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How stakeholder representatives cope with collaboration in the Swedish moose management system

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ABSTRACT

The collaborative ecosystem-based management of moose (*Alces alces*) in Sweden puts a strain on the involved stakeholders. Representatives have to cope with environmental uncertainty and social stress associated with goal conflicts. This article advanced the understanding of representatives' coping strategies in response to perceived challenges and how these coping strategies are associated with social trust, focusing upon salient value similarity. A mixed-method approach, combining a questionnaire survey ($n = 624$) and interviews ($n = 21$) among landowners and hunter representatives, was employed. Survey results showed that the presence of emotion-centered coping strategies that involve venting of negative emotions and behavioral disengagement were associated with relatively lower trust, whereas problem-solving centered coping was associated with relatively higher trust. The interviews indicated the importance of appointing group leaders who are skilled at initiating dialogue and working toward decisions and compromises, as this seemed to hinder expressions of emotion-centered coping strategies.

KEYWORDS

Coping; social trust; moose; ecosystem-based management

Introduction

The management system for moose (*Alces alces*) in Sweden, introduced in 2012, is inspired by the “Malawi principles for the ecosystem approach” (Jaren et al., 2003; Sandström, Wennberg DiGasper, & Öhman, 2013; SOU, 2009). The Malawi principles state that moose management should achieve a high-quality moose population in balance with the grazing resources. Management should recognize the full array of interactions within an ecosystem, including predators and ungulates, browsing damage in forests, and potential negative impact on biodiversity. In the Government Bill and Ordinance (NFS, 2011; Proposition 2009/10:239, 2010), collaboration across management levels and stakeholder participation are considered prerequisites to achieve ecosystem-based management (EBM). In the case of Swedish moose management, collaborative governance is assumed necessary to identify acceptable management solutions to the ecological, economic and socio-cultural impacts and consequences resulting from ungulate presence and activity. This includes providing new tools to address goal conflicts between stakeholders concerning, for example,

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the moose and associated browsing damage on forested land (NFS, 2011; Proposition 2009/10:239, 2010). Competing interests between hunters and landowners involved in agriculture and forestry, challenge stakeholder social skills in establishing trust and finding legitimate solutions (Sjölander-Lindqvist & Sandström, 2019). The present article examined individual and collective (governmental or non-profit/non-governmental organizations, interest groups, local communities) perspectives, and explored how landowner representatives and hunter representatives cope with perceived challenges in the management of moose in Sweden. The article also analyzed how their coping strategies were associated with perceived social trust between actors involved in moose management.

An Overview of the Swedish Moose Management System

Since the first Hunting Act in 1938, landowners and hunters have been charged with carrying out management actions. With the current 2012 management system, there is more emphasis on local decision-making between landowners and hunters. Moose Management Groups (MMGs, in total 147 MMGs) have been established to bridge the management gap between regional County Administrative Boards (CABs) and local Moose Management Units (MMUs). This gap corresponds to the conflict between hunters and other societal interests (Sandström et al., 2013; Sjölander-Lindqvist & Sandström, 2019; Wennberg DiGasper, 2008). The MMGs are tasked with coordinating moose management (e.g., setting hunting quotas) within a Moose Management Area (MMAs). These areas should reflect the ecosystem level and include a distinct moose population, which is defined as a geographical area covering at least 50,000 ha in southern Sweden and at least 100,000 ha in northern Sweden. Each of the 147 MMGs consists of three landowner and three hunter representatives, but in counties with reindeer husbandry, one hunting representative is replaced by a representative for reindeer husbandry (see Figure 1 and Dressel, Ericsson, & Sandström, 2018). Issues should primarily be resolved through dialogue, but in situations of disagreement, the chairman of an MMG, which is always a landowner representative, has the casting vote.

Challenges Faced by the Moose Management System

The implementation of the current management approach has faced challenges across the country (Sjölander-Lindqvist & Sandström, 2019). In the southern parts, the co-existence with other ungulate species such as roe deer (*Capreolus capreolus*), and red deer (*Cervus elaphus*), as well as deliberately introduced non-native species such as wild boar (*Sus scrofa*), mouflon (*Ovis orientalis musimon*), and fallow deer (*Dama dama*), has made it difficult to manage moose without taking the other ungulate species into consideration (Danell & Bergström, 2010; Massei et al., 2015; Mattila & Kjellander, 2016). Challenges also arise from diversity in landownership and the actual administration of moose management over larger scales (sometimes up to 1 million ha) (Dressel et al., 2018). In central regions of Sweden, predation by the large carnivores, brown bear (*Ursus arctos*), gray wolf (*Canis lupus*) and lynx (*Lynx lynx*), has to be considered when hunting quotas of moose are set annually (Danell & Bergström, 2010). In addition, climate change is projected to have effects on the distribution range of wildlife, the health of wildlife, as well as increasing the risk of diseases that are transmissible between animals and humans

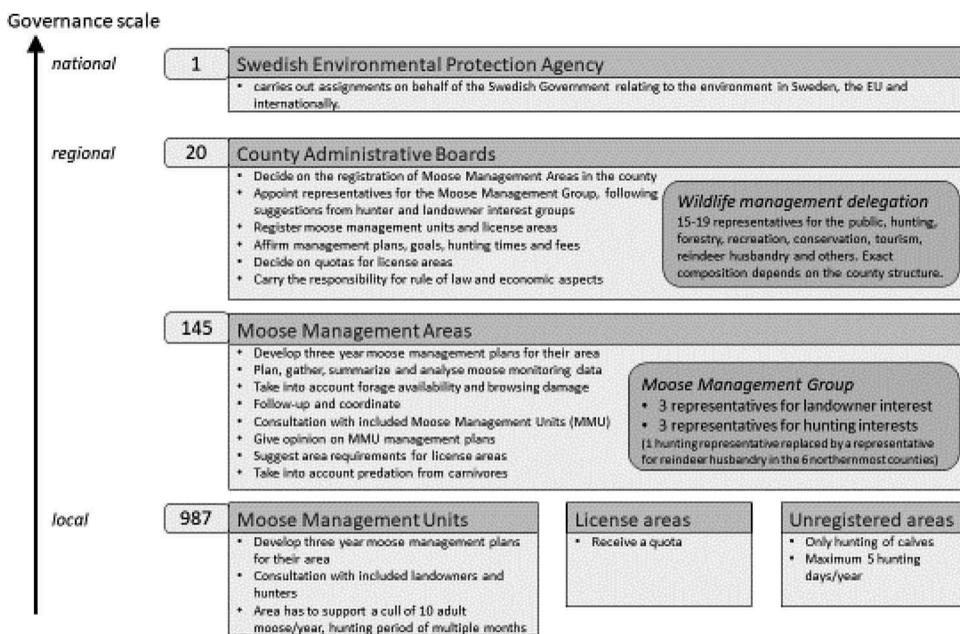


Figure 1. Schematic overview of management bodies and their tasks in Swedish moose management, reaching from the local to the regional (i.e., county level) and to the national governance scale. Numbers indicate the quantity of the respective management body in Sweden. Adapted from the Swedish Environmental Protection Agency.

(zoonotic diseases), such as Lyme disease (Thulin, Malmsten, & Ericsson, 2015). Ecological changes and social factors, such as variation in land ownership and land use, may have major implications for the collaborative governance regime of moose. Stakeholder representatives in the MMGs report considerable transaction costs in terms of time for personal preparation, dialogue and conflict management outside the regular meetings when goal conflicts arise around how the ecological as well as social changes should be handled (Figure 2; Dressel et al., 2018). In this article we used the presence of transaction costs (McCann, Colby, Easter, Kasterine, & Kuperan, 2005; Paavola, 2007; Widmark, Bostedt, Andersson, & Sandström, 2013), as an indicator of the outcome of different social interactions, such as the cost in terms of time spent on the collection of information, the cost of collective planning, collective decision-making, and costs arising from monitoring and evaluating land-use and conflict resolution (Widmark et al., 2013; Widmark & Sandström, 2012). We applied the concept of transaction costs to estimate the time spent to make the governance arrangement work as intended and how these costs impact on the overarching objectives of the current moose management system.

Trust between Actors in Wildlife Management

Trust between involved actors is critical in handling ecological challenges (Armitage & Plummer, 2010; Winter & Cvetkovich, 2010). Trust is a strong motivator when people cooperate horizontally (i.e., on the same management level, as in MMGs), and contribute time, money or effort to the collective (De Cremer, 1999). Such reciprocity between

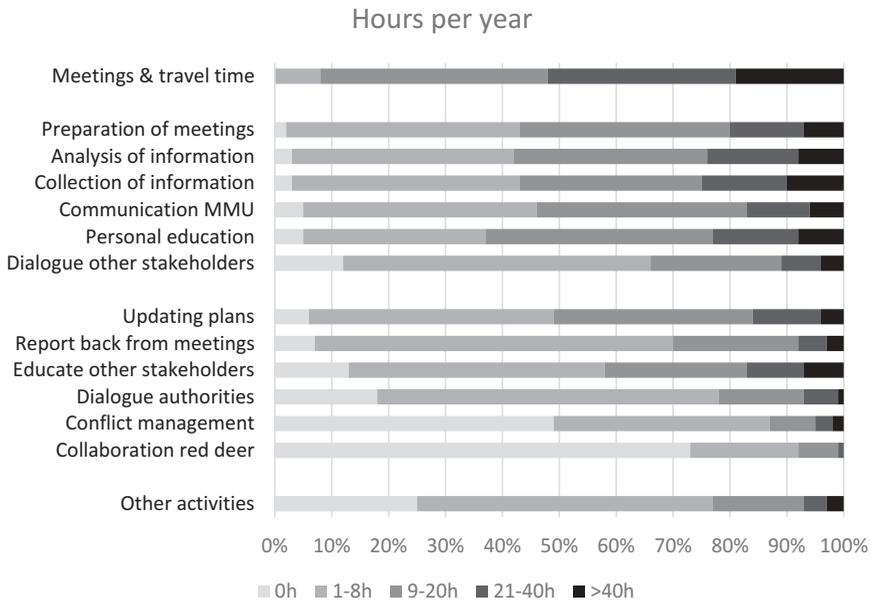


Figure 2. The Moose Management Group (MMG) representatives' allocation of time (hours per year) to different transaction costs.

individuals or collectives builds on the establishment of exchange relations that support organizational coordination. In contexts characterized by complexity and uncertainty, trust is “a highly desirable property” (Lane & Bachmann, 1998, p. 1). Trust is emphasized as critical in wildlife management and is a fundamental cornerstone in collaborative arrangements where stakeholders represent different interests (Pellikka & Sandström, 2011; Pohja-Mykrä, 2017; Sjölander-Lindqvist, Johansson, & Sandström, 2015; Zajac, Bruskotter, Wilson, & Prange, 2012). At the individual level trust is vital in initiating, establishing, and maintaining social relationships (Frank, Johansson, & Flykt, 2015; Sjölander-Lindqvist et al., 2015). Dressel et al. (2019) empirically confirmed trust as a significant variable in the adaptive capacity of the Swedish multispecies management of ungulates.

Formation of trust has been considered to depend on the individual's trust propensity and on his/her perceived trustworthiness of the other person (e.g., Mayer et al., 1995). Trust propensity is considered stable over time and trait-like, but this claim has been questioned (Baer, Matta, Kim, Welsh, & Garud, 2018). These authors argue that trust propensity varies within persons (i.e., state-like characteristics influenced by day-to-day variation in interactions with people). Collaborative arrangements could positively dispose members to trust other members by strengthening social interaction and trust propensity could therefore be considered to be continuously influenced by positive interpersonal interaction. Social trust describes the individual's willingness to rely on persons representing institutions (Cvetkovich & Winter, 2003). According to the Salient-Value-Similarity model, the perceived similarity between the individual and the person to be trusted is illustrated by shared values (Balliet & Van Lange, 2013; Cvetkovich & Winter, 2003). This model stresses the positive affect of the person to be trusted rather than rational

judgments of how an institution would act in a certain situation. Wildlife management in Sweden has been characterized by low levels of trust between authorities, stakeholders and the public, among others expressed as a lack of shared values (Johansson, Frank, Stoen, & Flykt, 2017; Ericsson, Sandström, Kagervall, & Johansson, 2013; Johansson, Karlsson, Pedersen, & Flykt, 2012).

At the collective level, social trust is important in the delivery of efficient policy. For example, for new regulatory arrangements such as decentralized decision-making to be considered legitimate, there is a dependency between social trust and the possibility to implement such arrangements (Sandström, Pellika, & Ratamäki, 2009). Luhmann (1979) emphasizes the importance of shared meanings to reduce internal complexity between persons and between collectives. Through the establishment of positive social interaction between persons and between collectives, reasoned debate and shared understanding can be developed. From a policy perspective, successful delivery of decisions is contingent on the ability of the collective to include different representatives' knowledge and views (Sjölander-Lindqvist et al., 2015). In this article, we examined the individual and the collective level. Analyzes of individuals' perspectives highlight the outcomes of intra-individual process in social interactions over the moose management. The collective level focuses upon group processes in the moose management context as a particular bounded setting made up of individuals who represent different values and ideas.

Coping as a Person–Situation Interaction

The challenges associated with managing increasing wildlife populations may cause daily stress that impacts MMG representatives (Baum, Singer, & Baum, 1982; Evans & Cohen, 1987; Moser, 2009). Such stress may be dependent on physical elements and socio-cultural factors (Ruiz & Hernández, 2014). Physical elements relate to wildlife population characteristics. Moose management involves annual environmental variation in calf recruitment due to time-lag effects of weather, food quality and predation (Ball, Ericsson, & Wallin, 1999; Ericsson, Ball, & Danell, 2002), and browsing by moose on tree species (Edenius & Ericsson, 2015).

Socio-cultural factors are associated with collaborations within the management system, including diverse property rights, sectorized regulation, and power distribution (Dressel et al., 2018). When a voting tie occurs, landowners can resolve a deadlock in their favor, but the hunter representatives may declare reservations. In practice, casting votes and declarations of reservations have primarily been issued as threats during negotiations between landowners and hunters. This creates conflict that reduces the likelihood of a reasonable and mutually beneficial balance within the management system (Bjärstig, Sandström, Lindqvist, & Kvastegård, 2014; Sjölander-Lindqvist & Sandström, 2019). Stress from the moose management may originate from the uncertainty and lack of control associated with the physical elements as well as those associated with social interactions with other involved parties (Hallman & Wandersman, 1992).

Coping reduces or amplifies the effects of emotional distress, and has implications for short-term functioning and long-term development of physical and mental health (Ito & Matsushima, 2017; Kato, 2015; Skinner, Edge, Altman, & Sherwood, 2003). Coping is a complex multidimensional psychological process that is sensitive to both context (i.e.,

the ecological challenge), and the socio-cultural and political dimensions. The individual's personality dispositions influence stress appraisals and coping resources (Folkman & Moskowitz, 2004). Coping is a dynamic process, and people adopt different strategies depending on how the environment change and how people perceive the outcome of the change (De Dominics, Fornara, Cancellieri, Twigger-Ross, & Bonaiuto, 2015; Hernández-Fernaud, Hernández, Ruiz, & Ruiz, 2009). There is no gold standard for measuring coping (Skinner et al., 2003). However, two overarching ways of coping are commonly identified. A first way is referred to as problem-solving centered coping (PSC-coping), aimed at doing something to alter the source of the stress. The second way is referred to as emotion-centered coping (EC-coping), aimed at managing the stress associated with a situation (Skinner et al., 2003). Most situations elicit both types of coping. PSC-coping dominates when people perceive a plausible constructive outcome and EC-coping when people feel that the stressor must be endured (Folkman & Lazarus, 1980). The two coping strategies could be further divided into specific coping strategies. Carver, Scheier, and Weintraub (1989) proposed that specific clusters of coping strategies may be more or less adaptive. Strategies that can be seen as PSC-coping such as active coping and planning, are theoretically seen as functional adaptive strategies. EC-coping, such as behavioral disengagement (e.g., withdrawing from a stressful situation) and venting of (negative) emotions (e.g., expressing frustration and anger) are seen as less adaptive strategies. In this article, we reasoned that at the individual level, EC-coping strategies could be seen as expressions of negatively loaded social interactions, whereas PSC-coping could be regarded as positively loaded social interaction. These expressions were considered to influence trust propensity and in turn the individual's assessment of trust. At the collective level, the individuals' expressions of coping strategies were considered to impact upon the atmosphere of the collaborative setting of the moose management.

Study Aim and Hypotheses

This article sought to understand stakeholder representatives' coping strategies relative to experienced transaction costs and the perceived challenges of moose management in Sweden. A further aim was to examine the social trust (i.e., salient value similarity) between the actors involved. It was expected that (a) higher levels of PSC-coping strategies were positively associated with trustful relationships, and (b) higher levels of EC-coping strategies were negatively associated with trust.

Methods

A concurrent mixed methodological approach was utilized for data collection (Creswell, 2003; Mertens, 2005). Quantitative and qualitative data were integrated to assess perceived challenges, coping strategies, and social trust. A questionnaire was sent to all the members of the MMGs (the individual level) and interviews were conducted with members of four MMGs in two different counties (the collective level). Both hunters and landowners were included in the study. The quantitative investigation informed the qualitative component and vice versa; thereby increasing the validity of the findings (Onwuegbuzie & Leech, 2005).

Survey

The participants comprised 624 representatives in the Swedish MMGs (response rate = 82%, mean age 58 years, range 26–82 years, 5% females). Of the participants, 339 represented hunters and 285 represented landowners. A non-respondent analysis showed no significant biases from the study population. Contact information to 765 MMG representatives was obtained via the respective CABs. This corresponds to almost the total population of groups, as 139 of 140 moose management groups were reached. The questionnaire was administered sequentially in two modes, first online then paper. In April 2016, an individualized invitation was sent out by e-mail, followed by a reminder 5 days after the initial contact (Limesurvey; <https://www.limesurvey.org/>). Fourteen days later, handwritten envelopes containing a paper survey, postage-paid return envelopes and a cover letter were sent.

Survey data were collected through a 16-page questionnaire (in Swedish) on moose management. The visual appearance was similar for the online and paper instruments. The questionnaire consisted of different sections (see Dressel et al., in press) and was piloted among researchers and people acquainted with the topic (e.g., hunters and wildlife managers). Five sections were analyzed here. *Perceived challenges* were assessed by an open-ended question. “In which situations do you think the Moose Management System is challenging”. First, a dichotomous variable was created indicating if the respondent had reported challenging situations or not. Second, the open-ended responses were listed in a separate file and thematically analyzed; two main themes emerged: environmental and social challenges. Each theme was then further analyzed and sub-categories identified. *Transaction costs* were measured as the self-reported workload in the MMGs. The number of hours spent during the last 12 months on 14 different activities (see Figure 2) was reported in the following categories: 0, 1–8, 9–20, 21–40 and >40 hours (Widmark et al., 2013). *Social trust* was assessed by four items from previous studies on wildlife-related issues in Sweden and the U.S. and focused on salient-value-similarity. “I perceive that XX ... has completely different values in moose management than I do (reversed)/support my views on moose management/think differently than I do about how different issues in moose management should be dealt with (reversed), and I trust that XX consider other people who are encompassed of moose management.” These items occurred four times in the survey, to measure social trust toward different levels in the management system: the wildlife management delegation (WMD), the CABs, representatives of other interests in the moose management group (MMG), and the moose management units (MMU) (Johansson et al., 2012, 2017). Responses were given on 5-point scales (1 = completely disagree, 5 = completely agree). *Ways of coping* were assessed by the question “What have you done when you have experienced challenging situations within the moose management groups?”. Respondents reported the extent to which they had sought to “actively tried to change things” – (active coping) PSC-coping, or “done nothing” (behavioral disengagement) (EC-coping) and “expressed anger and frustration” (expression of negative emotions) (EC-coping) on 5-point scales (1 = completely disagree, 5 = completely agree). If the respondents had tried to change things, an open-ended question encouraged them to describe their actions in their own words. The fifth section involved some background questions regarding the representatives’ *socio-demographics* also including if one represented the landowner or hunting interest.

To establish the internal reliability of the trust index, Cronbach’s alpha was calculated. For within-subject analyses of reported ways of coping, the Repeated Measures Linear Model was used. Differences between independent samples in ways of coping were tested

with Univariate General Linear Model. Associations between ways of coping and social trust were analyzed by multiple regression analyses. We interpreted $p < .05$ as statistically significant and the partial eta-squared (η_p^2) as an assessment of effect size.

Interviews

A total of 21 interviews were conducted and transcribed in full. The interviews lasted for 1.5–2 h and took place either on site or over the phone. During the interviews, the researchers took detailed notes to complement the recordings. The interviews focused on the informants' understanding of the context for action, including the current management situation with goals in conflict, pitfalls of current management systems to address the goal conflict, ways of coming to an agreement, and the interviewee's opinions on future opportunities and challenges associated with balancing forestry and wildlife. Questions included but were not restricted to: "Can you describe the work of the MMGs?"; "Are there any/What are the divides in the current situation where different interests should balance?"; "Do you feel you are free to put forward your opinion in the meetings?"; and "How do you handle competing ideas and opinions during the meetings?" Participants were encouraged to expand on themes of particular interest. The interview transcripts were reviewed and analyzed from the perspective of field-specific perceptions (i.e., from the perspectives of forestry, agriculture, and wildlife, and how these different sectors' unique conditions contribute and affect wildlife management). When similar themes appeared, these were grouped and compared to insights gained from previous research and theory (Saldana, 2013). This enabled the development of case-based explanations addressing inter-organizational relationships and the role of tacit processes, ideologies, and power relationships (Colebatch, Hoppe, & Noordegraaf, 2010; Sobo & de Munck, 1998).

Results

Transaction Costs and Perceived Challenges

Participation in the MMGs was associated with transaction costs for the representatives. Figure 2 shows how the MMG representatives allocated time (hours per year) to different transaction costs. A substantial amount of time was allocated to ex-ante transaction costs (i.e., acquiring knowledge of the resource and its users). In general, less time was reported for ex-post transaction costs, such as reporting from meetings, educating other representatives, and conflict management (Figure 2).

High ex-ante costs (i.e., costs associated with preparation, communication, and dialogue) may contribute to conflict reduction (Widmark et al., 2013; Widmark & Sandström, 2012). Being well prepared and having a good knowledge of the moose population should contribute to low transaction costs relative to conflict management. Our study, however, shows that 51% of the representatives reported spending time on conflict management and 62% had experienced situations where the moose management system did not function as intended. The challenges, as described in the respondents' own words can be divided into *environmental/species-related challenges* (handling local diversity, fulfilling hunting quotas, managing multiple species, handling large carnivores), and *social*

challenges (dealing with the bureaucracy, collaborating with CAB representatives, and collaboration between MMG hunters and landowners).

In the interviews, aspects addressed as challenges included the time spent on social interaction and the need to respond to lower-level frustration. MMG members spent considerable time analyzing management plans sent to them by the MMUs, and in turn, supporting the MMUs in their work with revising and updating the plans. “We look through the plans, there are often minor details that are not corrected, and this needs to be communicated to the MMUs. This happens all the time.” In addition to communicating with the MMUs, dialogue with stakeholders also took a lot of time for the MMG members. The chairs of the MMGs also felt a need for information to enable them to run the MMGs constructively “We need information regarding shot animals to take wise decisions. The problem is that a lot of the hunters and the teams do not report this in due time, or at all.” Another aspect brought up was the low budget given to the MMGs, affecting the means for communication and dialogue: “If we want to have a bigger meeting, we don’t have the funds to rent a suitable room. We can’t afford it. Instead, I [the chair] invite people to my home, and serve coffee and refreshments. In my opinion, that’s not really fair.” The multi-level management system brings challenges to the MMGs, which function as an intermediary level between the regional and local levels. They assume a role where the MMGs coordinate and evaluate the MMU’s plans. This can, at times, be emotional: “People [from the MMUs] call us, many times angry and frustrated, and yelling over the work they’re forced to do. The only thing to do is to be as transparent as possible, and for that reason, we decided to have a website where we put a lot of information”. The transaction costs (e.g., time spent collecting information, planning, decision-making) are used here as indicators of social interactions (Figure 2). The perceived challenges these interactions created, indicate that individuals’ and collective’s abilities to cope with situations are an important factor in collaborative moose management.

Coping Strategies

The representatives reported using all three coping strategies when they experienced challenges in the moose management system. The representatives, however, were more likely to use PSC-coping strategies as an active coping ($M = 4.24$, $SD = .84$) than EC-coping strategies as in venting of negative emotions ($M = 3.08$, $SD = 1.26$) and behavioral disengagement ($M = 1.85$, $SD = .95$), ($F(2, 621) = 855.56$, $p < .001$, $\eta_p^2 = .734$). In comparison to respondents who did not specify challenging situations ($n = 234$), those who specified the presence of challenging situations in the open-ended question ($n = 389$) agreed to a larger extent that they used the EC-coping strategy of venting of negative emotions (specified challenging situation: $M = 3.31$, $SD = 1.23$, did not specify challenging situation: $M = 2.69$, $SD = 1.20$, $F(1, 621) = 37.21$, $p < .001$, $\eta_p^2 = .057$) and the PSC-coping strategy of active coping (specified challenging situation: $M = 4.33$, $SD = .80$, did not specify challenging situation: $M = 4.11$, $SD = .88$, $F(1, 621) = 9.84$, $p < .002$, $\eta_p^2 = .016$). However, in the latter case, the effect size was very low. No significant differences between the two groups were identified in the EC-coping strategy of behavioral disengagement.

A categorization of the open-ended responses to the question “If you have tried to change something in a situation when you found the moose management system to be challenging, what have you done?” revealed both, PSC-coping strategies and EC-coping

strategies. Three of the created categories can be considered as EC-coping strategies (venting of negative emotions, behavioral disengagement, and self-reliance, i.e., trying to take over the task to solve the problem in their own way) and may help the individual representative to immediately cope with the situation, but may challenge the capacity of the collective to handle difficult situations. Instead, the PSC-coping strategies reported (e.g. spending time talking with people, dialogue and openly discussing problems, and working toward compromises), as well as adoption of formal strategies (e.g., declaring a reservation or expressing dissent to a decision, and increasing knowledge by searching for facts, training, and invitation of experts), may support the collective capacity to deal with future challenging situations.

The interviews also revealed the use of both PSC-coping strategies and EC-coping strategies. The importance of spending time talking with people and engaging in dialogue by openly and constructively discussing problems were commonly reflected in the interviews. The representatives mentioned how such discussions increased their understanding of the situation for the concerned parties. This increased knowledge could be how an abundant population of ungulates impact on forestry economy, or vice versa, the need to have good-quality rooted fodder for the moose to keep the population in good health. An *open-minded, respectful and problem-oriented attitude* was a necessity to enable group cooperation, keeping calm, supporting dialogue and having a considerate attitude toward fellow MMG representatives. For example, “I cannot be too determined and say that it is the casting vote that decides. Such an attitude just causes irritation. You have to take a position where you have a more problem-solving attitude, that’s the most fruitful thing you can do to make the cooperation work”. The interviews showed that *dialogue and communication* were important for enabling the MMGs to carry out their work. “It works well, I think. My understanding is that, looking downwards, that we have been able to establish a good dialogue with the MMUs. They’re on board. We ask them a lot, about how things work and their thoughts on different actions, we give them a voice”. *Avoiding jargon and demonstrating understanding for local complexities* are components of PSC-coping strategies. The situation with expanding ungulate populations and resulting consequences for forestry feeds into the prevailing dispute regarding how to ensure the balance between fodder and population levels which means that the MMGs can be polarized and the discussion among the landowners and the hunters can turn hostile. The informants agreed, however, that all representatives must all work to promote a discussion climate where the issue is constantly considered from all angles. To promote an open-minded, respectful and problem-oriented dialogue, the *acquisition of knowledge* and application of common sense were stressed as strategies that can either prevent problems arising or support the ability of the representatives to cope with problems arising from clashing interests and management goals. Informed decisions were vital for balancing the discussion: “We need to be more knowledgeable, we need to know better how things work with wildlife, knowledge will put us in a better position. It’s also important for the building of trust, no one listens to someone who is just waffling. Even if you’re persuasive, it’s not the way to build trust.” An open-minded *leadership* of the MMG was important in facilitating PSC-coping. The chair of the MMG must be able to build a calm, supportive and inclusive environment. At the same time, the leadership must be able “to forcefully instruct in order to get things under way” but also to “stimulate creative thinking” to enable work in a problem-solving manner. Keeping promises,

running the work in a professional way, and being transparent were other important aspects. There was an understanding that the social atmosphere in the groups was fragile and dependent on individual representatives' ways of coping. A *gatekeeping* strategy was suggested as a way forward to support collaboration in functioning groups. "It's an amazing group. We really work well together. Of course, it may very well break in the future, a new member might disrupt the good climate we have in the group. We've said, this might not be very correct, but if a new member's coming in, we want to have a say, we don't want the selection process to be random ...".

Association between Ways of Coping and Social Trust

On average, the representatives reported an intermediate level of social trust, operationalized as salient value similarity, to the other stakeholders within MMG, as well as downwards to the MMUs and upwards to the WMD and the CABs (Table 1). The different levels of trust were significantly correlated (Table 2). Based on the 16 items (four items repeated for four levels) that assessed trust, an averaged index was produced. The aggregated trust could vary from 1 to 5, $M = 3.36$, $SD = .60$, Cronbach's $\alpha = .85$.

A multiple regression analysis of the questionnaire data, using the representatives' mean value for aggregated social trust as outcome variable, showed that social trust could partly be explained (13% of the variation) by the coping strategies employed (Table 3). PSC-coping strategies of active coping were significantly associated with relatively higher social trust. The EC-coping strategies of venting of negative emotions and behavioral disengagement were significantly associated with a relatively lower social trust. Venting of negative emotions was the relatively stronger predictor, as indicated by the β -value (Table 3).

The association between ways of coping and social trust could also be observed in the interviews, which showed that PSC-coping strategies, such as dialogue and communication, were components at the collective level. If not addressed in a transparent and open manner, it will be difficult to build up a trustful climate in the collaboration process. Instead of a trustworthy forum for dialogue and exchange of perspectives, knowledge and ways forward, the MMGs risk becoming an arena where opposing constructs are perpetuated, and where the casting vote rule is applied: "We're the largest property owner, in size, and we're in the majority [with the casting vote] so we force the other party to just

Table 1. Mean values, standard deviations and internal reliability for trust indices at different management levels.

Management level	<i>M</i>	<i>SD</i>	Cronbach's <i>alpha</i>
Trust in MMU	3.47	.82	.78
Trust in MMG	3.36	.92	.80
Trust in WMD	3.23	.76	.76
Trust in CAB	3.39	.86	.80

Table 2. Correlations (Pearson *r*) between social trust at different management levels.

Management level	Trust in MMU	Trust in MMG	Trust in WMD	Trust in CAB
Trust in MMU	-	.45**	.25**	.33**
Trust in MMG		-	.24**	.28**
Trust in WMD			-	.48**
Trust in CAB				-

Table 3. Multiple regression analysis with social trust as an outcome variable and coping strategies as predictor variables.

Variables in multiple regression	B	SE B	<i>B</i>
Constant	3.70	.14	
Behavioral disengagement	-.06	.023	-.10*
Venting of (negative) emotions	-.16	.02	-.33***
Active coping	.06	.03	.09*

($R^2 = .14$, R^2 adj = .13, $p < .001$), * $p < .05$, *** $p < .001$

accept the situation”. If there is not a trustworthy forum, “some groups just crack, completely. It’s simply about the person being wrong for the group. It is as simple as that.” The interviews nuanced ways of coping and trust between levels in the moose management system, stressing that the environmental/species-related challenges must be considered at the appropriate level to avoid EC-coping and disruption of trust. “There is simply not enough knowledge [about the local situation] at the regional level” and “if people doesn’t experience that the CAB and the MMGs have the proper knowledge, they will just leave meetings and will, instead of making good plans, quarrel and get into fights with one another”.

Discussion

The collaborative ecosystem-based management of moose in Sweden makes high demands on the involved stakeholder representatives in the MMGs. This article revealed that the institutional system comes with transaction costs that stretches beyond the time allocated to the meetings. In this system, social trust is likely to be vital to the smoothness of processes and efficiency of the work toward obtaining management goals (Pellicka & Sandström, 2011; Pohja-Mykrä, 2017; Zajac et al., 2012). The present results suggested that representatives’ responses in challenging situations have consequences for the collaboration of the group both via intra-individual process and by influencing group processes. This was apparent in both surveys focusing at the individual and in the interviews focusing the collective level. The presence of PSC-coping strategies was associated with higher levels of the social trust and presence of EC-coping strategies were associated with lower levels of social trust, operationalized as salient value similarity.

Representatives identified a variety of challenges. When they join the MMGs, the representatives are likely to expect to encounter environmental/species-related challenges (e.g., handling local diversity, filling hunting quotas, managing multiple species, handling large carnivores). The associated social challenges that arise when representatives encounter the system’s bureaucracy and the need to collaborate across stakeholder groups and institutional levels might be an unanticipated consequence of the system. To tackle the environmental/species-related challenges, the representatives were dependent on data collected by hunters and foresters, using verified scientifically based methods, but with considerable variation between years and within years due to environmental stochasticity (Dressel et al., 2018; Pfeffer et al., 2017; Singh, Danell, Edenius, & Ericsson, 2014). In short, a fundamental stressor here seemed to be that the MMG representatives are asked to base their decisions on several data sources with varying uncertainties. They were asked to perform a complex statistical task without any formal training.

The social challenges were real, as indicated by the self-reported time spent on the cost associated with dialogue and conflict management, mentioned in open-ended survey responses, and further elaborated in the interviews. The social challenges stand out because they are less foreseen, and arise as a consequence of the stress elicited by handling the ecological data. Representatives from landowners and hunters were even less equipped to handle the social challenges than the monitoring activities when they join the MMGs. Regardless of whether the challenges were environmental/species-related or social in character, their presence constituted a source of daily stress that the representatives must cope with (Moser, 2009).

If coping is seen as a person–situation interaction, a specific challenge will require a specific coping strategy depending on the physical and social environmental context (Folkman & Moskowitz, 2004). An understanding of the two main ways of coping, EC-coping and PSC-coping, may say something about the capability of individual representatives to handle the stress they face (Carver et al., 1989; Villasana, Alonso-Tapia, & Ruiz, 2016). The representatives in the survey reported that they make use of PSC-coping, operationalized as active coping in the questionnaire. Representatives who reported that they experienced challenges agree with that they make use of coping strategies in general, but also a tendency toward to a greater extent agreeing with the use of EC-coping strategies.

The interviews revealed that the representatives sought solutions enabling them to move forward that, in turn, may support the collective capacity to deal with future challenges. Representatives largely adopted PSC-coping strategies and deliberately avoided EC-coping strategies. This was particularly pertinent for the social challenges. The use of PSC-coping strategies represented an attitude open to the diversity of the group comes across as fundamental. Such an attitude allowed for dialogue between stakeholder groups and facilitates communication in the system. Avoiding jargon and demonstrating understanding for local complexities also facilitated dialogue. These coping strategies can be regarded as adaptive strategies (Carver et al., 1989).

Although the individual ways of coping illustrated how the representatives dealt with stress, coping has implications for social trust within and between groups. Social trust is a critical factor in wildlife management, and practical ways to strengthen social trust are needed. Although only 13% of the variation in social trust could be explained, the regression analyses showed that the reported coping strategies mattered to perceived social trust. Further research should explore the complexity of establishing social trust. The operationalization of social trust focused on salient value similarity as this aspect has been identified as significant in Swedish wildlife management. The open-ended survey responses and the interviews suggest the opportunity for more nuanced ways of capturing relevant-specific coping strategies in further research.

The EC-coping strategies of venting negative emotions and behavioral disengagement were associated with relatively lower social trust, while active coping was associated with relatively higher levels of social trust. The representatives avoided expressions of EC-coping strategies, but these coping strategies are sometimes found, as shown by the venting of negative emotions and behavioral disengagement in the survey data. Here the interview informants emphasized the role of the group leaders; promoting group leaders who are competent enough to initiate dialogue and work toward decisions and compromises helps individual representatives refrain from EC-coping strategies. Gatekeeping to influence group composition was put forward as another way of controlling who joins the group.

The article was based on self-reports in the survey and interviews. Future studies could add observational studies, but an observer may interfere with group dynamics. The results can be expected to be highly generalizable to the Swedish Moose Management Groups, as they are based on a multi-method approach. The data derived from all but one MMGs, the response rate was over 80% for individual representatives, and in-depth interviews were held with 21 representatives, balanced between hunters and landowners.

Implications for Practice

An awareness of the relationship between stakeholder representatives' ways of coping and social trust within the moose management system is warranted. Individual representatives need support in identifying and developing relevant PSC-coping strategies, and at the collective level the leadership role could be further developed. The representatives' ways of coping with challenging situations were discussed at three workshops with different levels in the management system, and concrete suggestions on what could be done were put forward by those involved. Instead of gatekeeping strategies in the MMG, more work should take place already in the recruitment process to ensure that those appointed understand the social challenges associated with a collaborative process, have an open-minded attitude, and have the necessary social skills for dialogue. The appointed representatives should be given the same basic training to ensure a consistent understanding of the environmental and social complexities tackled by the MMGs. This is currently not the case. The institutional system must have access to basic funding for the MMGs to facilitate the organization of meetings, draw up a communication plan, and offer tools to increase social support, for example by team-building exercises.

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References

- Armitage, D., & Plummer, R. (Eds.). (2010). *Adaptive capacity and environmental governance*. Heidelberg, Germany: Springer.
- Baer, M. D., Matta, F. K., Kim, J. K., Welsh, D. T., & Garud, N. (2018). It's not you, it's them: social influences on trust propensity and trust dynamics. *Personnel Psychology*, 3, 423-455. doi:10.1111/peps.2018.71.issue-3
- Ball, J. P., Ericsson, G., & Wallin, K. (1999). Climate change, moose and their human predators. *Ecological Bulletins*, 47, 178-187.
- Balliet, D., & Van Lange, P. A. M. (2013). Trust, conflict and cooperation: A meta-analysis. *Psychological Bulletin*, 139, 1090-1112.
- Baum, A., Singer, J. E., & Baum, C. S. (1982). Stress and the environment. In G. W. Evans (Ed.), *Environmental stress* (pp. 15-74). Cambridge, UK: Cambridge University Press.

- Bergqvist, G., Bergström, R., & Wallgren, M. (2014). Recent browsing damage by moose on Scots pine, birch and aspen in young commercial forests – Effects of forage availability, moose population density and site productivity. *Silva Fennica*, 48, 13 p. article id 1077. doi:10.14214/sf.1077
- Bjärstig, T., Sandström, C., Lindqvist, S., & Kvastegård, E. (2014). Partnerships implementing ecosystem-based moose management in Sweden. *International Journal of Biodiversity Science, Ecosystem Services & Management*, 10, 228–239. doi:10.1080/21513732.2014.936508
- Carver, C. S., Scheier, M. F., & Weintraub, J. K. (1989). Assessing coping strategies: A theoretically based approach. *Journal of Personality and Social Psychology*, 56, 267–283. doi:10.1037/0022-3514.56.2.267
- Colebatch, H., Hoppe, R., & Noordegraaf, M. (2010). Understanding policy work. In H. Colebatch, R. Hoppe, & M. Noordegraaf (Eds.), *Working for policy* (pp. 11–30). Amsterdam, The Netherlands: Amsterdam University Press.
- Creswell, J. W. (2003). *Research design: Qualitative, quantitative, and mixed methods approaches* (2nd ed.). Thousand Oaks, CA: Sage.
- Cvetkovich, G., & Winter, P. L. (2003). Trust and social representations of the management of threatened and endangered species. *Environment and Behavior*, 35, 286–307. doi:10.1177/0013916502250139
- Danell, K., & Bergström, R. (Eds.) (2010). *Vilt, människa, samhälle. [Wildlife, human, society]. Sweden, Stockholm: Liber AB.*
- De Cremer, D. (1999). Trust and fear of exploitation in a public goods dilemma. *Current Psychology*, 18, 153–163. doi:10.1007/s12144-999-1024-0
- De Dominics, S., Fornara, F., Cancellieri, U. G., Twigger-Ross, C., & Bonaiuto, M. (2015). We are at risk, and so what? Place attachment, environmental risk perceptions and preventive coping behaviours. *Journal of Environmental Psychology*, 43, 66–78. doi:10.1016/j.jenvp.2015.05.010
- Dressel, S., Ericsson, G., & Sandström, C. (2018). Mapping social-ecological systems to understand the challenges underlying wildlife management. *Environmental Science and Policy*, 84, 105–112. doi:10.1016/j.envsci.2018.03.007
- Dressel, S., Johansson, M., Ericsson, G., & Sandström, S. (2019). *Perceived Adaptive Capacity Within a Multi-level Governance Setting: The Role Of Bonding, Bridging, and Linking Social Capital.* doi: 10.1016/j.envsci.2019.11.011
- Edenius, L., & Ericsson, G. (2015). Effects of ungulate browsing on recruitment of aspen and rowan: A demographic approach. *Scandinavian Journal of Forest Research*, 30, 283–288.
- Ericsson, G., Ball, J. P., & Danell, K. (2002). Moose offspring body mass along an altitudinal gradient. *Journal of Wildlife Management*, 55, 91–97. doi:10.2307/3802875
- Ericsson, G., Sandström, C., Kagervall, A., & Johansson, M. (2013). *Attityder till varg och vargförvaltning.* Report. Umeå, Sweden: Swedish University of Agricultural Sciences.
- Evans, G. W., & Cohen, S. (1987). Environmental stress. In D. Stokols & I. Altman (Eds.), *Handbook of environmental psychology* (Vol. 1, pp. 571–610). NY, New York : Wiley.
- Folkman, S., & Lazarus, R. S. (1980). An analysis of coping in a middle-aged community sample. *Journal of Health and Social Behavior*, 21, 219–239. doi:10.2307/2136617
- Folkman, S., & Moskowitz, J. T. (2004). Coping: Pitfalls and promise. *Annual Review of Psychology*, 55, 745–774. doi:10.1146/annurev.psych.55.090902.141456
- Frank, J., Johansson, M., & Flykt, A. (2015). Public attitudes towards the implementation of management actions aimed at reducing human fear of brown bears and wolves. *Wildlife Biology*, 21, 122–130. doi:10.2981/wlb.13116
- Hallman, W. K., & Wandersman, A. (1992). Attribution of responsibility and individual and collective coping with environmental threats. *Journal of Social Issues*, 48, 101–118. doi:10.1111/josi.1992.48.issue-4
- Hernández-Fernaudo, E., Hernández, B., Ruiz, C., & Ruiz, A. (2009). Development of a questionnaire to evaluate coping strategies for skin problems. *The Spanish Journal of Psychology*, 12, 373–382. doi:10.1017/S1138741600001761

- Ito, M., & Matsushima, E. (2017). Presentation of coping strategies associated with physical and mental health during health check-ups. *Community Mental Health Journal*, 53, 297–305. doi:10.1007/s10597-016-0048-9
- Jaren, V., Sinclair, A., Andersen, R., Danell, K., Schwartz, C., Peterson, R. O., ... Ericsson, G. (2003). Moose in modern integrated ecosystem management - how should the Malawi principles be adapted? *Alces*, 39, 1–10.
- Johansson, M., Frank, J., Støen, O.-G., & Flykt, A. (2017). An evaluation of information meetings as a tool for addressing fear of large carnivores. *Society & Natural Resources*, 30, 281–298. doi:10.1080/08941920.2016.1239290
- Johansson, M., Karlsson, J., Pedersen, E., & Flykt, A. (2012). Factors governing human fear of brown bear and wolf. *Human Dimensions of Wildlife*, 17, 58–74. doi:10.1080/10871209.2012.619001
- Kato, T. (2015). Frequently used coping scales: A meta-analysis. *Stress Health*, 31, 315–323. doi:10.1002/smi.v31.4
- Lane, C., & Bachmann, R. (1998). *Trust within and between organizations: Conceptual issues and empirical applications*. Oxford, UK: Oxford University Press.
- Luhmann, N. (1979). *Trust and power: Two works*. New York, NY: Wiley.
- Massei, G., Kindberg, J., Licoppe, A., Gačić, D., Šprem, N., Kamler, J., ... Náhlik, A. (2015). Wild boar populations up, numbers of hunters down? A review of trends and implications for Europe. *Pest Management Science*, 71, 492–500. doi:10.1002/ps.2015.71.issue-4
- Mattila, M., & Kjellander, P. (2016). The tree species matrix, influence on level of herbivore browsing in mixed forest stands in southwest Sweden. *Scandinavian Journal of Forest Research*, 32, 1–5. doi:10.1080/02827581.2016.1181202
- Mayer, R. C., Davis, J. H., & Schoorman, F. D. (1995). An integrative model of organizational trust. *Academy Of Management Review*, 20, 709–734. doi:10.5465/amr.1995.9508080335
- McCann, L., Colby, B., Easter, K. W., Kasterine, A., & Kuperan, K. (2005). Transaction cost measurement for evaluating environmental policies. *Ecological Economics*, 52, 527–542. doi:10.1016/j.ecolecon.2004.08.002
- Mertens, D. (2005). *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. Thousands Oaks, CA: Sage.
- Moser, G. (2009). Quality of life and sustainability: Toward person-environment congruity. *Journal of Environmental Psychology*, 29, 351–357. doi:10.1016/j.jenvp.2009.02.002
- NFS (2011:7). (2011, December 9). *Naturvårdsverkets föreskrifter och allmänna råd om jakt efter älg och kronhjort*. ISSN 1403-8234. Sweden, Stockholm: Swedish Environmental Protection Agency.
- Onwuegbuzie, A. J., & Leech, N. L. (2005). On becoming a pragmatic researcher: The importance of combining quantitative and qualitative research methodologies. *International Journal of Social Research Methodology: Theory & Practice*, 8, 375–387. doi:10.1080/13645570500402447
- Paavola, J. (2007). Institutions and environmental governance: A reconceptualization. *Ecological Economics*, 63, 93–103. doi:10.1016/j.ecolecon.2006.09.026
- Pellikka, J., & Sandström, C. (2011). The role of large carnivore committees in legitimising large carnivore management in Finland and Sweden. *Environmental Management*, 48, 212–228. doi:10.1007/s00267-011-9672-x
- Pfeffer, S., Spitzer, R., Allen, A. M., Hofmeester, T. R., Ericsson, G., Widemo, F., ... Cromsigt, J. P. G. M. (2017). Pictures or Pellets? Comparing camera trapping and dung counts as methods for estimating population densities of ungulates. *Remote Sensing in Ecology and Conservation*. doi:10.1002/rse2.67
- Pohja-Mykrä, M. (2017). Community power over conservation regimes: Techniques for neutralizing the illegal killing of large carnivores in Finland. *Crime, Law and Social Change*, 67, 439–460. doi:10.1007/s10611-016-9666-y
- Proposition 2009/10:239. (2010, June 17). *Swedish Government Bill Stockholm*. Sweden: Swedish Government.
- Ruiz, C., & Hernández, B. (2014). Emotions and coping strategies during an episode of volcanic activity and their relations to place attachment. *Journal of Environmental Psychology*, 38, 279–287. doi:10.1016/j.jenvp.2014.03.008

- Saldana, J. (2013). *The coding manual for qualitative researchers*. London, UK: Sage.
- Sandström, C., Pellika, J., & Ratamáki, O. (2009). Management of large carnivores in fennoscandia: new patterns of regional participation. *Human Dimensions Of Wildlife*, 14, 37-50.
- Sandström, C., Wennberg DiGasper, S., & Öhman, K. (2013). Conflict resolution through ecosystem-based management: The case of Swedish moose management. *International Journal of the Commons*, 7, 549–570. doi:10.18352/ijc.349
- Singh, N. J., Danell, K., Edenius, L., & Ericsson, G. (2014). Tackling the motivation to monitor: Success and sustainability of a participatory monitoring program. *Ecology & Society*, 19, 7. doi:10.5751/ES-06665-190407
- Sjölander-Lindqvist, A., Johansson, M., & Sandström, C. (2015). Individual and collective responses to large carnivore management: The roles of trust, representation, knowledge spheres, communication and leadership. *Wildlife Biology*, 21, 175–185. doi:10.2981/wlb.00065
- Sjölander-Lindqvist, A., & Sandström, C. (2019). Shaking hands: Balancing tension in the Swedish forested landscape. *Conservation and Society*, 17, 319. Ahead of print. doi:10.4103/cs.cs_18_112
- Skinner, E. A., Edge, K., Altman, J., & Sherwood, H. (2003). Searching for the structure of coping: A review and critique of category systems for classifying ways of coping. *Psychological Bulletin*, 129, 216–269. doi:10.1037/0033-2909.129.2.216
- Sobo, E. J., & de Munck, V. C. (1998). The forest of methods. In V. C. de Munck & E. J. Sobo (Eds.), *Using methods in the field: A practical introduction and casebook* (pp. 13–37). Walnut Creek, CA: Altamira Press.
- SOU (2009:54). (2009, June). *Uthållig älgförvaltning i samverkan Falun*. Sweden, Stockholm, Swedish Government.
- Thulin, C.-G., Malmsten, J., & Ericsson, G. (2015). Growing wildlife populations in Sweden shift the baseline for societal perception of ecosystem services and zoonoses. *European Journal of Wildlife Research*, 61, 649–656. doi:10.1007/s10344-015-0945-1
- Villasana, M., Alonso-Tapia, J., & Ruiz, M. (2016). A model for assessing coping and its relation to resilience in adolescence from the perspective of person-situation interaction. *Personality and Individual Differences*, 98, 250–256. doi:10.1016/j.paid.2016.04.053
- Wennberg DiGasper, S. (2008). *Natural resource management in an institutional disorder: The development of adaptive co-management systems of moose in Sweden* (PhD Diss.). Division of Political Science, Department of Business Administration and Social Sciences, Luleå University of Technology.
- Widmark, C., Bostedt, G., Andersson, M., & Sandström, C. (2013). Measuring transaction costs incurred by landowners in multiple land-use situations. *Land Use Policy*, 30, 677–684. doi:10.1016/j.landusepol.2012.05.012
- Widmark, C., & Sandström, C. (2012). Transaction costs of institutional change in multiple use commons the case of consultations between forestry and reindeer husbandry in Northern Sweden. *Journal of Environmental Policy & Planning*, 14, 428–449. doi:10.1080/1523908X.2012.739298
- Winter, P. L., & Cvetkovich, G. T. (2010). Trust mediates conservation-related behaviors. *Ecopsychology*, 2, 211–219. doi:10.1089/eco.2010.0046
- Zajac, R. M., Bruskotter, J. T., Wilson, R. S., & Prange, S. (2012). Learning to live with black bears: A psychological model of acceptance. *The Journal of Wildlife Management*, 76, 1331–1340. doi:10.1002/jwmg.v76.7