on the individuals also seems to alter perceptions of wildlife. The concept "Not in my backyard" (Sandström et al., 2014) is often used to explain the instances where people are less keen on the presence of carnivores when directly 'negatively' impacted by any wildlife activity. Even though they might otherwise be positively inclined towards wildlife management. Experience can be linked to the strength in attitudes (Ericsson & Heberlein, 2002), and positive or negative experiences may strongly impact attitudes. An increase in encounters may in itself not have a very large effect on negative attitudes (Sandström et al., 2014). The public's perception of wolves and other large carnivores in Scandinavia has been extensively studied (Ericsson & Heberlein, 2002; Herbelin & Ericsson, 2005; Sandström et al., 2014) but little is known about the perception of other (smaller) carnivores. Fear and worry influence attitudes amongst people (Røskoft et al., 2007) and this fear is then potentially impacted by distance, size and the potential threat that each species may present. Dividing the species may therefore be important to investigate attitudes towards carnivores. Considering where people are more inclined towards a negative view, and which species they are positive towards, could aid in developing more comprehensive management and education plans.

Educational backgrounds could be attributed to people's attitudes, with higher levels often presenting more positive attitudes (Kaltenborn et al., 1999; Ericsson & Heberlein, 2002; Karlsson & Sjöström, 2007; Røskoft et al., 2007). In Sweden we have varying types of education, such as vocational education and academic education. Education has the potential to drive shifts in values in modern developed countries, along with urbanisation, to drive away from traditional wildlife orientations (Manfredo et al., 2003). The types of education systems, in particular academic versus vocational, may contribute to differences in wildlife values. Citizens living in an urban environment have variation in connection to rural

areas (Herbelin & Ericsson, 2005). Urbanites generally have a more positive attitude towards wildlife, although they tend to be the most positive when they have some connection to rural environment compared to multigenerational urbanites with less rural connections (Herbelin & Ericsson, 2005). However, this does not negate the potential distinction to population density and its effect on attitudes. A majority of people residing in Sweden are more accepting of reductions in populations of larger carnivores when they are present in densely populated areas and to increase safety for their pets (Sandström et al., 2014). Thus, although urbanites are more positive among citizens towards carnivores, they may be less positive to have them nearby.

Citizen science is an expanding practice that is being implemented in conservation research to obtain data that could shape the future of conservation science (Cosquer et al., 2012; Theobald et al., 2015; Burgess et al., 2017). Ecology and conservation could potentially benefit from the use of citizen science, as it provides data that is important to research conservation questions at a global scale (Loss et al., 2015). Citizen science can potentially shape perceptions, altering attitudes towards nature. Projects involving the general public exposes them to scientific knowledge and allows them to partake in projects further develop their knowledge and understanding. Citizen science also helps provide people with experiences with wildlife. In turn both aspects could affect their attitude towards nature as they work together with scientists to tackle emergent environmental issues (Cooper et al., 2007; Price et al., 2013; Kobori et al., 2016; Schuttler et al., 2018). Participation in a scientific project allows participants to further acknowledge where they lack information and develop a greater appreciation for searching for that knowledge (Price et al., 2013). Participation in a citizen science project does not guarantee a change in attitude, as it may be dependent on how the project is executed and linked to people and the participants (Brossard et al., 2005). Generally, people who join citizen science projects already express an interest in nature, which can make it hard to interpret changes in attitude, however there is still indication that behaviour and knowledge are influenced by citizen science (Brossard et al., 2005; Crall et al., 2012). I chose to use volunteers for this project to place cameras and answer a survey on their attitudes towards carnivores, to involve the general public in collecting knowledge on local carnivores. Thus, embracing the future of citizen science and its potential impact on ecological science data gathering and understanding both for the scientific community and the public community.

In this study, I aimed to investigate people's perception of wildlife, specifically carnivores, in relation to their actual occurrence and distance. Knowing people's attitudes towards various carnivores can be useful in future methods of conservation and problem solving in terms of human-wildlife conflicts. Through investigating people's attitudes in relation to the current ecological structure we can

see if it is clear that certain species are perceived negatively. The perceptions may then be prone to causing human-wildlife conflict and therefore studies and management should focus more on these species. Through investigating if several of the factors described (distance, experience, body mass and urbanisation) we can see what influences these attitudes.

I believe that human attitudes towards carnivores will be impacted on a species and individual level. Thus, I derive a number of hypotheses from this; (1) There will be a significant difference between attitudes towards various species of carnivores (2) Distance will positively impact attitudes towards carnivores, while body mass will have a negative relationship (3) Experience will have a stronger impact on attitudes than perception of occurrence (4) people in more densely populated areas will be more negative towards having carnivores in their vicinity. (5) Type of education will impact the attitude of each individual.

2. Method

2.1. Data Collection

I handed out a survey to all participants in the citizen science project “Meet Your Wild Neighbours” over the period 2019-11-08 to 2020-04-12 (n=82) at the Swedish University of Agricultural Sciences (SLU). The project aimed to study the presence of wildlife close to humans in Umeå Municipality, Västerbotten County, Sweden. The survey was designed to determine the local population’s current understanding of their environment and wildlife. This was done as there is no current picture of the attitudes to carnivore species in Umeå, outside of the largest carnivores. There was a general interest in getting to know our participants better, because we wanted to have a baseline attitude of our participants to see if there is potential for them to change due to participation at all. I adapted previous studies conducted in Sweden and the US (Ericsson & Heberlein, 2002; Sandström et al. 2014; Pedrozo et al., 2018). Minor modifications were made to suit my study, such as additional questions targeting smaller carnivore species and adding more species to existing questions. There is potential bias to the results, as the survey was only handed out to individuals who chose to partake in the project and have expressed a general interest in wildlife through joining the project. Which is why previous survey data is used to compare.

I chose to include all mammal carnivore species located throughout Sweden, regardless of occurrence in Umeå to investigate species acceptance; European brown bear (*Ursus arctos arctos*), Grey wolf (*Canis lupus*), Eurasian lynx (*Lynx lynx*), wolverine (*Gulo gulo*), otter (*Lutra lutra*), red fox (*Vulpes Vulpes*), European badger (*Meles meles*), Arctic fox (*Vulpes lagopus*), domestic cat (*Felis catus*), European pine marten (*Martes martes*), European polecat (*Mustela putorius*), American mink (*Neovison vison*), stoat (*Mustela ermine*) and weasel (*Mustela nivalis*) (Wilson & Reeder, 2005). The body mass for each species was extracted from the panTHERIA database (Jones et al. 2009). Domestic cats were added as many cat owners let their cats roam freely, and dogs were omitted due to Lag (2007:1150). Swedish law does not permit dogs to roam freely, especially where there is wildlife present. The large species were presented as European brown bear,

Grey wolf, Eurasian lynx, wolverine and the smaller species were presented as the remaining 10 species. I chose to split the species groups at wolverine and badgers, due to size difference, prey size difference and the general consensus of classifying wolverine as part of Sweden's "biggest 4 carnivores" (Røskoft et al., 2007; Sandström et al. 2014).

2.2. Measurements

The survey was divided into four sections; (A) wildlife value orientation, (B) carnivore attitudes and perceptions, (C) participation in the project and (D) demographics. The survey was structured to try to limit steering opinion through starting with general nature questions, gently gearing towards more specific questions on attitudes. The questions in the survey used a Likert scale (Sirkin p43, 2005) ranging mostly from strongly disagree to strongly agree (-2 to +2) or categorical answers. Section A consisted of questions about general attitudes towards nature and wildlife, to test if our participants differed from a random sample. Section B consisted of questions investigating what attitudes towards carnivores are. Section C was added to develop an understanding of the participants' mindset in joining a citizenship science project and their opinions towards it. Section D was designed to collect information on general demographics available. The exact wording of the survey is available in the appendix.

Through the citizen science project MYWN a group of participants were equipped with camera traps for a period of approximately 4-5 weeks to place on their property between 05-10-2019 to 12-04-2020. I then used the images from these camera traps to identify what animals are present in Umeå and their locations using GPS coordinates obtained from volunteers. The Camera traps used were HC500 Hyperfire Semi-Covert IR, with a lockable shell to help protect from damage and theft. The camera settings were adjusted to rapidly take 3 pictures when detecting movement and take control shots at 12am, 1am, 12pm and 1pm. Participants were given a basic guideline for setting up the cameras on their property.

To calculate the distance of each participant to the nearest record of each carnivore species, data were obtained from Swedish Species Observation System (smaller carnivores), Norwegian Large Predator Monitoring Program (large carnivores) and the camera traps. The data from the databases were retrieved on 06-05-2020 and contained all records in Västerbotten county from 01-01-2010 to 06-05-2020. European polecat data differed in that records from all of Sweden were looked at, from the same time frame. Uppsala county had the closest records of European polecat. Large carnivore data extracted included only validated sightings for wolf and wolverine (rare in the county) and all sightings for lynx and bear (relatively common).

2.3. Data Analysis

2.3.1. Comparing Data

Additional data were obtained (Sandström et al. 2014) to compare my sample (N=62) to a random sample from Umeå Municipality (N=83), to see if there was a difference between attitudes to nature to investigate the level of bias. Due to the chance that individuals more interested in nature may opt to partake in the study. To compare the two datasets, I used independent t-tests, as the two data sets are independent of each other and have varying sample sizes. I also used this data to compare answers to three questions (B1, B2, B3, appendix II figure 3) from my survey to the same questions they posed about attitudes to bears, wolverines, lynx and wolves. Excluding question four (B15, appendix II figure 3) as the question is not present in the random sample dataset. I used the same treatment for these three questions as with my own data (see below) to test if there was any difference between species for the random sample.

2.3.2. Attitude Data

A total of 62 individuals participated in the study. Due to the limited number of participants they were accounted for as individuals, rather than forming any groups. Through application of standard social sciences methodology, I created single scale attitude items to measure the general attitude towards each category; species and large vs small carnivores, these are then tested using a reliability test (Cronbach's alpha) to see if the scales were applicable (Sirkin, 1995; Sirkin, 2005; McNeish, 2020). For the species-specific attitude, I asked respondents (1) if they accept carnivores in Sweden, (2) if they would accept carnivores nearby, (3) how important they were, (4) population trends they wanted to see in Sweden. From this I formulated an index based on the sum of scores ranging from -9 to +9. To compare large to small carnivore responses I formed an index using three sections divided into multiple smaller questions with a sum of scores scale of -30 to +30, these sections looked at opinions on (1) acceptable lifestyle for carnivores, (2) carnivore issue solutions and (3) when hunting carnivores is acceptable and was based on. All responses to questions with negative implications towards carnivores, such as attitudes towards hunting, were flipped on the response scale (multiplied by -1) to form a consistent index that reflected the overall attitude towards carnivores with positive scores relating to positive attitudes. To test for differences between large and small carnivore responses I used a paired t-test to compare the means, as each participant gave answers for both groups. Looking at the differences among attitudes for each species of carnivores was a little more complex, as there were 14 species (groups) to compare. To analyse the differences between attitudes in species I used a mixed model with species attitude as the response, species as the predictor,

and accounted for individual participants as a random effect. Then I proceeded to do a post hoc test (Tukey's $P < 0.05$) to find out more specifically if, and which, of the species were different or similar.

2.3.3. Predictor effects on response

To test my hypotheses regarding difference in attitude among species and participants, I calculated averages per species or participant to account for the nested structure of my dataset. I then used linear models to test for correlations between the different predictor variables and the average sum of scores. To test for correlations of species-level factors, I calculated the average sum of scores per species and correlated it to the average body mass, distance, experience and perception for each species using a linear model. To test for correlations of independent-level factors I applied a similar methodology, instead looking at housing density, experience, perception and education. Age and education, although not seen in my limited data set, is often strongly correlated (Ericsson & Herbelin, 2002). Education has a positive effect on attitude to large carnivores in Sweden (Ericsson & Herbelin, 2002). Thus, I opted to include it in my model, with the factors being divided into four: elementary school, vocational education, high school and University. Linear models with an AIC_c $\Delta \leq 2$ indicate that there is substantial evidence to support the candidate model, making them nearly as good as the best fitting model (Fabozzi et al., 2014, p399). Thus, those models are also investigated. Models with an AIC_c Δ between 4-7 indicates that the candidate model has less support than those formerly mentioned (Fabozzi et al., 2014, p399), with no mention of models below 3. Therefore, I chose to also investigate models with an AIC_c Δ up to 3 and had shown individual participants effects in regression models, should there be no models with a stronger fit, in order to look at the strongest models.

3. Results

3.1. Response Rate

The survey went out to 82 participants of which 62 returned the survey. with a 75.6% response rate. From the returned surveys there was a higher representation of females at 61.29%.

3.2. Attitude

3.2.1. Nature Attitude and Citizen Science

91.8 % of participants said they are interested in being in nature, 62.3% said their interest is dependent on wildlife, and 93.4% said it is important that they have wildlife where they live. For the wildlife statements in question A5 88.7% answered positively in favour of wildlife, and for nature statements in question A6 96.8% answered positively in favour of nature. Participants (n=44) said their main reason for partaking in the study were 84.1% learning and curiosity, 6.82% wildlife conservation, 4.55% scientific discovery and 2.3% said either personal accomplishment or other. Out of the n=62 participants 48.4% said they would take part in the study again, 35.5% maybe, 9.68% don't know, 1.61% either maybe not or no. This was the first citizen science project for 82.8% of participants. For rating the importance of each reason to join the project the mean scores ranked in the order learning and curiosity 1.90, wildlife conservation 1.07, scientific discovery 0.80, personal accomplishment 0.07, social interaction and sharing and recreational activities -0.05.

3.2.2. Comparing samples

Table 1. Comparison between MYWN participants and a random sample of inhabitants of Umeå Municipality attitude response to each question.

Question	Difference between MYWN participants and random sample (mean \pm SD and test statistics)
A1: Interest in forest and nature	0.14 ± 0.17 ; $t_{142} = 0.85$, $p = 0.4$
A2: Interest dependence on wildlife	0.36 ± 0.23 ; $t_{140.2} = 1.52$, $p = 0.13$
A3: Importance of wildlife nearby	0.45 ± 0.17 ; $t_{141.9} = 2.66$, $p = 0.009^*$
B1: Occurrence of species in Sweden	
Bear	0.3 ± 0.14 ; $t_{143} = 2.12$, $p = 0.04^*$
Lynx	0.47 ± 0.12 ; $t_{142.3} = 2.94$, $p < 0.001^*$
Wolverine	0.45 ± 0.15 ; $t_{142} = 2.93$, $p = 0.004^*$
Wolf	0.42 ± 0.17 ; $t_{141} = 2.44$, $p = 0.02^*$
B2: Accept species nearby	
Bear	0.23 ± 0.25 ; $t_{143} = 0.9$, $p = 0.37$
Lynx	0.57 ± 0.21 ; $t_{142.3} = 2.75$, $p = 0.01^*$
Wolverine	0.39 ± 0.23 ; $t_{140.7} = 1.74$, $p = 0.08$
Wolf	0.17 ± 0.27 ; $t_{139} = 2.44$, $p = 0.52$
B2: Importance of each species	
Bear	0.54 ± 0.22 ; $t_{141} = 2.49$, $p = 0.01^*$
Lynx	0.82 ± 0.22 ; $t_{141} = 3.79$, $p < 0.001^*$
Wolverine	0.39 ± 0.23 ; $t_{139} = 1.67$, $p = 0.1$
Wolf	0.68 ± 0.24 ; $t_{139} = 2.91$, $p = 0.04$

I found no difference in general attitude towards nature between the random sample of inhabitants of Umeå Municipality and the participants in this study (MYWN) except for the importance of wildlife in the direct surroundings of the participant (Table 1). The MYWN participants found wildlife in their surroundings more important compared to the random sample (A3: $M=0.45$, $p=0.01$). The attitudes towards the four large species, bear, wolverine, lynx and wolf, were overall more positive for the MYWN participants than for the random Umeå sample. The attitudes were not negative for either sample but ranged from neutral to positive. There were some differences between attitudes to the questions about species, but not all (Table 1). However, the ranking of each species was similar.

3.2.3. Species Attitude

Due to differences in the taxonomic level at which questions were formulated, I present the attitude results of the MYWN participants per species as well as for the two groups of species divided into large and small carnivores. The measurement of the four carnivore attitude items for species showed high consistency (Cronbach's $\alpha=0.94$), and the three attitude items for size groups also showed

high consistency (Cronbach's $\alpha=0.91$). A majority of the participants had an overall positive attitude towards Swedish carnivores (Table 2).

The Arctic foxes show the overall most positive attitude with an average sum of score of 6.08, while the most negative are minks with an average sum of score of 1.15 (Table 2) from all questions surmised. The average carnivore attitude is mainly positive or neutral towards the different species, not going below zero for any species. Arctic foxes, otters, lynx and foxes are the most well-liked species respectively (Table 2). Among the naturally occurring species in Sweden the least liked are wolverines, polecats, wolves, bears, badgers and pine martens respectively (Table 2). People generally answered positively towards the various species of carnivores' existence in Sweden, with the most overall negative attitude being towards minks with a mean score of 0.58 (Question B1, Table 2). Most participants are strongly accepting of Arctic foxes (1.80) and foxes (1.81) living nearby (Question B2, Table 2). Participants also show high acceptance having cats, otters, polecats, stoats and weasels nearby (Question B2, Table 2). With more discrepancies in answers than to the first two species. People are least accepting of wolves (0.51) in their vicinity, followed by bears (0.61), minks (0.63) and then wolverines (1.05) (Question B2, Table 2). Participants said the species of least personal importance are minks with a score of 0.17 (Question B3, Table 2). Most important is considered to be Arctic foxes (1.47), as well as lynx (1.36), foxes (1.34) and otters (1.1) (Question B3, Table 2). Most participants answered they would like to see population sizes either increase or remain as is for most species, except minks which they would like to see a decline (-0.24) (Question B15, Table 2). The species that participants wanted to see the largest increase in population are Arctic foxes with an average score of 1.22 and otters at 0.85 (Question B15, Table 2). There is a significant difference in the attitude scores for small carnivores ($M=6.37$, $SD=9.34$) and large carnivores ($M=1.11$, $SD=10.71$) conditions; $t_{61}=8.26$, $p<0.001$. For the two size groups of carnivore's attitudes average more positively towards small carnivores than large carnivores.

Table 2. The marginal distribution and mean score for the 4 species specific attitude item.

Attitude item		A. fox	Bear	Badger	Cat	Fox	Lynx	Mink
Exist in Sweden	Positive	60	52	46	47	55	56	36
	(-2 to +2)							
Question B1	Neutral	2	8	15	8	7	6	10
	N	62	61	62	61	62	62	62
	M. score	1.76 ^A	1.39 ^A	1.21 ^{BD}	1.2 ^{CD}	1.55 ^{ABC}	1.61 ^{ABC}	0.58 ^E
Live near	Positive	58	38	48	55	59	55	41
	(-2 to +2)							
carnivore	Neutral	1	1	1	1	1	0	1
	N	61	61	60	62	61	61	61
Question B2	M. score	1.8 ^A	0.61 ^{DE}	1.21 ^{BC}	1.55 ^{AC}	1.81 ^A	1.45 ^C	0.63 ^{DE}
Personal	Important	33	33	18	27	35	31	17
	(-3 to +3)							
importance	Neutral	11	16	30	20	16	15	25
	N	45	52	52	52	51	47	52
Question B3	M. score	1.47 ^A	1 ^{CD}	0.49 ^{DE}	0.9 ^{ACD}	1.34 ^{AB}	1.37 ^{AB}	0.17 ^E
Population size	Increase	45	14	14	9	25	37	9
	(-1 to +2)							
Question B15	As it is	11	36	35	36	28	20	23
	N	57	57	57	59	58	58	57
	M. score	1.22 ^A	0.19 ^{DE}	0.13 ^{BC}	0 ^{AC}	0.46 ^A	0.9 ^{AC}	-0.24 ^{DE}
Sum of attitude	M. score	6.08 ^A	3.15 ^D	2.98 ^D	3.6 ^D	5.06 ^{ABC}	5.24 ^{AB}	1.15 ^E
Attitude item		Otter	P.marten	Polecat	Stoat	Weasel	Wolf	Wolverine
Exist in Sweden	Positive	56	46	46	53	48	50	50
	(-2 to +2)							
Question B1	Neutral	6	10	13	8	12	7	11
	N	62	62	62	62	62	62	62
	M. score	1.63 ^{AB}	1.13 ^D	1.23 ^{BD}	1.47 ^{AD}	1.31 ^{BD}	1.35 ^{AD}	1.4 ^{AD}
Live near	Positive	61	48	50	54	52	36	47
	(-2 to +2)							
carnivore	Neutral	1	2	4	3	6	1	2
	N	62	61	62	62	62	60	60
Question B2	M. score	1.77 ^{AB}	1.13 ^{CD}	1.34 ^{AC}	1.55 ^{AC}	1.39 ^{AC}	0.51 ^E	1.05 ^{CE}
Personal	Important	31	26	20	25	24	29	24
	(-3 to +3)							
importance	Neutral	19	25	28	24	26	18	24
	N	52	56	54	53	53	51	54
Question B3	M. score	1.1 ^{AC}	0.58 ^{CE}	0.46 ^{DE}	0.67 ^{CE}	0.81 ^{BCD}	0.98 ^{ACD}	0.64 ^{CE}
Population size	Increase	35	16	16	19	20	26	22
	(-1 to +2)							
Question B15	As it is	22	31	37	37	33	24	33
	N	58	58	57	58	58	58	59
	M. score	0.85 ^{AB}	0.15 ^{DC}	0.29 ^{AC}	0.4 ^{AC}	0.36 ^{AC}	0.44 ^E	0.38 ^{CE}

Sum of attitude	M. score	5.26 ^{AB}	2.95 ^D	3.27 ^D	4.03 ^{BD}	3.79 ^{CD}	3.23 ^D	3.44 ^D
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Like letters indicate a significant difference between groups (Tukey's $P < 0.05$). With lower letters indicating a lower attitude score, each group applies to specific row. The table is split in two.

3.3. Experience and perceived occurrences

Participants claim to have the most experience with foxes (90.3%) closely followed by cats (81.7%). Participants also claim to have the least experience with wolves (14.5%) followed by Arctic foxes (26.2%). In terms of perception participants are generally correct (over 50%) in their perception of the presence (within Umeå Municipality) of bears, cats and foxes. People are less sure of other species that are found locally such as badgers, lynx, minks, otters, pine martens, stoats, weasels and wolverines. This was in spite of the level of participants that claim to have some level of experience with most of these species. All are aware that arctic foxes are not present in Umeå, and a majority is aware of the same with polecats and wolves.

Table 3. Experience and perception of carnivore species

Experience	A.fox	Bear	Badger	Cat	Fox	Lynx	Mink
None	45	17	16	11	6	30	20
Tracks	5	35	2	0	1	11	6
Seen	11	10	43	49	55	21	36
% Exp	26.23 ^{FGH}	72.5 ^{AC}	73.77 ^{DEF}	81.67 ^{AB}	90.32 ^A	51.61 ^{DEG}	67.74 ^{BCD}
Presence							
yes	0	36	24	51	45	19	20
%	0	59.02	39.34	83.61	73.77	31.15	32.79
Experience	Otter	P.marten	Polecat	Stoat	Weasel	Wolf	Wolverine
None	38	43	40	24	42	53	44
Tracks	0	5	5	6	4	8	9
Seen	24	14	17	32	16	1	9
% Exp	38.71 ^{EG}	30.65 ^{FGH}	35.48 ^{FG}	61.29 ^{CE}	32.26 ^{FGH}	14.52 ^H	29.03 ^{GH}
Presence							
yes	17	12	3	13	9	2	1
%	27.87	19.67	4.92	21.31	14.75	3.28	1.64

Participant answers to questions in regard to actual experience with carnivores as well as perceived occurrences of carnivore species in their area. Shows percentage of participants that had an experience with each species. Like letters indicate a significant difference between groups (Tukey's $P < 0.05$). Table is split in two.

3.4. Education

61 participants provided answers to their level of education type; 57.4% said they had a university education, 31.1% said they had a high school education, 6.56% said they had vocational education and 4.92% said they only have an elementary school education. This sample had a very high level of university educated individuals. There is a significant difference among the four types of education ($F(3,55)=5.49$, $p=0.002$). Post hoc testing revealed significant differences between pairs of education types with vocational education ($M=1.48$, $SD=1.9$) and high school ($M=2.95$, $SD=1.72$) having lower attitudes than high school ($M=2.95$, $SD=1.72$), elementary school ($M=5.48$, $SD= 3.07$) and University ($M=4.36$, $SD=1.7$).

3.5. Influence on attitude

Species effects: The attitude towards species became more positive with increasing distance ($\beta=0.2$, $t_{12}=0.7$, $p=0.497$), but only explains 3.9% of the variance ($R^2=0.039$, $F(1,12)=0.49$, $p=0.497$). The attitude towards species becomes more negative with increasing body mass ($\beta=-0.13$, $t_{12}=-0.46$, $p=0.66$), but only explains 1.7% of the variance ($R^2=0.017$, $F(1,12)=0.21$, $p=0.66$). Looking at potential parameters explaining differences in attitude among species, none of the tested covariates explained variation in the average attitude towards species (Appendix table 3).

Individual participant effects: The attitude towards carnivores is only significantly among between types of education received by individuals. Vocational education ($\beta=-0.51$, $t_{55}=-2.90$, $p<0.00$), high school ($\beta=-0.59$, $t_{55}=-2.25$, $p=0.005$) and University ($\beta=-0.28$, $t_{55}=-1.03$, $p<0.02$). Together explaining 23% of the variance ($R^2=0.23$, $F(3,55)=5.49$, $p=0.002$). The carnivore attitude became more positive with increasing experience ($\beta=0.1$, $t_{57}=0.78$, $p=0.44$), but only explained 1% of the variance ($R^2=0.01$, $F(1,57)=0.61$, $p=0.43$). The best fit model included education ($AICc= 244.1$, $\delta=0.00$, Appendix table 4). Vocational training had

the most negative effect on attitude, and university had the most positive out of the three that had an effect.

4. Discussion

4.1. Species attitude differences

In line with the first, and main, hypothesis the results of the survey suggest there are indeed differences in attitudes among MYWN participants for the species of carnivores included in this study. This effect of species on attitude has been noticed before among the four largest species in Scandinavia (Røskoft et al., 2007; Sandström et al., 2014), where people were often more positive towards lynx than other species. My results were consistent with these previous studies, as the average attitude score was among the most positive for lynx. By expanding the research to include all 14 carnivore species located in Sweden we see that there is a clear difference in attitude among different species. The MYWN participants showed no negative attitude towards any of the carnivore species, the least positive was closer to a neutral attitude (Table 2).

4.2. Species characteristics

Unfortunately, none of the factors I tested for species characteristics in this study were able to explain differences in attitudes among species. In contrast to previous reports (Karlsson & Sjöström, 2007; Sandström et al., 2014), I did not find a correlation between distance and attitudes towards carnivores. Since it was important to have wildlife nearby for MYWN participants, they may have had a more positive outlook towards carnivores being nearby. Body mass had no correlation to attitudes towards the species of carnivores, which contradicts other works that point to either a positive relationship or a negative relationship between body mass and attitudes (Karlsson & Sjöström, 2007; Ward et al., 2008; Sandström et al., 2014). This implies that the size may not necessarily determine the attitude in human-wildlife conflicts with carnivores, to be considered in further research. There is a strong difference between attitudes towards large and small carnivores among MYWN participants, with more negative attitudes towards large carnivores.

The lack of correlation with body mass and attitude might be due to that it is not a linear relationship. There are two potential explanations for finding a difference between groups and not finding a correlation to body mass. There could be a biological reason, where there is an ecological threshold to what affects the variance in attitudes towards larger species. For example, a certain threshold where body mass affects attitudes. Both small and large species exhibit natural behaviours in the form of surplus killing, where more prey items are culled than needed (Linnell et al., 1999). This could have a more significant impact on attitudes towards large carnivores, and the intensity of which each large carnivore affects people. Body mass plays a part in determining carnivores' use of an urban environment, and it is not evenly spread across the range of carnivore body masses (Bateman & Fleming, 2012). Large carnivores also live at low densities and have much larger spatial requirements than that of smaller carnivores (Chapron et al., 2014) which makes conservation efforts more difficult and costly. The second reason is cultural and social explanations. In conservation strategies aimed at conserving carnivores, biodiversity and habitats, large species of carnivores are often used as focal species (Linnell et al., 2000). Large carnivores are often regarded highly in conservation efforts and considered more controversial than the smaller carnivores, which can account for the dichotomy of the attitudes. Larger species of carnivores are also often grouped together when investigating human attitudes (Linnell et al., 1999; Linnell et al., 2000; Røskaft et al., 2003; Røskaft et al., 2007; Chapron et al., 2014; Sandström et al., 2014), setting the tone for the research into attitude.

Another factor that might explain the differences in attitude among species could be charisma. Charisma has been identified as a potential predictor, in which attitudes positively correlate with charismatic characteristics (Colléony et al., 2017; Jarić et al., 2020). The MYWN participants were most positive towards arctic fox, a species with great public value (Larm et al., 2018), potentially among the most charismatic species of carnivore in Sweden. Charismatic species often receive more conservation support, as people tend to have a more positive outlook on them (Colléony et al., 2017; Jarić et al., 2020). Since we see a positive relationship between conservation support and charisma in other studies (Colléony et al., 2017; Albert et al., 2018), we may also see a similar relationship between attitude and species. Mass media and pop-culture can potentially help shape attitudes towards wildlife and nature, playing an important role in spreading information (Grasso et al., 2020), and shape considerations for charismatic characteristics of species. Walt Disney is one of the largest influential media companies, with the power to influence people's attitudes towards wildlife (Lutts, 1992; Grasso et al., 2020), in turn playing a key role in shaping attitudes. The "Disneyization" phenomenon uses anthropomorphic strategies to transfer cultural messages to the public (Grasso et al., 2020), including for wildlife and nature. Anthropomorphizing animals could potentially affect how people view wildlife (Grasso et al., 2020), traits that animals

share with people might make it more likely for people to be positive towards them. People are more likely to have negative attitudes when they have little to no information and knowledge of carnivores, especially when relying on information spread media or by word of mouth (Ericsson & Heberlein 2002; Sandström et al., 2014). Variation in attitudes among individuals may account for some variation, as each individual may be impacted differently by various predictors in attitude.

4.3. Individual Identity

Among individual MYWN participants' attitudes had no correlations to urbanisation or experience and perception. It was expected that a higher housing density would mean a more negative attitude as people in more densely populated areas are more accepting of reductions in populations of larger carnivore species (Sandström et al., 2014). However, a positive relationship has also been noted between urbanisation and carnivore attitudes (Herbelin & Ericsson 2002; Karlsson & Sjöström, 2007). Differences between urban and rural residents are documented (Herbelin & Ericsson, 2002; Karlsson & Sjöström, 2007; Bauer et al., 2009), particularly in Sweden (Krange et al., 2017). Nevertheless, when looking at a population density there are discrepancies. There are instances where human population density has had a small insignificant effect on fear towards large carnivores, despite some patterns being seen in some species (Røskoft et al., 2003). It shows that perhaps a division of species is necessary, as well as exploration into the urbanization vs human density effects.

There is a stronger relationship between experience and attitude of MYWN participants than perception of occurrence, yet neither is significant nor correlated to attitudes. Various forms of experiences have been noted as driving agents for changes in attitude (Røskoft et al., 2007; Eriksson et al., 2015), and is a determining factor for people's attitude (Ericsson & Heberlein, 2002; Karlsson & Sjöström, 2007). Another factor that could explain the variance is the source of conflict or threat each species presents to the individual and their livelihood (Røskoft et al., 2007), as this study did not investigate types of experience. Experience may be more important than is seen in this study, attitude variations could be due to the type of experience and effects of each experience (Røskoft et al., 2007) which was not identified. Identifying levels of individual experience and the types of experiences might be of more importance to determining what affects attitude towards each species. Perception of occurrence, the belief that carnivores are present or not, may be more linked to knowledge and community.

The best model explaining individual variation was one only including education as a covariate (AICc= 244.1, delta=0.00, Appendix table 4). As assumed in the hypotheses, there was a significant effect of the type of education, in accordance with previous works (Ericsson & Heberlein, 2002; Karlsson &

Sjöström, 2007; Røskaft et al., 2007). Individuals with vocational education had the most negative attitudes, who may experience more direct consequences to the presence of carnivores. Threats to livelihoods or competition for land use may be experienced more directly in vocational trades than academics. The effect of education could indicate that investigating the types and levels of education, and their effect on knowledge and attitudes may be beneficial to understanding the relationship to human attitudes towards carnivores. However, the sample was very small, especially for elementary school. Outside of Sweden we also see support for the effects of various levels of education as well as different types of education on knowledge and attitudes towards nature and the environment, especially with environmental education (Tikka et al., 2000; Kideghesho et al., 2007; Schindler et al., 2011; Supien et al 2016). The Socio-demographic variable education, along with gender and income, have been debated as being poorly suited to explain attitudes (Kansky & Knight, 2014). That being said it does not mitigate that an effect is seen due to education, which should be further explored along with variation in individuals and what causes the variation. Minks, one of the smaller species, had the most negative average attitude score among MYWN participants. This could potentially be due to the fact that it is an invasive species and participants were aware of this knowledge.

Knowledge and its effects of attitudes is brought into consideration when looking at minks and education, to what degree did knowledge impact the attitudes towards species among participants. Knowledge can be associated with a higher level of education, such as the importance of protecting the environment (Kellert & Berry, 1987). The highest level of education positively influenced attitudes in this study in accordance with potential knowledge impact. However the lowest level of education did not facilitate the most negative attitudes. Some knowledge can potentially be attributed to education, but they are not necessarily linked. Knowledge has been related to attitudes in the past, and the knowledge linked to experience (Ericsson & Heberlein, 2002). This means that what is taught, and the knowledge, may be more important, as there are differences between theoretical knowledge and practical knowledge and experience. Experiences of people might change over time due to changes in animal behaviour, which could potentially affect attitudes. With the increasing adaptation and movement of several carnivore species into an urban environment (Rauer et al., 2003; Yom-Tov 2003; Beckmann & Lackey, 2008; Balestrieri et al., 2010; Chapron et al., 2014; Geiger et al., 2018; Parsons et al., 2018; Santini et al., 2018; Walter et al., 2018; Parsons et al., 2019), the type of experiences can be predicted to change. It is important to note which species are viewed as a nuisance in a human perspective, and what traits and experiences may facilitate this. Certain adaptive behavioural traits have been identified as being probable sources of conflict, while more avoidant behaviours make individuals less concerned about some species (Barrett et al., 2019). Thus,

investigating knowledge along with experience and its effects on attitude among species in the future.

4.4. Citizen science

This study saw a group of people participate who had an overall more positive attitude towards nature and wildlife, thus one would expect that their attitudes were generally more positive. This can be seen in the comparison between my data and a random sample from Umeå Municipality, yet the difference was not significant (Table 1). The MYWN participants had a significantly higher response to whether they think it is important that there is wildlife nearby than the random Umeå sample, potentially affecting distance effects. I am however mainly interested in the differences among species, and the potential difference among individuals, so it is the relative and not the absolute attitude that is most important. There was no significant difference for how interested people were in nature between MYWN participants to the random sample, nor if this interest was dependent on the presence of wildlife. This shows that the relative attitude could be a reflection of the general public, and that the results do have the potential to be translatable to a larger group of people, at least for Umeå Municipality. The data mainly provides insight to my participants' attitudes which was the aim. There was a similar pattern in attitude towards carnivores between the two samples such as lynx, which was the most positive out of the four species. Both datasets show similar ranking of species in their attitudes, the difference was in the strength of the attitudes. Due to the small sample size of MYWN participants, effect sizes may be affected and not as clear, thus the effects may be more or even less significant than seen. The random Umeå sample only took four species into account, the four largest and potentially most debated species in Sweden. In my sample it is likely the average experience of participants is higher than that of the general public, based on the fact that wildlife is more important to MYWN participants.

A large majority of participants in this study rated learning and curiosity as their main reason for joining the study, followed by wildlife conservation and scientific discovery respectively. As was seen with MYWN participants it is likely people who join are more nature minded, as people who join citizen science projects tend to already have an expressed interest in nature (Brossard et al., 2005; Crall et al., 2012). This implies that changing attitudes towards wildlife through citizen science may be difficult among participants, especially if it isn't appealing to those whose attitudes are more negative (Brossard et al., 2005; Crall et al., 2012). Although there is still potential for citizen science's ability to influence attitude, with projects that involve the general public exposing them to scientific knowledge and present new experiences with wildlife (Cooper et al., 2007; Price et al., 2013; Kobori et al., 2016; Schuttler et al., 2018). Knowledge and experience developed

from such projects may be able to shift behaviours and attitudes towards nature among those with lower nature values. This could be investigated through performing a longitudinal study with pre- and post- participation estimates of attitude, to see if there is potential for changes in attitude. By exposing the general public to scientific knowledge and allowing them to partake in projects could help them make more informed decisions. This might affect their behaviours and attitudes to nature, working together with scientists to handle environmental issues and become part of the solution (Cooper et al., 2007; Price et al., 2013; Kobori et al., 2016; Schuttler et al., 2018). This brings us to the social aspects of a citizen science project, which could facilitate the spread of knowledge and build on the community's approach and affect attitude (Price et al., 2013). This approach may not be applicable to MYWN participants however due to their low ranking of social benefits, which isn't unexpected in the Swedish community. Using citizen science projects are beneficial to further investigate attitudes and potential drivers, which can be done through a variety of methods. One such method is using a longitudinal study with pre- and post- participation estimates of attitude, which can be done using a survey instrument for the more defined drivers. The more loosely defined and investigated drivers of attitude among individuals could be explored using personal interviews.

4.5. Conclusion

The presented findings confirm that there is a clear difference among the attitudes towards different species of carnivores among MYWN participants, as is seen in species of larger carnivores. However, the results do not fit the theory that distance, body mass, housing density, experience or perception impact attitudes and the type of relationships we see. Education did explain some of the variations in attitudes among MYWN participants, individuals retaining a vocational education level had the most negative responses. Participants of the study were generally more positive towards wildlife and nature, possibly affecting the attitudes towards carnivores. However, when comparing to a random Umeå sample, MYWN participants did not have a significantly different attitude towards nature but differed in how positive they were about having wildlife nearby. This indicates that relative attitude could be a reflection of at least people living in Umeå Municipality. Participants of the study listed learning and curiosity as their main reason for joining, indicating personal benefits may be key to gathering participants. The sample size was relatively small and the priori evidence for my hypotheses were relatively limited, especially due to the lack of studies including smaller carnivores. Thus, not finding a correlation is not entirely unexpected, especially as there seem to be some very strong species-specific characteristics that might drive attitudes. The absence of correlation is not necessarily proof that there is no correlation to be

found, just that in my sample there is no correlation. This could mean that the relationships are either not as important as expected, or that other factors are more important masking potential relationships that are there but less important. The differences among species might be explained by the charismatic characteristics of species, and how it affects attitudes and support towards conservation. Determining what charismatic characteristics are and investigating ways they are shaped could further knowledge on attitude drivers. Education effects on attitudes could mean implementing changes to environmental education facilitate more positive attitudes among the general public. Knowledge and experience may be explanatory for variations in attitude among individual participants, and worth defining to further investigate attitudes. Citizen science is a suggested method to help collect data on a larger scale, while possibly also altering human attitudes and behaviours towards wildlife. Although changing attitudes towards wildlife through citizen science may be difficult, knowledge and experience developed from such projects could cause shifts in human behaviour and attitudes towards nature. Using citizen science is a prospective method to both investigate and change attitudes and behaviours among people. This could be explored using a longitudinal study with pre- and post-participation estimates of attitude. Surveys and personal interviews are helpful tools in investigating attitudes, allowing for varying degrees of accuracy and data to be collected. Human perceptions of carnivores set the tone for any conservation management strategies that are put in place. In order to raise support and change people's behaviour it is important to discern what the attitudes towards nature and wildlife are.

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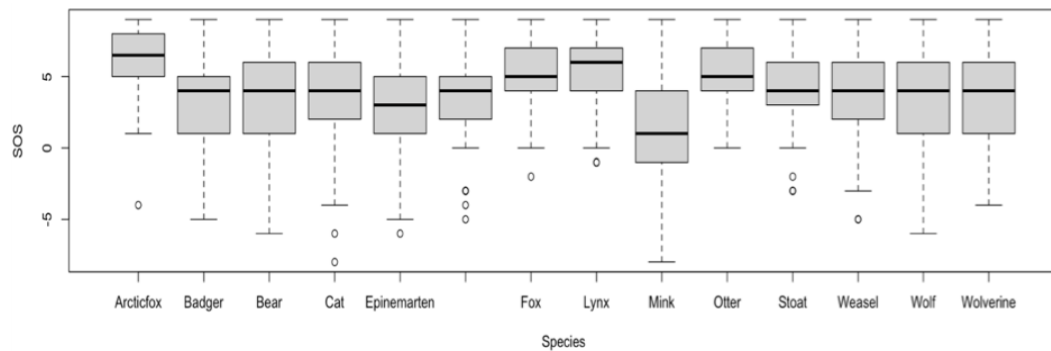
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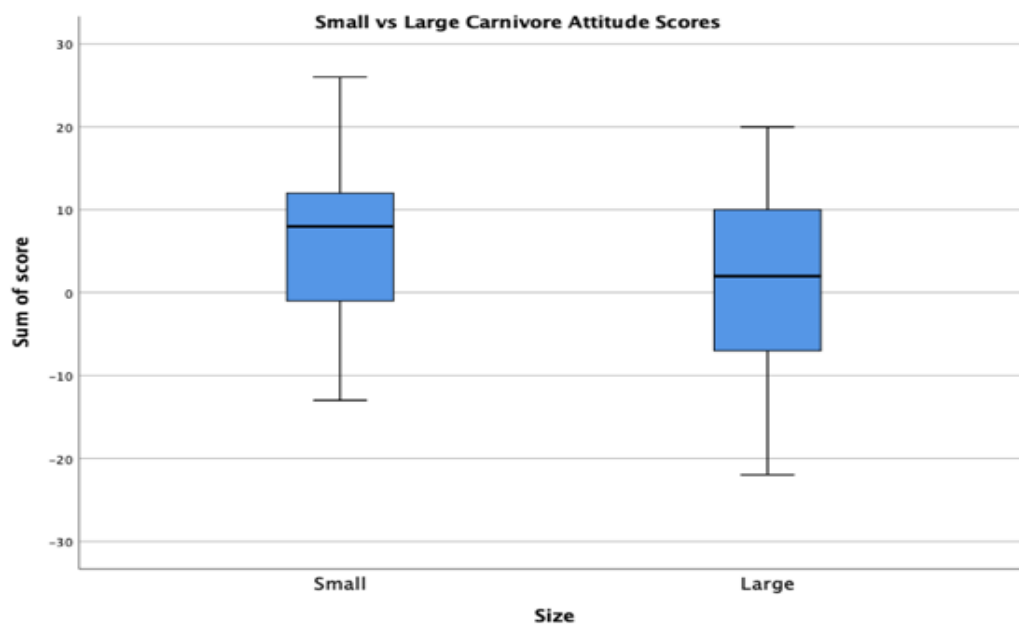
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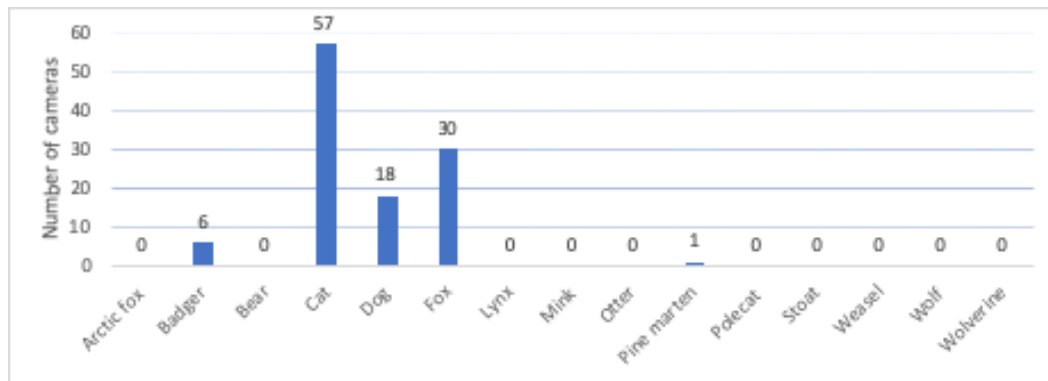
Appendix I



Appendix Figure 1. Comparison of attitude sum of scores for each individual species from participants



Appendix Figure 2. Comparison of the means of attitudes between large and small carnivores.



Appendix Figure 3. Species caught on cameras November 2019 -June 2020 for measuring distance, showing number of cameras that caught an image of a listed species during the month it was up. Total of 126 cameras set up.

Appendix table 1. The species of carnivores had a large range of distances(km) to each participant as seen here. The distance is based on data collected from both cameras and Swedish Species Observation System.

Species	A. fox	Bear	Badger	Cat	Fox	Lynx	Mink
Min	2853	3.990	0.080	0.000	0.040	2.770	1.290
Max	3372	172.7	87.14	190.6	65.16	332.3	190.4
Average	3172	93.87	25.52	13.41	7.490	117.2	44.90

Species	Otter	P.marten	Polecat	Stoat	Weasel	Wolf	Wolverine
Min	1.060	3.840	3494	2.610	0.840	1367	78.84
Max	87.19	129.9	4163	206.6	166.4	1727	540.0
Average	16.33	57.43	3831	31.66	62.97	1592	268.6

Appendix table 2. Zero order correlation among the dependent Sum of score (attitude) variable and independent variables in the final model.

	Attitude	Percep.	Exper.	BM	Dist.	H.D.	Gender	Educ.
Perception	.022							
Experience	.067*	.479**						
Body mass	-.041	.151**	-.049					
Distance	.072*	-.297**	-.232**	-.101**				
Housing density	.033	.185**	-.126**	-.004	-.004			
Gender	.161**	.089**	-.028	.007	-.004	.166**		
Education	.126**	-.065	-.023	.005	-.002	.084*	.142**	
Year born	-.110**	-.068*	-.028	.016	-.003	.104**	.027	.038

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

Appendix table 3. Dredge of models explaining species level variation

model selection table										
	(Int)	BS	Dst	Exp.s	Prc.s	df	logLik	AICc	delta	weight
1	3.802					2	-22.604	50.3	0.00	0.485
3	3.802		0.2500			3	-22.323	53.0	2.75	0.123
2	3.802	-0.1656				3	-22.482	53.4	3.07	0.105
5	3.974			-0.38660		3	-22.565	53.5	3.23	0.096
9	3.846				-	3	-22.597	53.6	3.30	0.093
4	3.802	-0.1364	0.2329		0.14870	4	-22.239	56.9	6.62	0.018
11	3.657		0.3192		0.48950	4	-22.267	57.0	6.68	0.017
7	3.746		0.2640	0.12510		4	-22.320	57.1	6.79	0.016
6	3.995	-0.1724		-0.43320		4	-22.433	57.3	7.01	0.015
10	3.794	-0.1677			0.02803	4	-22.482	57.4	7.11	0.014
13	4.040			-0.88970	0.53570	4	-22.540	57.5	7.23	0.013
12	3.599	-0.1760	0.3250		0.68660	5	-22.135	61.8	11.47	0.002
14	4.293	-0.3721		-2.58000	2.22800	5	-22.169	61.8	11.54	0.002
15	3.839		0.3152	-0.82160	1.11400	5	-22.217	61.9	11.64	0.001
8	3.786	-0.1353	0.2371	0.03633		5	-22.239	62.0	11.68	0.001
16	4.093	-0.3763	0.3193	-2.53000	2.83300	6	-21.818	67.6	17.34	0.000
Models ranked by AICc(x)										

Appendix table 4. Dredge of models explaining individual variation

model selection table										
	(Int)	Edc.s	Exp.s	Hsn.s	Prc.s	df	logLik	AICc	delta	weight
2	5.476	+				5	-116.478	244.1	0.00	0.370
6	5.645	+		0.2208		6	-116.029	245.7	1.59	0.167
4	5.060	+	0.8315			6	-116.217	246.0	1.96	0.139
10	5.395	+			0.1999	6	-116.464	246.5	2.46	0.108
8	5.043	+	1.3450	0.3119		7	-115.410	247.0	2.93	0.085
14	5.375	+		0.2822	0.7846	7	-115.848	247.9	3.80	0.055
12	5.116	+	1.0290		-0.3809	7	-116.182	248.6	4.47	0.040
16	5.023	+	1.2860	0.3183	0.1333	8	-115.406	249.7	5.60	0.022
1	3.768					2	-124.209	252.6	8.54	0.005
3	3.299		1.0380			3	-123.895	254.2	10.14	0.002
5	3.764			0.1055		3	-124.128	254.7	10.60	0.002
9	3.748				0.0668	3	-124.208	254.9	10.76	0.002
7	3.140		1.3750	0.1984		4	-123.637	256.0	11.93	0.001
11	3.335		1.4130		-0.7169	4	-123.794	256.3	12.24	0.001
13	3.662			0.1336	0.3518	4	-124.100	256.9	12.85	0.001
15	3.178		1.5580	0.1772	-0.4197	5	-123.605	258.3	14.25	0.000
Models ranked by AICc(x)										

Appendix II

Appendix figure 3. Survey instrument. En undersökning om attityder till djur och natur. As worded in Swedish and handed to participants. Sections A, B, C, D.

A. I det första avsnittet möter du några allmänna frågor om djur och natur.

A1. Hur intresserad är du av att vara i skog och mark? Sätt ett kryss för det som stämmer in bäst på dig.

- 1. ☐ Mycket intresserad
- 2. ☐ Ganska intresserad
- 3. ☐ Inte speciellt intresserad
- 4. ☐ Ointresserad

A2. Är ditt intresse för skog och mark beroende av att det finns vilt där, d v s vilda djur och fåglar?

- 1. ☐ I mycket hög grad
- 2. ☐ I ganska hög grad
- 3. ☐ I ganska låg grad
- 4. ☐ Inte alls

A3. Tycker du att det är viktigt att det finns vilt där du bor?

- 1. ☐ Mycket viktigt
- 2. ☐ Ganska viktigt
- 3. ☐ Inte speciellt viktigt
- 4. ☐ Oviktigt

A4. Finns det några vilda djur som du är rädd för att möta när du är ute i naturen?

- | | | | |
|------------------------------------|--------------------------------------|---------------------------------------|--|
| 1. <input type="checkbox"/> Nej | 5. <input type="checkbox"/> Orm | 9. <input type="checkbox"/> Järv | 12. <input type="checkbox"/> Annat rovdjur |
| 2. <input type="checkbox"/> Älg | 6. <input type="checkbox"/> Lodjur | 10. <input type="checkbox"/> Grävling | → |
| 3. <input type="checkbox"/> Rådjur | 7. <input type="checkbox"/> Varg | 11. <input type="checkbox"/> Räv | |
| 4. <input type="checkbox"/> Björn | 8. <input type="checkbox"/> Vildsvin | 12. <input type="checkbox"/> Mård | |

A5. Nedan följer ett antal påståenden om vilt och natur. Markera för varje påstående det alternativ som stämmer in bäst på dig.

	Tar helt avstånd	Tar delvis avstånd	Vet ej	Instämmer delvis	Instämmer helt
Vilda djurpopulationer bör användas så att människor gynnas	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vilda djur bör ha rättigheter som liknar människors rättigheter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mänskliga behov är viktigare än fisk- och djurskydd	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jag känner ett starkt känslomässigt band med vilda djur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det är säkert för människor att bo runt vilda djur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Människor och vilda djur kan leva lyckligt tillsammans på samma plats.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

A6. Hur ställer du till följande påståenden om naturen?

	Tar helt avstånd	Tar delvis avstånd	Vet ej	Instämmer delvis	Instämmer helt
Jag tycker om att vara ute i naturen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jag tillbringar min tid utomhus när jag kan	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jag lägger märke till växter och djur var jag än är	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jag tänker på hur mina handlingar påverkar jorden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mitt förhållande till naturen är en viktig del av vem jag är	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B. I följande avsnitt ber vi dig att ta ställning till ett antal frågor om rovdjur.

B1. Vad tycker du om att dessa djur finns i Sverige?

	Ogillar starkt	Ogillar	Neutral	Tycker om	Tycker mycket om
Björn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fjällräv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grävling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hermelin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Järv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Katt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lodjur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mård	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rödräv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Varg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vessla	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annat rovdjur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B2. Skulle du kunna acceptera att ha något av dessa djuren i närheten där du bor?

	Nej, absolut inte	Nej, helst inte	Ja, kanske	Ja, absolut	Vet ej
Björn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fjällräv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grävling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hermelin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Järv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Katt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lodjur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mård	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rödräv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Varg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vessla	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annat rovdjur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B3. Hur viktiga dessa djur för dig personligen?

	Extremt oviktiga	Mycket oviktiga	Något oviktiga	Varken eller	Något viktiga	Mycket viktiga	Extremt viktiga
Björn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fjällräv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grävling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hermelin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Järv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Katt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lodjur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mård	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rödräv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Varg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vessla	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annat rovdjur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

→.....

B4. Markera med kryss vilket eller vilka rovdjur som finns i området där du bor. Sätt flera kryss om det behövs.

- | | |
|--------------------------------------|--|
| 1. <input type="checkbox"/> Björn | 11. <input type="checkbox"/> Rödräv |
| 2. <input type="checkbox"/> Fjällräv | 12. <input type="checkbox"/> Utter |
| 3. <input type="checkbox"/> Grävling | 13. <input type="checkbox"/> Varg |
| 4. <input type="checkbox"/> Hermelin | 14. <input type="checkbox"/> Vessla |
| 5. <input type="checkbox"/> Iller | 15. <input type="checkbox"/> Annat rovdjur |
| 6. <input type="checkbox"/> Järv | 16. <input type="checkbox"/> Ingen |
| 7. <input type="checkbox"/> Katt | |
| 8. <input type="checkbox"/> Lodjur | |
| 9. <input type="checkbox"/> Mink | |
| 10. <input type="checkbox"/> Mård | |

→.....

B5. Ungefär hur många gånger har du ...

	Aldrig	En gång	Mer än en gång
Sett spår av...	Björn	<input type="checkbox"/>	<input type="checkbox"/>
	Fjällräv	<input type="checkbox"/>	<input type="checkbox"/>
	Grävling	<input type="checkbox"/>	<input type="checkbox"/>
	Hermelin	<input type="checkbox"/>	<input type="checkbox"/>
	Iller	<input type="checkbox"/>	<input type="checkbox"/>
	Järv	<input type="checkbox"/>	<input type="checkbox"/>
	Katt	<input type="checkbox"/>	<input type="checkbox"/>
	Lodjur	<input type="checkbox"/>	<input type="checkbox"/>
	Mink	<input type="checkbox"/>	<input type="checkbox"/>
	Mård	<input type="checkbox"/>	<input type="checkbox"/>
	Rödräv	<input type="checkbox"/>	<input type="checkbox"/>
	Utter	<input type="checkbox"/>	<input type="checkbox"/>
	Varg	<input type="checkbox"/>	<input type="checkbox"/>
	Vessla	<input type="checkbox"/>	<input type="checkbox"/>
	Annat rovdjur	<input type="checkbox"/>	<input type="checkbox"/>

	Aldrig	En gång	Mer än en gång
Sett en vild...	Björn	<input type="checkbox"/>	<input type="checkbox"/>
	Fjällräv	<input type="checkbox"/>	<input type="checkbox"/>
	Grävling	<input type="checkbox"/>	<input type="checkbox"/>
	Hermelin	<input type="checkbox"/>	<input type="checkbox"/>
	Iller	<input type="checkbox"/>	<input type="checkbox"/>
	Järv	<input type="checkbox"/>	<input type="checkbox"/>
	Katt	<input type="checkbox"/>	<input type="checkbox"/>
	Lodjur	<input type="checkbox"/>	<input type="checkbox"/>
	Mink	<input type="checkbox"/>	<input type="checkbox"/>
	Mård	<input type="checkbox"/>	<input type="checkbox"/>
	Rödräv	<input type="checkbox"/>	<input type="checkbox"/>
	Utter	<input type="checkbox"/>	<input type="checkbox"/>
	Varg	<input type="checkbox"/>	<input type="checkbox"/>
	Vessla	<input type="checkbox"/>	<input type="checkbox"/>
	Annat rovdjur	<input type="checkbox"/>	<input type="checkbox"/>

	Aldrig	En gång	Mer än en gång
Fått ett djur dödat av ett av ovanstående djur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hittat rester av djur som slagits av ett av ovanstående djur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B6. Var i Sverige tycker du att rovdjur ska få leva? Kryssa för ett eller flera områden för varje djur.

	Hela Sverige	Inte någonstans i Sverige	Hela fjällkedjan	Nationalparker, skyddade områden	Norrland	Svealand	Götaland
Björn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fjällräv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grävling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hermelin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Järv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Katt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lodjur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mård	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rödräv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Varg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vessla	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annat rovdjur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B7. Vad anser du är ett acceptabelt levnadssätt för de mindre rovdjuren? Tycker du att det är acceptabelt att rovdjur som rävar, grävling, hermelin ...

	Helt oacceptabelt	Tar delvis avstånd	Vet inte	Instämmer delvis	Instämmer helt
Går igenom byar, samhällen, städer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dödar katter eller hundar?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dödar en hund som jagar?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dödar trädgårdsdjur som fåglar?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dödar mindre boskapsdjur som kyckling?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Direkt hotar människor?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B8. Vad anser du är ett acceptabelt levnadssätt för de större rovdjuren? Tycker du att det är acceptabelt att varg, järv, björn och lodjur...

	Helt oacceptabelt	Tar delvis avstånd	Vet inte	Instämmer delvis	Instämmer helt
Går igenom byar, samhällen, städer?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dödar katter eller hundar?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dödar en hund som jagar?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dödar kor eller får?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Dödar renar?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Direkt hotar människor?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B9. Det finns flera tänkbara sätt att ta hand om rovdjur som orsakar problem. Stödjer du att man för att minska problemen ...

	Är helt emot	Är delvis emot	Stödjer delvis	Stödjer helt
Sätter upp stängsel för att hindra djuren?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skrämmer iväg djuren?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Flyttar djuren?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Märker djuren med sändare så att de kan övervakas?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Tar bort ungarna från djuren?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Skjuter djuren?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Använder gift för att döda djuren?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B10. Här vill vi att du tar ställning till hur Sverige ska sköta de mindre rovdjuren som rävar, grävling, hermelin.... Instämmer eller tar du avstånd från följande påståenden?

	Tar helt avstånd	Tar delvis avstånd	Instämmer delvis	Instämmer helt
En djurägares rätt att döda rovdjur för att skydda sina djur ska ökas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
En djurägare ska få full ekonomisk ersättning för rovdjursrivna djur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det ska inte få finnas där det finns boskapsdjur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Man ska få en belöning om man rapporterar olaga jakt på djuren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det ska inte få finnas där det finns människor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B11. Här vill vi att du tar ställning till hur Sverige ska sköta de stora rovdjuren björn, järv, lo och varg. Instämmer eller tar du avstånd från följande påståenden?

	Tar helt avstånd	Tar delvis avstånd	Instämmer delvis	Instämmer helt
Det är viktigt att Sverige uppfyller internationella avtal vad gäller bevarandet av stora rovdjur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
En djurägares rätt att döda rovdjur för att skydda sina djur ska ökas.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
En djurägare ska få full ekonomisk ersättning för rovdjursrivna djur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det ska inte få finnas där det finns boskapsdjur.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Man ska få en belöning om man rapporterar olaga jakt på djuren.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Det ska inte få finnas där det finns människor.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B12. Vem eller vilka tycker du ska få vara med och bestämma hur rovdjur skall skötas?

	Tar helt avstånd	Tar delvis avstånd	Vet inte	Instämmer delvis	Instämmer helt
Domstolarna	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
EU	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Jägarna	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Kommunerna	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lantbrukarnas riksförbund, LRF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lokalbefolkningen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Länsstyrelsen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Naturskyddsföreningen, SNF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Naturvårdsverket	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ornitologiska föreningen, SOF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Polisen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Riksdagen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rovdjursforskningen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Samebyarna	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Svenska rovdjursföreningen	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Världsnaturfonden, WWF	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B13. Nu ber vi dig ta ställning till när det är acceptabelt att jaga mindre rovdjur som rävar, grävling, hermelin... Instämmer du i eller tar du avstånd från följande påståenden?

	Tar helt avstånd	Tar delvis avstånd	Instämmer delvis	Instämmer helt
Om djuren konkurrerar med människan om det jaktbara viltet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Om man vill minska risken att djuren tar tamdjur, t.ex. kyckling, katter, gäss?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Om människor är rädda för djuren?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Om djuren har sökt sig in i tätbefolkade områden?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B14. Nu ber vi dig ta ställning till när det är acceptabelt att jaga dom större rovdjuren björn, järv, lo och varg... Instämmer du i eller tar du avstånd från följande påståenden?

	Tar helt avstånd	Tar delvis avstånd	Instämmer delvis	Instämmer helt
Om djuren konkurrerar med människan om det jaktbara viltet?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Om man vill minska risken att djuren tar tamdjur, t.ex. kor, får, ren?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Om människor är rädda för djuren?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Om djuren har sökt sig in i tätbefolkade områden?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B.15 Vilka förändringar vill du se under de kommande åren i populationerna av följande vilda djur i ditt lokala område? (Markera ETT svar för varje art.)

	Hoppas att antalet ökar mycket	Hoppas att antalet ökar lite	Hoppas att antalet inte förändras	Hoppas att antalet minskas lite
Björn	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Fjällräv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Grävling	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Hermelin	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Iller	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Järv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Katt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lodjur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mink	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Mård	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Rödräv	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Utter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Varg	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vessla	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annat rovdjur	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

B16. Nu vill vi veta hur du får information om rovdjur. Vi vill att du kryssar för de informationskällor som ni läser.

- | | | |
|---|--|--|
| 1. <input type="checkbox"/> Familj eller
ännen | 5. <input type="checkbox"/> Lokaltidningen,
papper | 9. <input type="checkbox"/> Webbtidning (ex.
aftenbladet.se) |
| 2. <input type="checkbox"/> Tv | 6. <input type="checkbox"/> Rikstidningen,
Papper | 10. <input type="checkbox"/> Social media (ex. Facebook) |
| 3. <input type="checkbox"/> Radio | 7. <input type="checkbox"/> Rikstidning, papper | 11. <input type="checkbox"/> Populärvetenskap (ex.
illustrerad vetenskap) |
| 4. <input type="checkbox"/> Nyhetsmedier på
internet | 8. <input type="checkbox"/> Medlemstidning
(ex. Sveriges Natur,
Svensk Jakt) | 12. <input type="checkbox"/> Annat: |

B17. Nu vill vi veta vilka informationskällor som ni förlitar er mest på. Vi vill att du kryssar för de informationskällor som ni tror ger mest tillförlitlig information....

- | | | |
|---|--|--|
| 1. <input type="checkbox"/> Familj eller
ännen | 5. <input type="checkbox"/> Lokaltidningen,
papper | 9. <input type="checkbox"/> Webbtidning (ex.
aftenbladet.se) |
| 2. <input type="checkbox"/> Tv | 6. <input type="checkbox"/> Rikstidningen,
Papper | 10. <input type="checkbox"/> Social media (ex. Facebook) |
| 3. <input type="checkbox"/> Radio | 7. <input type="checkbox"/> Rikstidning, papper | 11. <input type="checkbox"/> Populärvetenskap (ex.
illustrerad vetenskap) |
| 4. <input type="checkbox"/> Nyhetsmedier på
internet | 8. <input type="checkbox"/> Medlemstidning
(ex. Sveriges Natur,
Svensk Jakt) | 12. <input type="checkbox"/> Annat: |

C. I följande avsnitt ber vi dig ta ställning till ett antal frågor om projektet och er medverkan.

C1. Hur viktiga är följande anledningar för ditt deltagande i "Träffa dina Vilda Grannar"?

	Mycket oviktiga	Något oviktiga	Varken eller	Något viktiga	Mycket viktiga
Rekreativa aktiviteter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Egen bedrift	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lärande och nyfikenhet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vetenskaplig upptäckt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social interaktion och delning (gemenskap)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Naturvård	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C2. Vilket av de skäl som anges ovan var ert främsta skäl att delta i "Träffa dina Vilda Grannar"?

Rekreatationsaktiviteter	<input type="checkbox"/>
Egen bedrift	<input type="checkbox"/>
Lärande och nyfikenhet	<input type="checkbox"/>
Vetenskaplig upptäckt	<input type="checkbox"/>
Social interaktion och delning (gemenskap)	<input type="checkbox"/>
Naturvård	<input type="checkbox"/>
Annat.....	<input type="checkbox"/>

C3. Vänligen ange hur du känner för följande uttalanden om vetenskapens roll i ditt liv?

	Mycket oviktiga	Något oviktiga	Varken eller	Något viktiga	Mycket viktiga
Rekreatationsaktiviteter	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Egen bedrift	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Lärande och nyfikenhet	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vetenskaplig upptäckt	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Social interaktion och delning (gemenskap)	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Naturvård	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annat	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

C4. Berätta kort varför du bestämde dig för att delta i "Träffa dina Vilda Grannar"

C5. Hur troligt är det att du kommer delta i "Träffa dina Vilda Grannar" i framtiden?

- ☐ Nej, absolut inte
- ☐ Nej, helst inte
- ☐ Vet ej
- ☐ Ja, kanske
- ☐ Ja, absolut.

C6. Är "Träffa dina Vilda Grannar" det första medborgarvetenskapsprojektet som du har deltagit i?

1. ☐ Ja
2. ☐ Nej (vidare till C1a)

C6a. Om NEJ, vänligen lista andra medborgarvetenskapliga projekt som du har deltagit i innan (inklusive alla som inte är djurrelaterade)

D. I följande stycke ber vi dig om lite bakgrundsinformation.

D1. Vilka av följande saker har du gjort det senaste året? Kryssa i de alternativ som bäst stämmer för dig.

- | | |
|--|--|
| 1. <input type="checkbox"/> Gått på kortare vandring (1-3 tim) | 9. <input type="checkbox"/> Naturfotograferat |
| 2. <input type="checkbox"/> Vandrat över dagen | 10. <input type="checkbox"/> Fågel skådat eller studerat naturen |
| 3. <input type="checkbox"/> Vandrat med övernattnig | 11. <input type="checkbox"/> Ridit |
| 4. <input type="checkbox"/> Fiskat | 12. <input type="checkbox"/> Åkt skidor utför |
| 5. <input type="checkbox"/> Jagat | 13. <input type="checkbox"/> Åkt längdskidor |
| 6. <input type="checkbox"/> Plockat svamp | 14. <input type="checkbox"/> Åkt snowboard |
| 7. <input type="checkbox"/> Plockat bär | 15. <input type="checkbox"/> Åkt snöskoter |
| 8. <input type="checkbox"/> Cyklat | 16. <input type="checkbox"/> Paddlat eller åkt båt |

D2. Ungefär hur mycket tid tillbringar du på landsbygden varje år?

- | | |
|---|---|
| 1. <input type="checkbox"/> Ingen tid alls | 4. <input type="checkbox"/> Mycket av min tid |
| 2. <input type="checkbox"/> Mycket litet av min tid | 5. <input type="checkbox"/> Större delen av min tid |
| 3. <input type="checkbox"/> Lite av min tid | 6. <input type="checkbox"/> Jag bor på landsbygden |

D3. Hur ofta bor du i ett fritidshus som du eller någon i din familj hyr eller äger?

- | | |
|---|---|
| 1. <input type="checkbox"/> Ingen tid alls | 4. <input type="checkbox"/> Mycket av min tid |
| 2. <input type="checkbox"/> Mycket litet av min tid | 5. <input type="checkbox"/> Större delen av min tid |
| 3. <input type="checkbox"/> Lite av min tid | 6. <input type="checkbox"/> Jag bor på landsbygden |

D4. Arbetar du nu, eller har du tidigare arbetat med jordbruk, skogsbruk, fiske, rennäring eller inom gruvindustrin?

1. ☐ Ja
2. ☐ Nej

D5. Hur länge har du bott i den kommun du bor nu?

- | | |
|---|--|
| 1. <input type="checkbox"/> Har alltid bott här | 3. <input type="checkbox"/> Inflyttad, har bott här i mer än 10 år |
| 2. <input type="checkbox"/> Född i kommun, har alltid bott här bortsett från kortare perioder t.ex. studier på annan ort. | 4. <input type="checkbox"/> Inflyttad, har bott här i 1-10 år |
| | 5. <input type="checkbox"/> Inflyttad, har bott här mindre än ett år |

D6. Nu undrar vi var du och dina föräldrar växte upp. Var bodde du, respektive din far och din mor, större delen av era liv före 18 års ålder?

	Jag växte upp	Min far växte upp	Min mor växte upp
På landsbygden, eller ort med färre än 200 invånare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ort med färre än 2 000 invånare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ort med 2 000-10 000 invånare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ort med 10 000-180 000 invånare	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Stockholm, Göteborg eller Malmö	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annat land i Norden	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Annat land i Europa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Land utanför Europa	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Vet inte	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

D7. Är du kvinna eller man?

1. ☐ Kvinna 2. ☐ Man 3. ☐ Vill ej uppge

D8. Vilket år är du född?

Jag är född 19..... (Ange år)

D9. Hur många personer, inklusive dig själv, bor det i ditt hushåll?

.....barn 0-12 årungdomar 13-18 årvuxna 19 år eller äldre

D10. Har du, eller din familj, större tamdjur som till exempel kor, hästar, får eller renar?

1. ☐ Nej
2. ☐ Ja, en del av eller hela hushållets inkomst kommer från djurhållning
3. ☐ Ja, men bara för vårt hushålls eget bruk

D11. Har du, eller din familj, mindre tamdjur som till exempel hundar, katter, kaniner eller kycklingar?

1. ☐ Nej
2. ☐ Ja, en del av eller hela hushållets inkomst kommer från djurhållning
3. ☐ Ja, men bara för vårt hushålls eget bruk

D12. Vilken utbildning har du? Sätt ett kryss i rutan framför det alternativ du anser stämma bäst in på dig. Om du ännu inte avslutat din utbildning, markera då den skola du just nu går i.

1. ☐ Obligatorisk skola (t ex grundskola, folkskola)
2. ☐ Yrkesutbildning (yrkesskola, fackskola, institut av olika slag)
3. ☐ Gymnasieutbildning (även realexamen, folkhögskola)
4. ☐ Universitet eller högskoleutbildning

D13. Om du är arbetslös, hur länge har din arbetslöshet varat?

1. ☐ Är inte arbetslös
2. ☐ Mindre än 1 månad
3. ☐ 2-6 månader
4. ☐ 6-12 månader
5. ☐ Mer än 12 månader

D14. Om du är sjukskriven, hur länge har du varit sjukskriven?

1. ☐ Är inte sjukskriven
2. ☐ Mindre än 1 månad
3. ☐ 2-6 månader
4. ☐ 6-12 månader
5. ☐ Mer än 12 månader

D15. Ungefär hur stor är ditt hushålls sammanlagda inkomst efter skatt per månad?

1. ☐ Lägre än 10 000 kr per månad efter skatt
2. ☐ 10-20 000 kr
3. ☐ 20-30 000 kr
4. ☐ 30-40 000 kr
5. ☐ 40-50 000 kr
6. ☐ 50-60 000 kr
7. ☐ Mer än 60 000 kr per månad efter skatt

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