



Sveriges lantbruksuniversitet  
Swedish University of Agricultural Sciences

Faculty of Natural Resources and  
Agricultural Sciences

# Opening Up Communication in Adaptive Management

*David Forssander*

Department of Urban and Rural Development  
Master's Thesis • 30 HEC  
Environmental Communication and Management - Master's Programme  
Uppsala 2014

## Opening Up Communication in Adaptive Management

*David Forssander*

**Supervisor:** Lars Hallgren, Swedish University of Agricultural Sciences,  
Department of Urban and Rural Development,  
Environmental Communication

**Examiner:** Hanna Bergeå, Swedish University of Agricultural Sciences,  
Department of Urban and Rural Development,  
Environmental Communication

**Credits:** 30 HEC

**Level:** Second cycle (A2E)

**Course title:** Independent Project in Environmental Sciences - Master's thesis

**Course code:** EX0431

**Programme/Education:** Environmental Communication and Management – Master's Programme

**Place of publication:** Uppsala

**Year of publication:** 2014

**Online publication:** <http://stud.epsilon.slu.se>

**Keywords:** Adaptive management, natural resource management, participation, decision making, discursive closures, discursive openings, communicative rationality.

**Sveriges lantbruksuniversitet**  
**Swedish University of Agricultural Sciences**

Faculty of Natural Resources and Agricultural Sciences  
Department of Urban and Rural Development

## **Abstract**

The question of what characterizes communication in Swedish moose management and how this reflects the concept of adaptive management has challenged the need for a thorough exploration of how stakeholders in decision-making processes jointly coordinate their knowledge. Adaptive management is itself a concept that has gained significant space in natural resource management literature, in which the recognition is that there is a perceived need to manage resources on a continuous basis, as well as the requirement of diverse stakeholders to convene and generate the knowledge needed to face uncertain situations and to learn from them. This requirement rests on the tacit assumption that concerned stakeholders need to intersubjectively co-construct their understandings by ways of coordinating knowledge through a communicative format that nurtures the adaptive capacity in response to both ecological and social changes. When this capacity is reduced, so are the opportunities that enable the advocated potentials for successful management that this concept rests upon. The aim of this thesis is to analyze and describe whether the accomplishment of decision-making processes within a moose management group apply the criteria needed to accomplish the normative ideals of adaptive management and to discuss possible consequences that may arise when these ideals are not met. By using discursive closures and openings as theoretical concepts to operationalize communicative rationality, the communicative practices for a moose management group have been characterized through the analysis of a systematic interpretation of meanings in order to ascertain how knowledge is coordinated within the group. Presented as a single case study, the meeting held by this group provided ample material for analysis which has been categorized into six episodes, revealing several discursive closures as well as openings. The presence of discursive closures, partly in combination with a conceptual use of elements of uncertainty and conflicts, yielded systematic exclusions of knowledge, values and perspectives. The effect of these practices, which narrow the scope for divergent perspectives to be expressed that, if elaborated upon, may have been of potential relevance for management but which could not be assessed as claims to validity, were not rationally pursued. Consequently, opportunities for adaptive management were reduced. The findings presented in this paper raise the issue of whether such management groups can develop a procedural communicative format in which interaction is guided towards understanding by a systematic exclusion of discursive closures that otherwise discourage such a format. It follows that there also is a need to investigate a wider range of groups to determine a more general view on how discursive closures appear and what function they serve in terms of adaptive prospects.

## **Abbreviations**

AM – Adaptive management  
MMA – Moose management area  
MMG – Moose management group  
MMU – Moose management area  
NRM – Natural resource management  
SMM – Swedish moose management

<b>TABLE OF CONTENTS</b>	<b>PAGE</b>
<b><u>ABSTRACT</u></b>	<b><u>1</u></b>
<b><u>ABBREVIATIONS</u></b>	<b><u>1</u></b>
<b><u>INTRODUCTION</u></b>	<b><u>3</u></b>
THE STRUCTURE OF SWEDISH MOOSE MANAGEMENT AND ADAPTIVE MANAGEMENT	5
THE MAIN ASPECTS OF ADAPTIVE MANAGEMENT	6
FROM THEORY TO PRACTICE – WHAT HAS BEEN LEARNED?	7
MANAGING CONFLICTS	8
A PROCESS OF ELABORATING UNDERSTANDING	8
INCENTIVES TO INVESTIGATE COMMUNICATIVE PROCESSES WITHIN AM	9
<b><u>THEORY</u></b>	<b><u>11</u></b>
COMMUNICATIVE ACTION	11
DISCURSIVE CLOSURES AND OPENINGS	12
<b><u>METHOD</u></b>	<b><u>15</u></b>
DIRECT OBSERVATION	15
FROM OBSERVATION TO TRANSCRIPTION	15
CRITERIA FOR TRANSCRIBING	16
CONVERSATION ANALYSIS	17
HERMENEUTICS AND ABDUCTION	18
STRUCTURING THE MATERIAL	18
<b><u>EMPIRICAL DATA &amp; ANALYSIS</u></b>	<b><u>19</u></b>
THE STRUCTURE OF THE MEETING	19
EPISODE 1	20
EPISODE 2	20
EPISODE 3	22
EPISODE 4	23
EPISODE 5	24
EPISODE 6	26
<b><u>DISCUSSION</u></b>	<b><u>27</u></b>
CAUSE AND EFFECT OF DISCURSIVE CLOSURES AND OPENINGS	27
<b><u>CONCLUSION</u></b>	<b><u>31</u></b>
<b><u>ACKNOWLEDGEMENT</u></b>	<b><u>33</u></b>

## Introduction

“Management itself is a discipline born from the coming together of old knowledge, from diverse sources, into new perspectives.”

- Frances Westley (1995 p. 392)

Several studies on participatory natural resource management (NRM), which include adaptive management (AM) and its practical application particularly with respect to conflicts and the process of decision-making, increasingly support the role of communication as means to coordinate understanding between stakeholders by means of facilitating dialogue (Holling 1978; Gunderson 1999; Johnson and Walker 2000; Ravnborg and Westermann 2001; Stringer *et al.* 2006). The ways in which actors claim and respond to the validity of knowledge and the experience they express, guides intersubjectively the interaction toward or away from the exploration of their representations of reality and expressions of knowledge and values; that is, the way actors coordinate their knowledge.

Modern NRM calls for a more inclusive participatory approach as a way of responding to the complex web of diverse values and interests by which the role of science be tailored to those needs in relation to decision-making (Johnson and Walker 2000). Accordingly, modern NRM is normatively placed in the paradigm of participatory democracy, (which appeals to deliberative democracy discourse (cf. Smith 2003)) by which power to generate decisions become locally positioned, as opposed to representative democracy (Buchy and Hoverman 2000; Stringer *et al.* 2006). Inclusiveness and unconstrained dialogue are two essential elements enabling the potential for legitimacy of collectively established decisions in a deliberative democratic (normative) context (Smith 2003). Consequently, such features appear to be commonly, however occasionally implicitly, admired in the emerging AM discourse as well.

Swedish moose management (SMM) recently became reformed to include AM as the basis for this new management-structure. The proposition underlying this new approach to management (prop. 2009/10:239 p. 27) explicitly made use of the value of a participatory approach based on “extensive dialogue” between stakeholders arguing that management must be coherent across larger regions. “Stakeholders” can throughout this case be defined to include hunters, landowners and other actors that hold a defined interest explicitly recognized by other actors as relevant to the managed area in question. The argument seems to be based on the view that the ecosystem, which the moose (*Alces alces*) is part of, involves a complex web of interacting (non-linear) units, and equally important, so does the social dynamics involved in management. Accordingly, it appears to be assumed that the uncertainty of social dynamics can be reduced through communication as means of coordinating the actions that are needed to respond to the uncertain complexities of the ecosystem to be managed. Stringer *et al.* (2006) note that the participatory dimension has been much overlooked in terms of its place and meaning with regard to the AM approach, particularly with respect to the process of decision making. Thus, the social mechanisms generated through participation and the process of decision making deserves to be explored and identified, otherwise this aspect of AM which governs the outcome of new policies may not be rooted on the diversity of values and interests that supposedly is a key element in this type of management approach.

The aim of this thesis is to analyze and describe whether the accomplishment of decision-making processes within a moose management group apply the criteria needed to accomplish the normative ideals of adaptive management and to discuss possible consequences that may arise when these ideals are not met. As already indicated, there are several studies contending that there are shortcomings in the ways stakeholders jointly pursue matters in situations when they are brought together, particularly when decisions are to be made. Having a third party to facilitate dialogue (Stringer *et al.* 2006), or using different formats of communication ranging from individual meetings to workshops (Holling 1978; Gunderson 1999) are proposed ways to counteract such shortcomings. It is also argued that ingredients for the potential success of AM includes a variety of stakeholders (Stringer *et al.* 2006), flexibility within social institutions (e.g. Holling and Meffe 1996) (that is, the infringement of learned practices within institutions that are recreated from the inside of institutions which deny novel ideas from the creative event horizon outside those institutions), as well as a denial of external imposition on discourse (Gunderson (1999 p. 6) mentions political steering mechanisms as an example). Thus, with reference to the previously stated, poorly coordinated communication (oriented away from intersubjective explorations) among participants in decision-making processes hence increases the tendency for fragile policies which may contain underlying suppressed or neglected conflicting interests and values, as they have not been established on intersubjective understandings. This closes the range of opportunities for potentially relevant knowledge to emerge when stakeholders convene.

The ways in which stakeholders intersubjectively coordinate their understandings and representations of knowledge by acts of validating claims (communicative rationality) rests on the assumption that the adaptive capacity of management is enhanced when situations are co-created for the elaboration of such acts. Without such a format for communication, the normative elements that frame management as “adaptive” will not be met. To assess and define such a format, I employ the theoretical concepts “discursive closures” (Deetz 1992) as well as, albeit less firmly defined, “discursive openings” (Ångman 2013) as means to operationalize communicative rationality and consequently assess the coordination of knowledge based on empirical material that was generated from observing a meeting taking place by a regionally established moose management group in Sweden.

Subsequently, this paper will elaborate on what composes the normative stance of AM and its corresponding practical application supposedly employed by the SMM in order to give an account for the communicative aspects that I seek to highlight. There appears to be considerable research indicating that the interplay among stakeholders is of significant importance for how AM is realized. There is however, less research providing insight in how such interplay appears, thereby providing insights as to what opportunities for adaptive management actually exists in specific cases. The following questions have spurred the format for this paper: (1) What characterizes communication in terms of knowledge coordination and procedural meta-communication among decision making groups within the Swedish moose management with its aim towards adaptive management? (2) In what ways does this communicative character manifest itself with respect to participants’ exploration and validation of each other’s perspectives and knowledge in relation to their own knowledge and reality? (3) Finally, in what ways do uncertainty and learning, two central aspects of AM, appear to influence, or be influenced by, these communicative parameters?

## **The structure of Swedish moose management and adaptive management**

In early 2012, SMM became reformed as an organization that is “ecosystem based” with AM as a rendered benchmark as means to generate new knowledge (prop. 2009/10 p. 20). The main reason for implementing this concept posited by the Swedish government was to remodel the current system to one that promotes local management as means to obtain “a moose stock of high quality that is in balance with grazing resources” (prop. 2009/10:239 p. 16, author’s translation). Accordingly, management were to include a platform where several different interests come together, such as interests concerning moose-related accidents and grazing damage of forests. Hence, it should generate a situation in which diverse interests are met whilst promoting a moose stock that meets several different indicators, such as genetic diversity, sex ratio, and health, contributing to a moose stock of high quality (prop. 2009/10:239 p. 22) relative to the interests that define ‘quality’ in this sense.

Perhaps the most significant structural change in SMM, and in response to conceptualized goals of AM, is the application of the concept “ecosystem-based,” which here refers to the recognition that animals do not live by the constructed boundaries humans have applied (e.g. county borders), but extend according to their own natural and geographical limitations. This is the reason why moose management areas (MMA; sw. älgförvaltningsområde) have been established. These areas are formed by reference to the natural geographical location of a moose stock (prop. 2009/10:239 p. 23,25). The MMAs are led by appointed representatives from landowner –and hunting organizations, comprising a total of three hunters and three landowners to form a moose management group (MMG). The chairman of the MMG represents the interests of the landowners (SFS 1987:905§3d) because they “have the responsibilities of the forest,” (prop. 2009/10:239 p. 26, author’s translation; SFS 1979:429 1 & 8§§) and thus have right to the decisive vote (SFS 1987:905§3d).

The MMG has responsibility of its respective MMA, and within a MMA there exist several moose management units, (MMU; sw. älgskötselområde) as well as license areas. These areas are defined by size and number and type of moose (i.e. calf or adult) that can viably be killed within it (SFS 1987:259§33). Accordingly, they can be categorized as subunits of the MMA. As local management is emphasized, the MMGs are to engage in dialogue with hunters, landowners and other stakeholders. These stakeholders are the ones who typically perform the inventories that provide information concerning the status of moose and land (prop. 2009/10:239 p. 27). Taken together with information from other interest areas (such as moose-related traffic accidents), the MMGs main task is to formulate goals on how to manage the moose stock in a management plan (which is an all encompassing plan for the area) (SFS 1987:905§3d) that further informs the moose management plans established by the MMUs. As mentioned earlier, the proposition formed by the Swedish government that led to the implementation of these changes (prop. 2009/10:239 p. 27) emphasized that a management plan should be based on extensive dialogue with the stakeholders of the subunits, particularly the MMUs (as they comprise the largest type of subunit within the MMA). It is stated that a “good dialogue” is presupposed in order for the management as a whole (the whole being the MMA and its defined moose stock) to adapt to its subunits (mainly the MMUs but also hunting parties and other interest organizations) and vice versa, which should be done on a regular basis. At this point I wish to caution that I use “adapt” and “adaptability” analogous to the ways “adaptive” are applied as part of the concept of AM. To adapt is to retain potent abilities to respond in the face of changes in social and ecological responses that may have potential to enable for maintaining or even improving upon new conditions compared to the initial state (cf. Folke *et al.* 2005 p. 463). With reference to the previously mentioned, the call for ‘extensive dialogue’ between part-whole amongst the units is supposed to serve as

foundation for a synchronized hunting of the moose stock (prop. 2009/10:239 p. 38). Hence, it appears that communication is expected to guide actions in a manner that responds to a changing social and ecological environment.

Based on reasoning from (prop. 2009/10:239); the definition of AM applied in SMM emphasizes the process of learning as a vital component through constantly adjusting goals and thereby accumulating new and reliable knowledge, not only about the ecosystem to be managed, but also the people and their relations with each other with respect to the ecosystem. As the ecosystem and actors (stakeholders and other actors who interact with the system) change, so does the knowledge that is gained through inventories. Furthermore, SMM is said to be grounded on local participation in order to enable legitimacy of decisions through influence by local stakeholders, thereby contributing to a holistic view of AM (prop. 2009/10:239 p. 16,19,21). However, AM as a concept needs further elaboration in order to corroborate on the meanings that have been applied from theory to practice in SMM.

### **The main aspects of adaptive management**

Throughout the previous decades, NRM has repeatedly been criticized by researchers insisting that such management fails to embrace uncertainty of ecosystem dynamics and responses to disturbances that result in unexpected outcomes (Johnson & Walker 2000; Balint *et al.* 2011). Previous attempts to manage natural resources has been guided by what is called a “command-and-control” approach, which operates by the expectation that we can predict and control nature, and assumes that problems that arise are linear and can be isolated (reduced to its parts), which oftentimes is not the case (Holling and Meffe 1996).

Uncertainties that arise have, for example been approached by denial or by trivialization of the problem (Gunderson 1999), and when failure indeed becomes pronounced, it become suppressed as opposed to an opportunity for learning by perceiving setbacks as experimental opportunities (Walters & Hilborn 1978). Furthermore, NRM situations generally attract a considerable amount of stakeholders, who provide the potential of a vast variety of perspectives, but also a greater demand on corresponding implementable policies that can accommodate this vastness (Gilmour, Walkerden and Scandol 1999). In response to such perceived deficiencies, a new paradigm involving preconditions for “sustainability” in NRM evolved into the concept known as AM (Balint *et al.* 2011). Accordingly, scholars have in recent times begun to develop an appreciation for the understanding of non-linear social (and ecological) dynamics that accompanies the diversity of values and interests along the continuum of multiple stakeholders, as well as an emphasis on communication within this non-linearity of relations (e.g. Johnson and Walker 2000; Walters 1997).

AM is a method which is suggested to be used when there is an acknowledgment that one cannot have complete knowledge about the natural resources to be managed, as well as to accept that to craft interventions based on incomplete knowledge will be met with uncertainty, risk-taking and surprises (e.g. Walters 1986; Lee 1999; Balint *et al.* 2011). This is intimately bound to the resilience of ecosystems (Gunderson, Holling and Light 1995). The “unexpected” is viewed as a pool of events that offers opportunity to learn, and learning becomes the coping mechanism for surprises whenever they arise. Uncertainty is a concept used to refer to large-scale ecosystems in which the dynamic ecological interactions yield a high degree of complexity that is too great to comprehensibly predict (Balint *et al.* 2011), and a surprise is the disturbance between expectations and observations (Gunderson 1999). This is one of the main reasons why AM generally emphasizes learning by doing. Experiments are conducted based on current knowledge as means to refine knowledge in order to face and manage an ever changing system. This method thus aims for uncertainty-reduction through



learning (Satterstrom *et al.* 2005; Johnsson 1999), and continuous learning is that which lays the foundation for AM (Walters 1986). This renders it as an inductive approach by ways of merging understanding with action whilst recognizing pre-theoretical knowledge as “pseudo-facts” to deductively complement the learning process (Gunderson, Holling and Light 1995). Consequently, Gunderson asserts that; “...most policies are really questions masquerading as answers” (Gunderson 1999 p. 2). It follows that policies should ideally be founded with the expectation that they will have to become revised or modified on the basis of what is learned from unexpected consequences in uncertain situations. The notion of what a policy is, hence becomes modified to be regarded as an experiment to be carried out in order to provoke a response from which the policy needs to systematically adjust to continuously alter its experimental parameters which are carried out through managerial actions (Johnsson 1999; Lee 1995). Policies need to carry high experimental value and its outcome need be comprehensibly utilized, and this implies taking risks (Walters 2007). Risk is, as Johnson insightfully asserts; a matter of definition and is therefore “...more a social than a scientific question” (Johnson 1999 p. 3). Actions taken therefore depend on how resource issues are defined (Gunderson, Holling and Light 1995), and this owes to how such issues are constructed during interaction. This, in turn, depends on how representations of knowledge are pursued in communicative settings, which has consequences for how AM subsequently is carried out in practice.

### **From theory to practice – what has been learned?**

Even though AM as a method is appealing in NRM discourse, there are yet great differences between its theoretical and practical application. Being part of several case studies where only a fraction have been successful, Walters (2007) stresses above all the need for a key individual who hold the capability needed to follow through with the implementation. Equally, Gilmour, Walkerden and Scandol (1999) argue for that one individual, whom they refer to as the “institutional champion,” that can carry the normative ideal of AM into an implemented state. Accordingly, both authors refer to a situation in which an institutional rearrangement has taken place, and which in such cases has been scaled down to emphasize one actor who made it possible by fertilizing the institution with flexibility. Gunderson (1999 p. 6) concludes that informally established relations among stakeholders appear to influence the accomplishment of successfully applying AM, by which he argues that such informality alleviates political external pressure. Thus, such a process has not been confined to institutional parameters, but rather grown out of them. The above mentioned authors have focused on individual actors and/or the relations between them, implying that such elements are important for the success for AM, which may indeed be valid arguments. There is, however, the bigger issue to locate potentials for change and opportunities in the way actors jointly co-construct and manage knowledge as it emerges through discourses. Key individuals or informal relations may be a result of this, but as I will argue later on, is not where one should begin to locate such accomplishments.

What most research findings presented thus far have in common confirms what Jonsson (1999) suggests by his review; that the greatest challenges of implementing AM are social rather than scientific. Johnson (1999 p. 3) concludes that stakeholders’ knowledge contribution is essential and requires an ‘open discussion’, as well as the promotion institutional flexibility and risk-taking. Furthermore, it appears that it is common, albeit somewhat implicit knowledge in AM discourse (e.g. Holling 1978; Gunderson 1999; Gilmour, Walkerden and Scandol 1999; Walkerden 2006; Walters 2007) that the adaptability of management and response to uncertainties intimately depends on ideas that have not been previously applied nor thought of within the managerial institutions and related discourses, that is, a creative or intuitive approach to exploration of understandings of both ecological and

social systems. The success behind the implementation of AM seems to rest on the plurality of ideas or hypotheses that gain mandate through understanding the intrinsic meaning they hold, allowing for an intelligible comparison (Gunderson 1999). Accordingly, it appears that individual contributions of understanding were in these cases partly made possible because the participants were not guided by a formal bureaucratic structure of interaction that otherwise would stifle an engagement of a rational exchange of knowledge.

### **Managing conflicts**

It has, throughout this paper, been emphasized that which necessitates AM is chiefly experimentation, uncertainty, surprises and risk-taking. Yet, experimenting with an ecosystem also involves experimenting with the social arrangements that comprise the need to manage the ecosystem in the first place, and conflicts are commonplace (Lee 1999). Walkerden (2006) argues that AM practices have not taken the issue of conflict resolution into any considerable account, and conflicts cannot be resolved if not concerned stakeholders are included throughout the process. Walkerden (2006) stresses the need for a forum in which actors can negotiate their knowledge by exploring problems in such a way that interests among stakeholders become emphasized, as opposed to the positions they supposedly represent. This arguably opens up the dialogue and pave way for a joint exploration, as it were.

It was in the beginning of this paper contented that modern NRM situations generally attracts actors with different perspectives and values which places pressure on accommodating policies (e.g. Gilmour, Walkerden and Scandol 1999), which paradoxically can also be a strength for AM (Stringer *et al.* 2006). However, a vast quantity and variety of stakeholders also runs a risk of obscuring perspectives on behalf of one that dominates all the other, thereby increasing previously polarized issues, which Arnold, Koro-Ljungberg and Bartels (2012 p. 10) have shown as being done through subtle practices operating as a deciding mechanism on what the ‘right’ interpretation of a situation should be, such as the use of ‘expert knowledge’ as means of closing competing perspectives. The restricted flexibility through structural barriers and the inevitability of conflicts that will emerge during the process and potentially stall decision making, calls for a social context that brings about legitimacy (Balint *et al.* 2011; Lee 1999), and durable policies require that conflicts are engaged in (Walkerden 2006). Hence, just like the unexpected should be anticipated, so should conflicts, and they should not be suppressed nor avoided- they should as Lee (1999 p. 7) says, be “welcomed” insofar as they are within the frames of a process in which the emerging properties of the conflict can be acknowledged as legitimate.

### **A process of elaborating understanding**

A vital component in AM appears to be how complex understanding of an ecosystem can be made intelligible in order for decision makers and managers to establish and carry out policies based on such knowledge (Gunderson 1999). The implicit notion seems to be that such knowledge needs to be communicated in such a way that the validity of its meanings will not be distorted between the stakeholders amongst whom it is co-constructed and represented. Equally, the proclaimed creative thinking mentioned earlier, alleviated through absence of institutional constraints is indicative of a process in which actors collectively enable diverse contributions of interests, values and knowledge to emerge through a rational engagement in discourses pertaining to management. Arnold, Koro-Ljungberg and Bartels (2012 p. 1) point out that AM regards relevant knowledge to be a property of all stakeholders involved, and that facilitators are becoming more commonplace acting as emancipatory agents for such knowledge to become part of joint solutions by means of defining and alleviating differences, thereby facilitating legitimate formats for communication. Different sources of knowledge are of great value, not only because they might contribute to a greater understanding of the

ecosystem and ways of adapting, but also, as Lee (1999 p. 6) points out, information can be obtained rather inexpensively by the actors who know most about the system, the ones who operate within it and that have the opportunities to quickly perceive changes within it. Epistemologically rendered, then, infers that individual perceptions of reality and representation of knowledge yield possibly relevant and important information about changing conditions of the system to be managed. Stakeholders (and scientists) involved throughout the process of AM need to explore ways of communicating in a manner that excludes potential for misunderstandings. The difficulties, according to Holling (1978 pp. 130-131), is to find the border between intelligibility and validity behind any given assertion, although he specifically refers to the communicating by scientists of complex information and stakeholders. Additionally, Holling (1978) seems to relate communication through cybernetic assumptions whereas this paper assumes the direction of symbolic interactionism by placing emphasis on the interplay between stakeholders which are viewed as actors who actively, reflexively, and intersubjectively co-construct their understandings through the use of symbols (e.g. Craig and Muller 2007). These differences in assumptions have implications for how knowledge and understanding is viewed to shape the nature of management, even though the normative elements remain the same (that is, to promote understanding and learning in response to changing ecological and social conditions). Buchy and Hoverman (2000) claim that understanding occurs among participants once they begin to negotiate in decision-making processes. They also add that participatory NRM local-level processes that have been instrumental in achieving a better outcome for the environment have yet to be explored due to lack of information.

By reference to the arguments provided, it is reasonable to assert that, without a communicative foundation that promotes understanding between stakeholders and other actors involved in the process of adaptive management, the ability of responding to changing conditions in both social and ecological environments will not be retained if those responses are not adequately understood. A type of communicative format that engenders a legitimate foundation for participants to explore conflicts and more generally, where there are incentives to understand other stakeholder's interests for the sake of a mutual outcome, may appear as an impractical, even perhaps utopian, vision. There is nevertheless considerable research indicating the contrary by implicitly motioning for a critical investigation of how stakeholders jointly make sense of and pursue matters. Such a format need be permeated through all levels of NRM, from assessment to decision making, otherwise the normative ideals of AM will not be realized.

### **Incentives to investigate communicative processes within AM**

It has been argued thus far that the underlying mechanisms governing the outcomes of management carry great importance. There is an apparent merit in exploring the process underlying decisions and the actions that follows.

Throughout this paper it has been time and again asserted that there are obvious concerns to be raised when actors are brought together who have various interests, values and perspectives on reality which is also a contributor to the ways in which knowledge is perceived, generated and presented. All of this is in constant motion, and it changes. AM has been regarded a successful undertaking when there is variety of knowledge representations involved and favorably compared through mutual understandings (e.g. Gunderson 1997). Such a process is therefore highly dynamic as well and requires a forum that enables legitimacy (Balint *et al.* 2011; Walkerden 2006; Lee 1999). Other elements perceived as crucial behind successful implementation of AM have been contended to be based on one distinguished actor who serves as a catalyst throughout the process and can motivate a leap

beyond institutional boundaries (Walters 2007; Gilmour, Walkerdén and Scandol 1999), informal relations, again with respect to institutional constraints, enabling a creative development of novel ideas (Gunderson 1999). However, these “successful” elements are outcomes, or if you will, accomplishments, from processes of interaction continuously taking place. Opportunities for change lie within these processes as they are presently happening, which is why it is in this paper contended that it is during situations when actors intersubjectively build their understandings of matters by means of communicating that one needs to place an initial focus. In applying AM, SMM normatively pursues “extensive dialogue” as means to guide (collective) action in response to changes in ecological and social conditions, uncertainties and surprises, by maintaining or improve upon them, i.e. adapting. Were it not for the tacit recognition that communication is expected to serve as a tool for coordinating such responses, thereby facilitating acquisition of new knowledge to inform new goals for management, then adapting to changing conditions would not require coherence among stakeholders by ways of interaction. That being said, such arguments bear witness to a considerable body of research indicating that opportunities and changes reside within the ongoing development throughout the process of AM. Novel ideas nurtured by creativity and oscillating between institutional and informal borders as well as distinguished actors, are all factors that are emergent properties arisen throughout a process of interaction among various stakeholders. Yet, there are only a lesser amount of studies with respect to AM that engage in describing such processes in detail (such as Arnold, Koro-Ljungberg and Bartels 2012), in which various actors engage with one another, constructing or reproducing the various elements that embody the products that seemingly become of a more popular targets for research. Llewellyn and Hindmarch (2011 p. 10) equally contended, in referring to organizational studies, that a majority of publications have been concerned about the outcome of interaction, rather than interaction itself, or to use their own words: “... [the ongoing activities within organizations] tends to be reduced to something that is amenable to casual observation and description” (Llewellyn and Hindmarch 2011 pp. 12-13). It follows that perceived elements such as “key individuals” (e.g. Walters 2007 p. 306) or “informal relations” (Gunderson 1999 p. 6) that supposedly generates a process needed to enforce AM as a concept into an implemented state are such reduced elements that does not account for the intersubjective understandings of such emergent properties that gave rise to them. Nor do such descriptions provide any specific insights as to what ongoing interactions actually resulted in the positive development of AM that these authors defined. Accordingly, if one is to locate opportunities for change, there is a need to initiate research in the ways actors jointly practice AM.

If one is to argue that management is adaptive, one needs to account for the actual ongoing interactions that shape the management in question. If, for instance, one solely looks at the ways stakeholders perceive recent accomplishments, such as a meeting taking place in general, a settled decision, conflicting values or interests and so on, it becomes difficult to account for how these stakeholders actively relate to, and therefore presently make sense of, such outcomes as they are actually taking place. Against such an analysis, incentives to engage in more, perhaps attractive matters may become more pronounced, as they can provoke a qualitative foundation upon which such incentives can reasonable be pursued (cf. Llewellyn and Hindmarch 2011 p. 22). If we grant the argument that AM is a difficult undertaking to successfully achieve in practice, then we also need to make the process of practice object for observation and analysis. Such a process needs to rest upon a normative standard for communicating, and not interaction alone, since AM assumes a process in which knowledge should emerge and be integrated in order to adapt to ever changing circumstances. It is befitting to call for an interpretative framework which can place focus on how actors in

interaction make and validate claims of knowledge, as well as when such opportunities become intersubjectively diminished.

## **Theory**

### **Communicative action**

The theory of communicative action by Habermas (2001) presents a potent framework to approximate an analytical basis for describing and discussing acts of communication in SMM.

A smooth interaction depends on what Habermas calls “background consensus”, which is when claims to validity go unquestioned (Habermas 2001 p. 90). In other words, we enter a discourse with the assumption that we will understand and be understood, on the basis of four classes of speech acts; intelligibility, truth, normative rightness (relevance) and sincerity. When any of these classes becomes subject to questioning (concerning validity), our previous assumption of understandings becomes interrupted and we try to reestablish our assumption, that is, our background consensus. Habermas separates this “smooth interaction”, placed on background consensus as part of communicative action, whereas at the meta-level of interaction, corresponding to claims to validity make up the discourse (*ibid.* p. 100). We enter such a discourse by asking questions pertaining to these claims, or by answering them. To put it less eloquently, there is not much reason to enter an interaction if we do not believe and anticipate that we will understand it. If this was not the case, then we would immediately resort to establish communication at the meta-level by explicitly confirming our assumptions of an anticipated discourse (*ibid.* 2001).

When someone presents a perspective, the actor claims that the perspective is intelligible, truthful, rightful and sincere (i.e. the perspective is implicitly or explicitly claimed to be valid). The assertion representing the perspective which describes a reality that an actor ascribes to the present interaction is implicitly or explicitly reciprocated in terms of its validity by the other members participating in the discourse. In a question-answer situation, the intelligibility of the assertion undergoes an exchange of interpretations (what meaning is to be assigned to an object), the claim to truth undergoes clarifications and assertions, the normative rightness is treated in terms of relevance behind the statement, and sincerity is met with concern about the underlying reasons behind the statement (*ibid.* pp. 90-91). By the very acts of asking questions and by answering them, actors engage in discourse by means of understanding the perspective(s) part of the present conversation, granted they are rationally motivated to do so (if they anticipate an ideal speech situation, in a sense). Thus, when our assumptions of understanding and being understood have been interrupted by acts of such a situation, which in turn has been remolded to acts of reciprocations indicating that the actors involved in the present interaction agree about the meaning that gave rise to the situation at hand, then the assumed consensus has been re-built to an actual one. This is characterized by a common (mutual) understanding of the meanings involved. In this case then, we could claim that our assumptions regarding understanding of the communicative action and the anticipated potential of a discourse have been confirmed. Thus, communication has been guided towards understanding. It should be emphasized that when probing various perspectives in a discourse, that is, to seek understanding, it does not necessarily require an understanding of others’ sense of reality, but may equally regard the reality that is intersubjectively established throughout the discourse. In other words, participants can reach an agreement on the meanings involved in a discourse to a degree in which they understand each other’s arguments. This means that not only can the experience that comprised the initial communicative action be discursively redeemable, but so can any experience that arises through discourse as well (*ibid.* pp. 88-89).

This experience, which has been intersubjectively established, refers to the meta-level about the discourse itself which I will touch upon later.

The use of language has a normative (universal) component which can be used as a tool to identify the “normative” as a critical template to contrast the actual, present communication (cf. Pedersen 2008 p. 467). Thus, Habermas’ theory facilitates the ways in which one can interpret communication as being motivated by understanding in discourse, and conversely when communication is systematically distorted when claims to validity are not explored. We are given a “normative guidance” from which we can discern acts of domination and bring the potential of open (conflicting) expressions into light (Deetz 1992 p. 170).

### **Discursive closures and openings**

“Good decisions require appropriately distributed information, openness to alternative perspectives, and reasoning based on personal insights and data rather than on authority relations.”

- Deetz (1992 p. 178)

Building on Habermas’ theory and on systematic distortion in discourse, Deetz offers an analytical concept to highlight situations in which the requirements for when “good decisions” are not met. Only when the above conditions are present is interaction discursively redeemable through claims to validity (*ibid.* 1992)

Systematic distortion is described as a production of meaning that, in a participatory setting, becomes reproduced in a skewed fashion relative to the participants that are part of the discourse (*ibid.* 1992). Conversely, undistorted communication can be defined as a situation in which meaning is equally produced as a property of all participants. In more practical terms, systematic distortion in interaction is when one or more perspectives gains advantage without a mutual consent based on a rational ground (*ibid.* 1992), i.e. without an equal possibility to question their validity. It is here we can close in on the dividing characteristics between understanding guided communication (communicative action) and strategic action, by which the former seeks to grasp different meanings and the latter is defined in terms of self deception. Self deception makes distortion happen tacitly, it is beyond intentionality and thus not necessarily manipulative in the sense that it is applied through one’s practical consciousness although it operates alike (*ibid.* 1992). This implies that being involved in discourse hides the systematically distorted character of the discourse and leads to “false consensus”, which may be rooted in the logic of the system within which the discourse takes shape (*ibid.* 1992). When discrepant or distinct perspectives are recognized as such, and consequently become systematically distorted through strategic action, discursive closure is in effect. The potential for conflict which generates understanding through those perspectives that may offer possibility to move outside the frames by following the subject matter as an “open development of understanding” (*ibid.* p. 188) from which novelty might spring, becomes diverted through discursive closure. Accordingly, discursive closure entails systematically distorted communication as means to avoid or suppress conflicts, whereas systematic distortion (generally applied) refers to the communicative system in its entity (Thackaberry 2004). Note that it is assumed here that conflicts, in situations where agreements and/or decisions are to be made, are inevitable. If the potential for conflicting perspectives and knowledge is not a “welcomed” entity to initiate and sustain discourses, it can but only be suppressed or avoided altogether, and consequently without a mutual consent.

Although the reversed concept, “discursive openings”, has yet to be properly defined (Ångman 2013), it may arguably refer to moments when production of meaning is equally aligned by all interacting participants. Conflicts can emerge on a basis that is perceived meaningful for development of mutual understanding of the differences in perspectives by meeting the criteria of claims to validity. To use Deetz’s language: A “...reopening [of] the exploration of the private, social and external world” (Deetz 1992 p. 176), as it were. Thus, a key to identify discursive openings points towards moments when actors question previously established assumptions of procedures and rules and consequently initiate seemingly novel discourses that can be viewed as distinguished from precedent ones (Thackaberry 2004). Discursive openings can also be qualified as such when discursive closures are recognized and communicated about, i.e. meta-communicated (Ångman 2013), which thus implies that the discursive closure in and of itself becomes an object for claims to validity. Such a procedural undertaking can enable mutual learning (Ångman 2013).

Deetz offers different orientations (which he defines as tacit “micro practices”) through which discursive closures originate, namely: disqualification, naturalization, neutralization, topical avoidance, subjectification of experience, meaning denial, legitimation, and pacification (Deetz 1992 pp. 189-198). Most of these micro practices presented below are explicated with fictitious examples derived from the present theme of this study. Accordingly, the process of disqualification is the practice by which equally plausible perspectives become denied by appealing to normative standards of who is the most relevant actor to speak. This is done by insisting on who is the most knowledgeable (expert or layman on an issue and other (dis)qualifying notions) (*ibid.* 1992) or maintaining that one’s knowledge is irrelevant because it is claimed through personal interests. Such a practice operates through contentions such as “you are a major landowner and you would not be saying this were it not because of your financial incentives”. The result is the delegitimizing of possibly relevant views from a discourse that may have potential to contribute more symmetrical understandings between participants. Through the Marxist concept of “reification”, Deetz offers a related aspect, namely naturalization which is the practice through which something is introduced as “given in nature” which operates as ways to hide any subjectivity (*ibid.* 1992). Thus, naturalizing statements may be expressed as “hunters never care about the forest” or “moose cause traffic accidents” which brings about a perspective as the absolute truth behind the way something is. In close proximity to naturalization, neutralization which is the practice that operates by obscuring value-positions and conveys such positions as value-neutral (*ibid.* 1992). Assuming that there is only one objective world and one single claim belongs to it, such as the assertion that “the report shows that damage on spruce has increased by 15 percent,” which conceals the criteria chosen for generating such ‘facts’. Topical avoidance is simply put, the evasion of specific topics or issues called upon in response to evade a possible disorder that can result in antagonism. A potential conflict hence becomes avoided, and decisions are made around “safe issues” (*ibid.* 1992), and the scope of the decision becomes reduced accordingly. Subjectification of experience occurs when a claim is argued as personally held, saying for example; “well if you think that the moose stock has declined, you are obviously entitled to your opinion”. This move aims at placing an argument as less valid solely by make it value-laden framed within that system of values, instead of exploring the valuing-system in itself. The perceived difference in values should initiate talk rather as a mean to meta-communicatively close it, implicitly claiming that such values are less true or relevant than another, which in fact offers the opportunity of investigating the issue up close (*cf. ibid.* p. 194). The practice of meaning deniability refers to the plurality of meanings embedded in an expression and there is a discrepancy between the intended and the resultant meaning. Such an expression may appear as someone sarcastically saying “I think we should kill all the

wolves because they are eating too much moose,” while maintaining a position indicating that the assertion actually should be investigated. In this way, the message has been said and not said depending on the response it provokes by which the speaker can disclaim or confirm the intended meaning as meant (*ibid.* 1992). Legitimation occurs through a practice in which one system of value is placed above all else that can be invoked when there are contradictions, conflicts or complex interpretations, thus claiming to a meaning that pertains to something larger than the immediately comprehensible. Accordingly, an insistence of “higher order explanatory devices” as Deetz (1992 p. 196) puts it, is portrayed when for instance saying; “the biological diversity of the forest and therefore our nation will suffer if we do not take the following action”. As such, alternative views may become perceived as irrelevant relative to the greater good of the forest and the nation. Pacification, finally, refers to issues that are brought into trivial or futile context in order to make them less important or important but impossible to deal with. An act of pacification may be read as; “it does not matter what we as a MMG think, the Game Management Delegation makes the decision in the end either way”. Hence, an issue has been diverted even though it appears as it has been engaged upon (*ibid.*)

The identification of moments when these micro practices occur, or in their absence substituted by openings, presents the possibility to interpret and characterize communicative settings as being guided by strategic or understanding actions through situations when such moments become (co)constructed by interacting participants. An important analytical component in this study, which will be drafted upon in the next section, emanates from the importance of, to borrow a term from Cox (2006 p. 12), “communication in action”. The assumption is that discursive closures/openings occur semi-consciously, whereas closures operate deceitfully in the quest for mutual understanding, such micro practices are to be found in the event horizon of communicative practices.

As argued elsewhere, it is also assumed that for AM to function in practice, the underlying communicative processes, from assessment to decision making and subsequent implementation, need be characterized by understanding among the actors involved. More explicitly put; if actors engaged in management practices persistently and recurrently enter and sustain an interaction by strategically accomplishing their activities, they can be expected never to concert their actions as they have not been intersubjectively established on rational grounds. Those actions will, collectively make little sense as it were, and diminish the adaptive capacity to manage ever changing circumstances.

Discursive closures and closures are co-constructed through interaction. Hence when people interact, they mutually make decisions on how their conversation should progress (Moberg 2010), and it is through this progression that people make sense of their realities through the sharing of knowledge, experience and perspectives. The micro practices that emerge during this (co)construction elucidate the characterizing features of intersubjective understandings which in turn can be seen as the precursors to the elements or ‘products’ generated by the structure (organization) in question, visible outside the immediate situation as discursive representations. The above mentioned assumption is that which signifies the difference between studying the process of interaction or the embodied practices from which it emerges. The latter is what has been described in much of previous research pertaining to AM (such as informal relations or key individuals described earlier), whereas the former is a perspective which appears to be sparsely underappreciated and thus has motivated this study, which in turn has implications for how AM is viewed as a practical undertaking. Throughout a communicative process, actors participate in various ways. By analytically directing ones attention towards such a process, the creation of decisions and the process that defines it can



be located, which enables the triangulating (charting) of any spatially located opportunities for change (Ångman 2013). This will be elaborated upon in the next section.

## **Method**

The point of departure has been to investigate communicative practices within SMM in combination with the pre-established theoretical framework presented here. The site of interest was consequently localized to the MMGs. The county of Värmland in the middle of Sweden was the target area for investigation due to convenient reasons and contact information for the members of the MMGs was provided by the county administration board. As these groups arrange their meetings irregularly twice a year, I established contact with the chairman from each group early on as they have the mandate to authorize my presence. The time for gathering empirical material has been narrow, during which time I have been in contact with nine chairmen from two different counties, whereas two of which offered me the opportunity to participate. Both meetings have been investigated according to a number of criteria which are outlined below, however the second meeting did not produce material that could generate the type of episodes needed for analysis corresponding to these criteria, which is why this paper is presented as a single case study. For the purpose of understanding why the second meeting turned out so markedly different from the meeting held by the first group, I contacted three out of a total of four members that were involved by asking questions pertaining to my own presence as a researcher and how they generally perceive their and other's roles when they convene.

The data from the subsequent analysis has been generated from direct observation and recordings of the MMG meeting. The selection of episodes was in beforehand specified by a number of criteria which were outlined based on the theoretical framework to locate and analyze discursive closures and openings, and the material has been codified to ensure confidentiality. An additional criteria was established once the meeting had been carried out, allowing for an abductive approach to the data generation and subsequent analysis. This will be explained in further detail below.

### **Direct observation**

My function in the meeting was non-participatory from the perspective that I did not formally participate in the meeting. I did however act reactively through direct observation, meaning that I was explicit in my role as an observer of their actions and did not pretend otherwise. Accordingly, I chose to inform the participants that they could stop the recording devices at any time in order to grant them control of the observation, thereby making the situation more comfortable and natural. Still, my presence and recording devices have had some degree of influence in the way communication has been carried out and thus has had some analytical and methodological implications such as the "audience dilemma" (Bernard 2006 pp. 413, 425). For example, when presenting my intentions for the study, I was open about what to say and what not in order to not excessively impose on their proceeding dialogues. I have had the ambition to explicate this and other assumptions throughout the presented material and the arguments derived from it in order to offer the reader transparency between what has appeared as written text and my preconceptions, as well as my experience gained from attending the meeting.

### **From observation to transcription**

The meeting was recorded in order to obtain the chronology of actions that were considered relevant for the establishment of decisions throughout the meetings, and more importantly, to explore the opportunities for micro practices that occurred throughout the process. In terms of

confidentiality, any reference except for the region in which the material was gathered has been codified (Kvale and Brinkman 2009).

The meeting was held in Swedish and has been transcribed accordingly, whereas the presented episodes have been translated into English and the majority of the subsequent analysis is based on this translation. The transcribed material was interpreted through the concepts of discursive closures and openings which construct the basis for identifying the character of the communication taking place. Deceitful characteristics (referring to self dilution leading to false consensus mentioned earlier) imply a critical analysis of the empirical material. A hermeneutical approach towards interpretation has thus been utilized in combination with a rational reconstruction of meanings in relation to different contexts with respect to a critical reflexive thinking in order to make it adequately justified according to my own sense of rational reasoning (Habermas 1990) and consequently abductive inferences. My ambition has been to apply rational reconstruction as a methodological attitude towards my interpretation and understanding of observable events and simultaneously search for explanations of deeper meanings (Pedersen 2008). This level of reasoning has inter alia resulted in how the material has been structured (see below), enabling for a level of reconstruction through different contexts, generating a thematic fundament for different interpretations of meanings.

### **Criteria for transcribing**

The following criteria for selection of episodes have been used insofar as it constituted an interaction between at least two members and their claims offered to the interaction contained indications of relevance to SMM. The selected episodes all contain the first three criteria while the fourth has served to specify an additional selection. Accordingly, episodes were selected according to; (1) when members provided claims of knowledge, values or interests to the interaction (2) when there were disagreements about issues or meanings (if there is no disagreement, then the actors can be assumed to maintain background consensus), (3) when there was a sequence of meaning exchanges leading to a decision or a decision of a decision, (4) when members explicitly refer to uncertainty (the idea of impossibility of complete knowledge) in response to a validity claim.

The three criteria have been developed based on the theoretical framework offered by Deetz in terms of locating micro practices described earlier. The fourth criterion regarding uncertainty has been abductively developed in part from the material that emerged from the meeting. This criterion was one which was realized when it empirically appeared as potential source for discursive closures as the meeting progressed in combination with my pre-conceived theoretical framework and by reviewing the AM literature. To realize such an approach, the first step has been to select larger sections for transcriptions based on the first three criteria, followed by a more careful interpretation by means of the fourth criteria. This implies a moving back and forth between more narrowly selected sections and larger ones enabling to perceive the pre-established criteria through different contexts, albeit still affiliated to 'the general of closures and openings' as it were. Through these criteria, closures apply to moments, above all, characterized by disagreements, but might also apply to claims of uncertainties and also be revealed throughout the context of the accomplishment of a decision. The fourth criteria, in particular, has revealed ways to analyze the theoretical framework in more specific terms in relation to AM as a concept and the case at hand, which arguably makes it a valuable contribution to knowledge.

When searching for any of the eight types of closures, I have been searching for, to take neutralization as an example, moments when actors make seemingly objective claims by which assumptions appear hidden in making assertions such as: “The data show that calf-weights have been reduced and this is because the quality and quantity of food (trees) have rapidly deteriorated which is why we need to lower the moose stock, and you cannot argue with the data right in front of you”. In this fictitious example, it appears unquestioned that the data (“A”) is correct which accentuate the following assertion: “A” is true, therefore my (interpretative) statement “B” is also true and so the only solution is “C”, which is why you cannot question the validity of “B” and “C”. Conversely, when there is a claim indicating a closure of exploring the validity of what has been “naturalized” still becomes subject to questioning, it can be viewed as a function to meta-communicate about the closure and can thus be regarded as an opening. Additionally, when searching for openings, I have been locating moments when the members of the group appear to accomplish a commitment to engage in understanding that appears beneficial for all interacting participants. Such co-constructed spaces to engage in discourses have been interpreted to be characterized by a genuine intersubjective experience that is guided towards generating a rationally achieved consensus on differences in knowledge and experience.

### **Conversation Analysis**

As part of analytical discourse research, there are several schools of discourse analysis which Conversation Analysis is part of (Cromdal (2009)). Conversation analysis criticizes that pre-conceived theoretical frameworks narrows the embedded opportunities for interpretation (Cromdal 2009; Llewellyn and Hindmarch 2011). However, such criticism can arguably be reduced, I believe, through means of abductive reasoning and inference as ways of generating transparency between empirical data to analysis and conclusions (see below). What I have borrowed from conversation analysis is ‘turn taking’, a system of order that people use to make sense of their own and others acts. Thus, the assumption is that people interact through such a system, where the consequence of such turn takings between people is acts of understandings through a mutual production of meanings (Cromdal 2009). When accentuating the sense-making on behalf of the participants, one needs to demonstrate what they perceive to be relevant during the interaction and what the effects are (*ibid.*) However, what is relevant and hence what the effect might be can be vastly interpreted and conversation analysts seek to describe what the participants themselves find relevant (*ibid.*). It is at this point that my own choice of methodology disunites with conversation analysis in that I interpret the analysis produced by the participants in terms of what is relevant in relation to my theoretical selection and accompanied assumptions. This means that I narrow the range of possibilities to investigate potentially relevant aspects of the generated data, particularly from the initial stage as criteria for selection of episodes, have been established mainly through a pre-conceived theoretical framework. Hence, the sense-making that is produced throughout the discourse is measured against a normative template that is communicative rationality, to highlight aspects that can or should be improved according to the normative realization of AM. Accordingly, the relevance participants ascribe to the interaction and the effects it has deliberately differentiates from what is presented in the researcher’s analysis, which essentially is the whole point: to bring out the aspects that could be of relevance to the participants. It becomes a matter of describing how participants covertly (or if you will, practically) display their meaning-making in relation to the theoretical framework. The interplay that occurs between participants is the product of how participants indicate to one another the direction of the conversation which they moment by moment co-construct through turn takings (*ibid.*). This moment by moment display of intersubjective understanding is that which can manifest in discursive closures or openings. Such manifestations can be seen as active accomplishments

through the medium of discourse which creates the platform for discussions and decision makings in question (Llewellyn and Hindmarsch 2011). A discourse is not closed until it has become confirmed as one and it intimately depends on the preceding and ensuing interplay, that is, a discourse has to emerge before it can be closed. What this means is that, as goes for the relevance of the analysis in this study, openings and closures need be explored through a sequential order, rather than solitary individual contributions. Finally, the analysis of situated activities (ongoing interaction) ideally shapes the analysis in a present mode rather than as an antecedent in order not to close theoretical inferences prematurely (*cf. ibid.* p. 13) This, I argue, refers to ways of abductive inference which alleviates the pressure between explaining phenomena through theory and/or empirical material which is why I have chosen to present the material through sequences.

### **Hermeneutics and Abduction**

My principal methodological strategy and much of my meta-theoretical assumptions are grounded in hermeneutics. Through this meta-theoretical application I recognize that I myself operate under theory laden-language (Pedersen 2008) as well as empirically-laden theory (Alvesson and Sköldberg 2009) as part of my pre-understanding. Habermas' theory on communicative action, as a critical standard to measure degrees of distortions, as well as the fine tuning of this measurement apparatus through Deetz's micro-practices of discursive closures and conversely openings, have constituted my primary framework for analysis. Furthermore, the process of data generation and analysis has been abductively pursued in that my understanding has been (re)shaped, moving not only hermeneutically between pre-understanding-understanding and part-whole, but also between the pre-established theoretical framework and the generated empirical material, allowing for surprises to alter my preconceptions. Although there are different views on the meaning of abduction (McKaughan 2008), the method in any case points to a process of tuning ones interpretative framework as empirical material accumulates, and serves to inspire understanding of the subject matter which therefore differentiates from induction and deduction (Alvesson and Sköldberg 2009). Accordingly, the empirical material has been analyzed in light of theoretical preconceptions, along with the attitude that discrepancies (or surprises) have served as incentives to reflexively reconsider such preconceived constructs. Equally important has been to consider the parallel which implies that the methods used to gather material should become revised if the preconceptions can be rationally motivated. Seen in this manner, abduction implies a hermeneutic approach which alternates, and therefore aims to alleviate tensions between preconceived theoretical claims and empirically obtained material (Alvesson and Sköldberg 2009). Accordingly, the material selected for analysis through a description of 'moment-by-moment' accomplishments in combination with related thematic contents has served to abductively and hermeneutically explore the substance of the meeting taking place, while hopefully also enabling for the reader to arrive at similar conclusions or rationally motivated differences. Thus, in referring to abduction and hermeneutics, the aim has been to keep track of my own theoretical development throughout the process of interpretation and remain open to alternative theories and techniques as empirical findings emerge.

### **Structuring the material**

In demonstrating the occurrence of discursive openings and closures, the moments in which they are (co)constructed are given through sequences that display the interactions (speech acts) as they appeared in the factual meetings. In order to depict the context characterizing each sequence, the precedent interactive orientations are offered in the form of a summary, or preamble if you will. As Moberg (2010) notes; "speech acts are always produced in relation to contexts" in order to make it intelligible (Moberg 2010 p. 197, author's translation).

Different topics arising through the meetings are distinguished by episodes. An episode is accordingly established with respect to the established criteria mentioned above. These criteria consequently delimit situations when an item is raised relevant to the agenda, until it is jointly ended and is replaced by a new item. An episode may thus contain several closures respective openings as well as different contexts, still affiliated to the same item on the agenda. Each discursive closure, opening and context builds upon one another throughout an episode, and this relationship yields deeper insight (meanings) behind each sequence and accordingly constitutes a theme of the current interaction, which in turn provides clues to antecedent episodes, and indeed, hopefully the general character of the meetings. Episodes are numbered in the order by which they appear, such as “episode 1” equals “E1” followed by the number proceeding from the initial speech act made by a participant “within” the episode, such as “01”. Consequently, an episode may have begun by a participant making an assertion, thus denoted as “E101”. However, the statements featuring an example of a closure displayed as a sequence may appear later in the episode whereas several speech acts may have occurred prior to the sequence. Accordingly, a sequence may begin at “E155” whereas previous speech acts are summarized as a preamble.

The members of the group are denoted as “M” (1-6), the chairman being “M1” whereas M2-M6 represents only different members, not their positions as representatives. As was mentioned in the introduction, the MMG consists of three hunting and three landowner representatives. However, it is also significant to note that all landowner representatives are also hunters, which I therefore assume to blur the border between these two interests. Accordingly as far as the scope of this study goes, there is no need to emphasize the structural capacity represented by each member, anything other than how such capacity or interests may appear through discourses.

All text has been transcribed in a standardized writing form. This means that the interaction has been transcribed normatively (formal language) in contrast to how it has been pronounced (e.g. ‘you are’ instead of ‘you’re’) through the more formal normative written language (*ibid.*) in order to make the written language consistent, and also for the purpose of a more secure translation from Swedish to English. Paralinguistic phenomena such as tone of voice have not been included as I do not assume it to serve an actual function of the theoretical criteria. Finally, brackets are used in order to make the translation between Swedish to English grammatically correct as well as to clarify items which the members are referring to when something that is said has been intersubjectively established prior to the offered sequence.

## **Empirical data & analysis**

### **The structure of the meeting**

The meeting lasted for approximately three hours and was held at one of the member’s homes, and they circulate the location for the meetings evenly between their residents. Prior to the meeting itself, I had cleared up with the chairman my reasons for recording and my ethical obligations towards the members of the group. I was, however, asked to repeat these whereas they mutually gave clearance for me to use these devices. I used three recording devices in order to secure the audio uptake.

In declaring the meeting opened, the chairman (M1) presented the agenda beginning with reviewing of this year’s moose hunt, review of data received by the county administration board, and finally to discuss the moose management plan. At this point, it is worthwhile in pointing out that M1 proposed that they would postpone the decision making since one of the

members (M6) was not present due to misinformation. After presenting the agenda, M1 proceeded by asking if there were any other points or concerns to be brought up. No such requests were made. The talk during the first half of the meeting consisted of going through data received from the MMUs. The second half resulted in a decision making procedure.

### **Episode 1**

In previous discussions thus far throughout this meeting, there have been concerns raised about the legitimacy of data reported from the MMUs regarding inventories such as moose observations and droppings used to estimate the number of moose. Accordingly, the truth of the data has been questioned, mainly by M5, and a few openings have emerged to investigate the rationale behind M5s claim.

Subsequently, M1 encourages the members to view a density map of the moose (which is established by data from the above mentioned inventories) within the MMA. Using this map as a base of reference, M5 contends on three subsequent occasions that the number of moose are misleading, finally says pointing to the map: (E145): *But as you can see [in this location], here I can guarantee that this is likely to be the [lowest populated] area [of moose] in the entire region, and upwards [as you can see, M3] there are less points [representing moose]. This is why it is incorrect.* Accordingly, M5 is saying that areas that have low number of points actually should have higher and vice versa thereby disputing the data in terms of truth. M3 responds saying that (E146): *Well, one can discuss that as much as one wants [...] however, now it is a local discussion,* whereby M5 (E147) responds: *Yes. It is,* thus confirming M3s assertion.

M3s response (E146) is a questioning of the relevance and truth behind M5s assertion (E145), and by indirectly contending that M5s assertion can be discussed infinitely without settling on an agreement, M3s response is a simultaneous expression of that it is a matter of opinion, and as such is not established on a rational ground. Accordingly, the knowledge presented by M5 has been subjectified through M3s response, which is further reinforced by questioning the relevance referring to that it is ‘a local discussion’. By agreeing to M3s response, M5 has confirmed the closure initiated by M3. After which, all members continue exploring the data of the density map, and M5 continues asserting that the data is incorrect but the underlying reasons as to why s/he contends this is never explored, rather M3 assumes statistical constructs (trends, confidence interval etc.) to disclaim M5 knowledge representation without actually investigating the intelligibility, truth, relevance or sincerity behind it.

### **Episode 2**

The present topic concerns forest and crop damages and evidently, the MMUs have reported that they find the damages tolerable. M3 has contended the reason for this in that the MMUs ‘do not view it as a commercial forest’, thereby questioning the truth and relevance behind these reports by implying that the MMUs would not find the damages tolerable if they had a commercial interest in the forest. However, this view is never explored by the other members but instead the discussion is continued regarding whether the damages should be conceived by the MMG as tolerable or not. The members are now trying to assess whether the information concerns old or new damages on trees. At this point, M3 stresses that what is of relevance to the present conversation is new damages on trees and s/he raises a view from an actor “Börje” at the National Board of Forestry, asserting that this actor has claimed on behalf of the forest companies that they only tolerate a certain percentage, by which M3 indicates that these companies (according to “Börje”) tolerate less than what is stated on the MMU plans. Subsequently, M1 suggestively concludes that their assessment as part of the MMA plan would serve more as an indication rather than a formal request to reduce the number of

moose. S/he thereby proposes a guarded foresight in meeting the proposed consideration of the forest companies. However, M3 appears unsatisfied with M1s asserted reaction to her/his previous contention which appears in the following sequence:

M3 (E201): *But if “Börje” [from the National Board of Forestry] says that he thinks that there is too much damage in relation to the moose stock we have, then it is him who has the knowledge in any case.*

M5 (E202): *He is an ordinary person.*

M3 (E203): *Well, yes.*

M2 (E204): *He is essentially a civil (private) person as well.*

M5 (E207): *It is impossible to trust one or two old men. That does not work.*

M2 (E208): *Not because of that, but rather...*

M3 (E209): *It appears that we have to research more deeply. We will not complete this plan today in any case. We should look more into it.*

M2 (E210): *But then... We will not have any more facts next time either.*

M3 (E211): *Yes well, there is nothing more to it than to contact people who can say what these numbers actually mean.*

M4 (E212): *How to interpret them.*

M3s reference (E201) to an ‘expert’ has been constructed as operating by an intelligible standard that is beyond the members and hence their capacity to rationally engage in further scrutinizing and question the validity of such a claim. Accordingly, previous claims by the members, and indeed the represented ‘fact’ that the MMUs regard damages as tolerable have been reassessed as invalid by ways of disqualification. However, as this act of disqualification becomes challenged, the closure is not confirmed but instead meta-communicated about. “Börjes” presumed knowledge becomes questioned in terms of truth when M5 trivializes (E202) “Börjes” knowledge asserting that: “he is an ordinary person.” It is here indicated that the knowledge represented thus far throughout the discourse should continue to be evaluated which is also mutually reciprocated (E204) by M2. This meta-communicative maneuver has thus functioned as an opening of a closure by invalidating the disqualification of previous reasoning.

Following M2, M5 explicitly questions (E207) the sincerity and/or truth on behalf of “Börje” and hence the truth behind M3s assertion, whereas M2 appears to elaborate (E208) on her/his previous assertion, indicating that s/he does not question the legitimacy of “Börje” as a person, but rather the truth behind the knowledge represented on his behalf and plausibly the relevance (normative rightness) of the assertion to incorporate this representation into the discourse.

“Börjes” knowledge is not justified nor further asserted through validating the perspective. M3 rather reorients (E209) the truth behind the knowledge presented by asserting that it is incomplete and needs to be explored externally, that is, from outside the intersubjectively established representation of knowledge currently located within the present interaction. M3 justifies (E209) this claim by appealing to the lack of capacity, and thus uncertainty of the knowledge representations involved, and therefore invites the other members to delay the completion of the plan. Through this assertion, there is an indication to close the validation of “Börjes” knowledge as well as the exploration surrounding the perspectives of the members, whilst opening an alternative discourse about researching the matter ‘more deeply’. Accordingly, the closure is indicative towards disqualifying the present discourse in terms of truth and relevance, or possibly indicating a level of established uncertainty surrounding the

meanings of the data (hence intelligibility) not to pursue validation of claims in the present discourse. However, M2 subsequently asserts (E210) that there will always be uncertainties and thereby s/he questions the relevance behind M3s claim, and consequently the assertion points towards continuing the validation of the previous discourse and simultaneously deny the matter of 'looking more into it' (E209). In this way, uncertainty regarding incomplete knowledge has been constructed as both a means to discursively close, as well as means to meta-communicatively prevent the closure, and hence redeem the intersubjective experience, by reference to claims of uncertainty, which has arisen throughout this episode.

M3s response (E211) then, recapitulates her/his, to the sequence offered here, initial assertion (E201), which suggests that the discourse regarding the investigation of the issue at a later point in time still applies and, therefore remains open whereas the investigation of the knowledge among the participants has ceased. The discourse has been closed accordingly through a disqualified feature, which further emerges in the upcoming sequence. M3s assertion (E211) is then affirmed (E212) by M4, and the discussion subsequently ensues in this direction.

They soon arrive at the conclusion that the inventory assessments needs to be discussed with a third party from the Swedish Nature Management and they jointly affirm that furthermore, it should be done by more than one of the MMA members. Additionally, M3 interjects saying that (E243): *...the landowner side [should be contacted as well] so it is not just you who are the wiser when we convene again.* This final display shows that there is a perceived risk of a meta-representation of knowledge acquired from a future interaction with an external party runs a risk of being distorted if not confirmed by more than one of the members in the present interaction. Accordingly, this distortion stands a greater chance of being discursively redeemed if considered sincere through multiple representations of the same source. This indicates that claims to sincerity and truth of the conveyed knowledge throughout this episode remains largely invalidated. Accordingly, there is an emergent display of doubt that future acquired information may be one-sided.

### **Episode 3**

In this episode, the agenda concerns the goals for the development of the moose stock within the MMA. The members are to decide whether the stock should increase, remain unchanged, or decrease. They move on to goals for the stock size during winter, and it is suggested that the goal set from previous year has been fulfilled, and that the moose stock indeed has declined, however there are disagreements as to what extent. The members are now exploring what the future development of the stock should be and the theme for this subsequent sequence is the representation of other stakeholder's opinions, and thus a discussion surrounding democratic ideals.

M5 (E317): *I think so as well [that we have succeeded in our goal of reducing the moose stock]. I had a meeting with [one of the] MMUs and they are all saying they do not want under 12 [moose per 1000 ha]. The administrative board [in one] of the game unit divisions said that [no less than] 12-14, otherwise it is not worth while, hunting moose. I do not fully agree with them about that, but so be it.*

M3 (E318): *Well, that's the game unit division.*

M5 (E319): *Yes sure, [but] everyone should naturally have a say. But it's the MMUs that will decide on this in the end. [It is their plans] to which we will have to adjust.*

M2 (E320): *Yes, but we are making a good [plan/assessment] here presently. We who...*

M3 (E321): *[Our plan] is supposed to be something that the MMUs are expected to take into account when they are establishing their plans. It should be like guidelines for them. We are*



[equally] *supposed to take some consideration of the guidelines from the Game Management Delegation when we are forming our plan.*

In the beginning of the sequence, M5 supposedly represents (E317) the core values of a particular MMU as well as of the game unit division administrative board (a division within the Hunters Association) regarding number of moose in relation to corresponding hunting ideals, whereas s/he asserts her/his own perspective opposing this whilst displaying a level of acceptance with regards of the represented view of the MMU and the delegation. M3s response (E318) can be read as: ‘that is their view’, signaling that the perspective should not be explored, as such a claim is based on personal values which therefore qualify as a discursive closure by means of subjectification of experience. Perhaps ambiguously argued, it could also be seen as a maneuver to disqualify the perspective from the discourse if read as: ‘they should not influence how we, the MMG, assess the situation’. Based on the continuing interpretations by M5 and M2, the latter type of closure appears more likely. M3 hence questions M5s claim in terms of its relevance, truth and sincerity. Subsequently, M5 justifies (E319) her/his perspective appealing to a normative standard in that everyone’s opinion is relevant, and additionally asserts the relevance of the MMUs opinion claiming that it is their choice regardless the MMA’s opinion. In so doing, M5 has confirmed the closure but at the same time appears to meta-communicate the closure which now functions as an opening of a discourse concerning the relevance of including ‘everyone’s opinions’. It follows from M3 that s/he again questions (E321) the relevance behind M5s justification claiming the MMUs are in fact supposed to follow the guidelines established by the MMA, just as the MMA is supposed to follow the guidelines from the Delegation. M3 thereby denies the relevance of M5s claim appealing to the structural conditions in which management supposedly is located and by referring the question of relevance to their own group (the MMG). Cunningly (albeit tacitly) enough, in referring to that the MMGs opinions should be regarded by the Delegation by the same token as the (more local) game unit division’s opinion should be regarded by the MMG, M3s assertion appears to function as a meta-communicative closure, indicative of subjectifying M5s claim representing the claims of the game unit division. The closure has thus functioned on two levels of interaction.

#### **Episode 4**

In this particular episode, the discourse still concerns what is tolerable of forest damages and what is not, which also much characterized the topic covered in *episode 2*, indicative of that it previously has been inadequately investigated.

The discussion prior to the sequence below has continued surrounding the different guidelines by the Game Management Delegation and presently settles on one in particular, cited by M3 (E400): *And then, the moose stock should be in balance so that damages on forest and agriculture can be kept on an acceptable level.*

M5 (E401): *Yes, but if you look at the MMUs, most of them tolerate [this].*

M3 (E402): *Yes most, but not everyone in any case tolerates this. And then, when they also almost always accept damages on leaves, then it is a bit strange. Because the leaf is... We speak a lot of pine and spruce, but we also get pretty well pay for the birch pulpwood.*

M4 (E403): *That’s the most valuable.*

M3 (E404): *We get even better pay for this one than spruce now, right!?! And then we also have [the issue] with preventing moose-related traffic accidents, which we have not succeeded with.*

M5 (E405): *No, but there is really not much we can do about that, because then we need to get rid of the moose [altogether].*

M3 (E406): *Of course we can do something about it. A reduced moose stock affects that you will have fewer accidents.*

M5 (E407): *Yes but, if there is a game fence along the route where there are accidents, then we have no problem.*

M5 recapitulates (E401) from earlier discussions (see *episode 2*) that most of the MMUs regard damages as acceptable. Previously, M3's perspective concerning this has only been narrowly investigated by which s/he asserted validity to her/his claim whilst simultaneously closing the discourse referring to an external source of knowledge ("Börje" – see E201). Previous contention by M3 in episode 2 was that '[The MMUs] *do not view it as a commercial forest*', whereas now the argument (E402) has been put in a slightly different context in that M3 appears to find it curious as to why so many of the MMUs find such a financial loss acceptable. Hence, by citing the guidelines from the Delegation, M3 appears to open up for new ways to reinvestigate previously covered topics, which is indicative that previous claims need be subjected to further validation in order to legitimize perspectives that have not been perceived as fully reciprocated. M4 concurs (E403) with M3's assertion, thereby confirming an opening for the discourse to continue in this direction. M3 then supplements (E404) the contention with moose-related traffic accidents by which s/he reorients the relevance, truth, intelligibility and sincerity behind her/his contention by placing it in a different context which supposedly can be confirmed by the other members of the group as a conceivable rationale to reduce the moose stock. However, the perspective introduced by M3 is diverted by M5 who redirects (E405) the issue as a fruitless commitment, which it is beyond their capacity to resolve. Accordingly, M5 questions the relevance behind M3's assertion by pacifying the issue, thereby indicative of a potential closure of the discourse. M3 then meta-communicates (E406) the closure, by challenging M5's claim in terms of truth and relevance which functions to reopen the discourse by proposing a direct solution, i.e. to reduce the moose stock. Yet another solution becomes introduced (E407) by M5, namely game fences. In doing this, M3 has, however momentarily, reopened the discourse (as it became confirmed (E407) by M5), whereas M5 questions the truth behind M3's suggested solution by proposing another one without questioning the intelligibility behind M3's interpretation of the situation.

## **Episode 5**

In this episode the members are now moving towards establishing a decision on the size of the moose stock. This decision is partly based on foregoing assessments throughout the meeting and thus carries topical resemblance to precedent episodes. It should be mentioned that in the beginning of the meeting they affirmed that they would not make any decisions as of this time since one of the members was absent. However, this perception changed throughout the meeting and they mutually agreed that a decision should be made at this moment. I can only at this point hypothesize that the various perspective and representations of knowledge that has emerged throughout the meeting have been recognized, albeit narrowly explored in terms of intelligibility and truth, which might be perceived as a sufficient foundation on which it is assumed that the decision will in any case be made on a majority vote. This reasoning will become clearer as we explore the following episodes.

M2 (E505): *But seriously, do you really want 10 [moose per 1000 ha]?*

M3 (E506): *I think it would be valuable for the [moose] stock to become smaller. I definitely believe so. I doubt that there are as much as 14 on average in the whole area, but it could surely be 13 in any case I believe.*

M2 (E507): *It would be an awful large reduction, that is, to decrease [the stock] from 13 to 10.*

M3 (E508): *Is it really such a substantial reduction?*

M2 (E509): *Yes, it is.*

M3 (E510): *But if we are to... I think that we need this if we are to get any results on reproduction, calf weights and grazing damages. And additionally, we also had "Börje". He argued that regarding the new damages we have [on trees] according to this survey, that one could not exceed 10 in winter stock. He is supposed to be an expert in any case.*

Suggested by the word 'seriously', M2 questions (E505) the intelligibility and sincerity of the reasoning that lies beneath the assertion that the moose stock should be reduced down to a number of 10. M3 justifies (E506) her/his contention that it is with regard to the moose stock itself (here emphasizing biological diversity and overall health of the stock, and not damages on forest that characterized much of M3s previous assertions) that it needs to be reduced. Subsequently, M2 questions (E507) the truth when emphasizing the magnitude of change that M3 is proposing, whereas s/he reciprocates (E508) by questioning the truth of M2s assertion. M3 then offers (E510) an interpretation that such a low number is that which will generate the result they strive for, hence asserting the truth and an interpretation of the intelligibility of her/his proposition. When additionally supplementing with the external perspective, which also emerged in *episode 2* (see E201), the assertion has been constructed to function as a closure of the validation behind the intelligibility, truth, relevance and sincerity of the claim as to why the stock should be reduced by means of disqualifying any knowledge and experience previously offered through contrarious claims made by other members, much in the same way as it did earlier in the meeting. However, in anticipating reciprocation, M3s assertion is met by a silence which signifies either that a closure is in effect or that the investigation has become "saturated", that is, a mutual recognition by the other members that a discourse concerning "Börje" is irrelevant to pursue as it has been mutually established earlier in the meeting that they in fact would consult other sources of knowledge representations (see the discussion surrounding E243). Furthermore, the character of M3s assertion is constructed in a way that implies naturalization since it is treated through M3s representation of this 'expert knowledge' as something that has remained unquestioned and is therefore constructed as a 'fact' through the present assertion: as an emergent property, naturalized as part of the discourse, as it were. This construction of expert knowledge hence reappeared despite earlier assertions by the other members questioning the validity of this claim in that "Börje" became constructed as 'an ordinary person' (see E202).

M5 (E511): *(Uh-Huh)*

M3 (E512): *Then there's the issue of actually getting the hunting parties to join in on shooting off as much [moose]. That will be considerably more difficult.*

M5 (E513): *It does not work. That is why I think it is foolish to interfere [on this point] because it will be just to irritate. If we take too drastic measures, we will have it against us instead and then we will not have it easy.*

M4 (E514): *11-12 then? Instead of 12-13?*

M1 (E515): *Or we set 12. I can agree with M5 that one should move carefully in order not to make people irritated.*

M5 (E516): *So it comes from the bottom, because it will happen.*

M2 (E517): *But I could also agree that one perhaps should reduce the stock and see what the effect might be. But [reducing down] to 10 is so incredibly drastic, and if [in fact a wolf territory was to be established] then it would go [down] really fast.*

In lack of a response, M3 raises (E512) a topic related to the discourse concerning the actual implementation of her/his assertion. Implicitly, it appears from M3s contention that the

hunting parties will oppose M3s proposition, thereby questioning an anticipated response from a third party in terms of truth, relevance and sincerity. This anticipation is partly confirmed (E513) by M5 but at the same time s/he redirects the significance of M3s assertion as something that is futile, followed by a prediction that emphasizes the magnitude of such an exercise. Instead of exploring M3s perspective which indicates that ‘getting hunting parties to join’ is difficult albeit implying not impossible, M5s response could hence function to pacify M3s assertion by diverting it as impossible and therefore futile to investigate further. Following M5, by proposing (E514) a compromise, the closure has been affirmed by M4 as s/he did not engage in M3s previous assertion by, for example, questioning M3 what possibilities there might be. Additionally, by directly offering a number that appears to lie in between M3s and M4s different positions, M4 indirectly meta-communicates the previous two closures by offering a summarized interpretation of the different positions represented prior to the closures. This is confirmed by M1s compromise (E515) supplied by repeating M5s justification; that it will avoid antagonism. M5 mutually reciprocates (E516) and adds yet another interpretation of the given assertion, thereby offering a justification by contending that M3s perspective is not disregarded since ‘...it will happen’, that is; the moose stock will eventually decline. Again, M3s assertion has been pacified. It could also be interpreted as M5s assertion (E516) working as meaning denial in that it implies both that M5 has previously argued against such a reduction whilst now ostensibly agreeing that such a reduction is warranted and will be eventually be realized, thereby bringing about confusion of what s/he actually signifies. M2 then, while in part affirming (E517) M3s assertion, s/he attests a perceived uncertainty to M3s claim (‘... [to] see what the effect might be’), and thereby not only questions the proposed truth, but also affirms this by contending to uncertainty relative to the ‘drastic’ reduction proposed by M3.

### **Episode 6**

During this last episode of the meeting when a decision is to be made, the type of claims or reasoning that previously characterized the discussion (e.g. E517), which ensued by pacifying M3s contention initiated by M5 (see E513) also characterizes the present interaction. The other members thus continue in this manner displayed in the following sequence:

M2 (E608): *We will reduce [the stock] in the long term.*

M1 (E609): *I think I agree. I sort of think that we may have to look at this in a longer time span. That we go with 12 now and look at it in the long run, and then we will continue to evaluate year by year.*

M2 (E610): *Yes, and we might [stand a greater chance] of getting approval from everyone at once.*

Before M2s assertion (E608), M1 asked the question if the decision should be voted upon whereas M3 contended that (E606): *I have a hard time [accepting 12 moose per 1000 ha], but I will have this voted against me, right!? And I do not know if a member can actually make a reservation.* The other members have in this sequence, without assuming a response to M3s assertion (E606), appealed to uncertainty by a ‘wait and see’ outlook by which they seemingly are engaging in M3s point of view but at the same time pacifying the issue by indicating that things will eventually change in the direction M3 advocates. Again, as initially emerged in *episode 5* (see E516), this could also be interpreted as meaning denial whereby the closure is reinforced by induce confusion of what is warranted or a legitimate reduction of moose.

Briefly after M2s affirmative assertion (E610), M3 appears to negotiate when saying (E616): *But you had a proposal for 11-12 as well, then we would make a bit larger step.* The assertion is followed by M1 summarizing the two alternatives (11-12 and 12). M3 then explores the matter by implicitly signaling to M4 and M2 when arguing that (E620): *Yes, but I have to get*

*M4 and M2 in on it in any case, since we don't have M6 here. Even if you [M1] as chairman can [decide]. M3 appears to invite (E620) M4 and M2 by engaging them in the proposal '11-12' and at the same time explicate that M1 will decisively vote against it since it in the present situation requires three out of five votes to overrule the chairman. However, now M1 and M3 begin to discuss that such a type of voting would not be good for the group, indicating that future decision making processes may succumb to conflicts and possibly hamper future decisions, or perhaps disjoin the group altogether. In bringing the issue of voting and the unity of the group into the discourse, M3 together with M1 has constructed an opening to continue the discussion of the number of moose that should be reduced whereby the group devotes a moment of re-investigating the droppings inventory until M2 asserts that the inventory is correct by which M3 states (E625): *Yes, however M4 and I [believe] it is perhaps somewhat high.* M3 (again) questions M2's assertion in terms of truth which is mutually reciprocated by M4. M2 then contends that (E627): *[if] we manage to reduce the number from 14 to 12, then we have achieved something grand. This is a large reduction.* M2 does not assert the truth (E627) questioned by L3 (E625), but rather avoids or bypasses the matter. S/he asserts the number 14 as a true number by which s/he uses the differential down to 12 to emphasize the magnitude of reduction, claiming is as 'something grand'. It appears as if M2 closed the investigation by means of naturalization in treating '14' as the correct number. M1 continues offering that (E628): *We can vote 12 then, unanimously,* hence confirming the closure. A decision was shortly after made to reduce the stock to 12 moose per 1000 ha, during which time M3 argues that (E639): *... Well then, I guess I will have to with the rest of you as well. It would be a pity to disjoin the group.* Indicated by this assertion is that M3 maintains opposition to the truth, rightness, sincerity and possibly intelligibility of the decision while openly displaying that these claims to validity have not been rationally pursued and are therefore not entirely legitimate. The basis for a unanimous decision is justified only based on the value of maintaining the cohesiveness of the group.*

## **Discussion**

### **Cause and effect of discursive closures and openings**

Throughout the previous section, several discursive closures and openings have been identified and their functions on procedural interactions described. It is now becoming in turning to what underlying reasons these micro practices have had on the meeting and what consequences or effects they have generated with respect to the communicative orientations of the meeting, viewed through participatory aspects of AM.

Throughout the meeting, there were obvious discrepancies between perspectives, mainly concerning whether the moose stock should be reduced or not, what its current size was, and what meaning it should carry relative to established guidelines for the MMA, and how to interpret the meanings placed by the MMUs through their plans on the moose and its effects on surrounding habitats.

When openings were introduced and became elaborated upon, intensified discussions ensued and occasionally, joint explorations toward making sense of each other's knowledge and experience emerged. During such moments, the members appeared more inclined to ask questions which in turn generated answers that contributed to deeper understandings. A deeper understanding could be discerned as questions and answers became more elaborate, which indicates an exploration of intersubjective experiences that have arisen throughout the discourses. During such moments, it can be assumed that the members mutually gained knowledge through the sharing of perspectives, values and knowledge.

The closures that emerged were of different kinds and had varying effect on the ensuing development of understandings that took place. By ‘varying effect’ I refer to the ways a discursive closure appeared as a function in terms of amount and type of turn takings before a new issue replaced a previous one. In *episode 1*, a discussion was circulating around a map displaying density of moose which was used to assert validity behind opposing claims, and more generally to make sense of the situation. The map itself became instrumental as a tool for interpretation, i.e. a visualizing aid to orient their knowledge, experience and values around. Such a device can operate both to promote closures as well as openings, depending on whether it is conceived to position thinking in specific or in general terms, the latter appearing more likely to generate openings if encouraging participants to reflect on their interests and values (Ångman 2013 p. 417) with respect to their arguments. This was however not the case. In locations on the map where the density of moose appeared inconsistent in relation to how the members perceived it to be in reality, the validity of claims were but narrowly explored even though initiatives were taken to investigate (open) the underlying rationale behind such claims. As such, the map became an authorizing element to generate discursive closures thereby excluding a search for values, experience and knowledge that may have had been relevant to explore, specifically with respect as to how such assessments (the density map in this case) were initially generated and how they could be improved. In *episode 3*, external representations were brought into the discourse that were constructed as diverging opinions. However, as they appeared explicated as external and divergent, they were conceived as an illegitimate part of the discourse. In denying its relevance, such a meta-representative divergence was never explored and elaborated upon in terms of potential validity claims. Throughout the meeting, such external representations appeared to have functioned either as positive or negative elements in the elaboration of discourses and understanding, depending on whether it worked to constrict or to expand opportunities to contribute with questions and answers throughout the discourse. However, in *episode 3*, external perspectives concerned groups of people, mainly the MMUs, and by (albeit briefly) questioning such views, it became a meta-discourse about democratic ideals in the context of SMM-AM, which I perceive as an opportunity, or opening, for elaboration of values. In *episode 2* and *5*, similar mechanisms appeared but were framed as ‘expert knowledge’ which functioned, in both episodes, as an acquisition of making valid claims without providing much space for such claims to be questioned. This bears resemblance to what Arnold, Koro-Ljungberg and Bartels (2012 p. 10) suggested based on their findings. Such knowledge surely reflected the values and interest of the representative; however, such claims can operate to exclude other interests and contributions of knowledge and therefore work as closures (Deetz 1992 p. 189). In these two episodes it resulted in something of a feedback loop. In *episode 2* the closure was meta-communicated about, hence opening up for new perspectives to emerge which had been intersubjectively established to deny a “re-entrance” of the same closure in *episode 5*. Conceptualized in this manner, the values and interest initiating the closure were not investigated while at the same time they worked to end the understandings that were generated prior to the closures, whereas the original agenda continued as the original discourses never were revisited. Thus, closures generated new closures in a loop-like fashion. However in *episode 2* the investigation of knowledge prior to its closure was decided to be postponed. Accordingly, it cannot be ascertained whether such a closure had a negative effect on the members understanding and development of knowledge as they are likely to engage the discourse at a later point in time. As such, the closure that appeared in *episode 2* was in fact a closure at the time, but it could also be seen as an opening for future investigations as questions of validity were the explicated reasons for this postponement. It can be assumed that the members are likely to engage in the discourse once they have had opportunities to acquire understanding of the subject matter from other directions, granted it will later serve to

occasion elaboration of validity claims. In the first part of *episode 5*, however, the consequence was that questions pertaining to the member initiating the closure that became seized, and the perspective generating these questions in turn became subjected to additional closures during the second part of the episode, again operating as a feedback loop for the individual introducing the first closure. It appears that this far into the meeting, a procedure had been established which excluded further elaboration of perspectives other than that of the members own. During the second part of *episode 5*, as well as in *episode 6*, the members were expressing quite different perspectives in contrast to what they previously had throughout the meeting. A discourse became constructed as if all members shared the same interests and values in that the moose stock should be significantly reduced, but with the reservation that it would be beyond their capacity to implement. Thus, at this point, a majority of the members seemed to have asserted their opinions on what a 'realistic' goal for the size of the moose stock should be. Yet again, discursive closures appeared around externally represented perspectives and became constructed as a function to narrow the decision making mandate based on the perceived potential responses certain types of decisions would generate. Thus, in including fictitious responses by ways of external representations, even though they well might have been rationally justified based on the experiences that were used to generate them, it was effectively conceived to close the exploration of such rationale through claims of validity to justify such responses. Furthermore, what can be revealed, especially with respect to *episodes 5* and *6*, was that the perception of unpredictable responses from reducing the moose below a certain point, as well as uncertainties arising from imagined responses by other stakeholders such as the MMUs, seemingly appeared to have served as a tool to undermine opportunities of engaging in different aspects of issues and hence narrow the potential to open up for new perspectives. I believe this requires some elaboration: In appealing to something that may or may not happen in a future social or ecological state, the discourse becomes more hypothetical. As noted earlier, the normative requirement of AM is that uncertainty is embraced, which entails a necessity to take risks which in turn generate opportunities to learn. However, it clearly emerged in this meeting that imaginatively playing around with the moose stock and relational social arrangements was conceived as carrying too great of a risk and the general argument implied that uncertainty of the situation was too high. Thus, uncertainty was in and by itself working as a construction towards discursive closures allowing for hypothetical scenarios to "pacify" potentially relevant validity claims to be elaborated upon. Indeed, as Johnson (1993) argues, uncertainty and risk are more social than scientific in nature and this perception appears to have reflected much of the discourses that appeared in the meeting. Additionally, the eight micro practices described by Deetz (1992) do not cover such an agent for closures which is why I find it a relevant "site-specific" element to extrapolate on in terms of what meaning or impact it may have to constrict or expand discourses when uncertain knowledge becomes framed as inevitable. Representations of uncertainty appeared to have had, in this specific case, a clear constricting function on discourses and validity claims. Furthermore, a perceived probability of triggering conflicts due to drastic reduction of the moose stock was explicitly conceived as something that should be avoided (see for example *episode 5, E515*).

It has been established earlier in this paper that durable policies are built out from diverse perspectives and values, and that legitimate decisions require that conflicts are seen as a source for different perspectives to emerge and should therefore be pursued (e.g. Lee 1999). In this specific case, it appears as if the sheer prospect of conflicts has been construed as something that can stall or even wither implementation of decisions formed by the MMG. As the perspectives of various actors and groups, especially the MMUs, has been represented throughout the discussions to emphasize such prospects, granted that these representations are

somewhat accurate, it is safe to assume that similar perceptions extend outside this particular MMG. Provided that with such an argument, potentially relevant knowledge for management may lie dormant as long as discussions steadily are steered away from such antagonistic outlooks and this should reflect the establishment of new policies. Such examples have been given here. It was implicitly indicated in the beginning of *episode 2*, shortly before the issue was closed, when a guarded foresight was expressed concerning a response to the perceived needs between the forest companies against that of the MMUs. This reappeared more explicitly later on, particularly in *episode 5*, in which risk of antagonizing especially hunters would yield an unrealistic implementation if the decision was to reduce the moose stock below a certain limit. The result being that perspectives offering opportunities to investigate potentially relevant claims were lost, such as: why it would be unrealistic, why it is perceived as an antagonizing agent, and what this 'lower limit' of moose would actually mean. If questions such as these are not explored, it may well limit opportunities for creative reasoning, which is one of the main ingredients that arises from institutional permeability, as it has been argued in AM literature (e.g. Gunderson 1999), which stems from an open development of understanding (Deetz 1992 p. 188). I do not intend to argue institutional inflexibility on behalf of the one meeting I have been analyzing; I have rather argued that this particular group appeared as quite informally established and even the setting for the meetings are located at their own homes, which I perceived as providing with an informal atmosphere for discussion. The point to make is that if conflicts are avoided and hence diverging perspectives become systematically excluded from view, then such micro practices will produce and reproduce constraints as they become institutionalized, even in informal settings such as in the case presented here. Arguably, by deducing the inverse of what Gunderson (1999) concluded, we will find a process taking place in which informality grows into institutional parameters promoted by discursive closures. This is a reason why opportunities for change reside in the ongoing processes of joint explorations of matters and how knowledge is intersubjectively managed. Informal relations or key individuals covered in previous AM literature do not account for how knowledge is coordinated through acts of communicating as actors presently make sense of their situations. Such elements do not provide the understanding needed to chart the opportunities for change that presently take place. Relations or specific individuals are the result of such a process, jointly co-created by the actors involved.

Since the findings in this paper are based on a single case, the scope for transference across the wider spectrum of management groups within the SMM arena is too narrow to be comprehended on the basis of this study. However, there is enough substance presented through this case to evoke incitements for further investigations of how communication is shaped throughout SMM. Although several openings to extend viewpoints emerged during this meeting, there never appeared any deeper exploration of meanings behind statements. Furthermore, as part of my direct observation, I also sensed an underlying tension in that one member persistently insisted that the number of moose was too high, that is, the financial losses due to damages on trees were too great. This tension was never eased as no direct entries were created to engage in a discourse concerning, for example, the value of moose versus the value of the forests, and the member who campaigned for the value of the latter recurrently returned through different approaches to make rather careful claims, as I perceived them, on behalf of forest stakeholders during the meeting. What this entails, from a phenomenological viewpoint is that the members seemed to feel quite guarded to express what they really wanted to say when discussing agenda covered topics.



Throughout the defined episodes, discursive closures appeared during moments when: (1) arguments were directly related to ‘facts’ such as a geographical representation serving as a visualizing aid, (2) when members invoked a discourse by representing perspectives supposedly ‘not belonging to themselves’, (3) when arguments were oriented towards uncertainty, and (4) when topics were related to prospects of antagonism or conflicts. Conceptualized as themes, they all had in common an element that steered the discussion away from the expressions of values that supposedly initiated them, and through discursive closures, communicative action was strategically perpetuated as a mechanism which functioned to impede rational investigations of knowledge claims. In general, during brief moments when differences between perceptions of knowledge became pronounced and subject for debate, whereas when contributions of possible relevance for management appeared, they were repeatedly and hence systematically closed, denying opportunities for learning. Thus, to make use of Deetz’s (1992 p. 192) argument: important moments were diverted when talk should in fact begin, not end. In short, contributions of knowledge through claims to validity became strategically subverted; contributions which, if elaborated could be of significant value for SMM and accordingly, come closer to fulfilling the criteria for AM. This raises the question whether the agenda the MMGs make use of to discuss assessments and goals for management also should include goals and assessments on how to manage the procedures for discussion, that is, how to talk about talk. If MMGs can reach a mutual agreement on how to present and acknowledge each other’s perspectives, outcomes may be more satisfactory for all members, and we might close in on a platform for communication that Lee (1999) advocates, which ideally should engender a procedural format through which emergent properties can arise that are mutually perceived as legitimate. In the case presented here, the meeting ended with that one member “threatened” with a reservation. If considering all speech acts performed by this individual during the meeting, it appeared to be a display of dissatisfaction regarding the decision they made, even though everyone finally decided to vote unanimously. The meeting ended with unresolved issues as the outcome was not mutually accepted, which is indicative that the finalized decision was not thoroughly explored and understood. The question is: does the final decision reflect a wider variety of interests and values, with due consideration of the underlying process described here and the discursive closures that were part of it? The fourth theme mentioned above, was of particular significance as it was used as an incentive to rationalize these unresolved issues (See for example *E513*). This in turn raises the question of whether there are ways for this MMG to approach antagonism in a more “welcoming manner” instead of diverting arguments in favor of group cohesiveness and fear of losing capacity to implement decisions. There is little question that this group avoids conflicts rather than to explore and pursue them, and there is a clear need to facilitate a legitimate foundation upon which such assumptions and arguments can be reinvestigated. If this is a common occurrence among the MMGs, SMM can hardly be construed as being adaptive, but this question generates the need for further investigation.

## **Conclusion**

I have in this study emphasized participatory aspects of AM through a communicative foundation by observing a MMG meeting within the SMM, which has been analyzed through discursive openings and closures to ascertain whether or not the formats used for communication support the normative criteria needed to qualify management as “adaptive”. Discursive closures and openings have proven useful in measuring degrees of systematically distorted communication, which as an analytical tool in this particular meeting has shown that discursive closures have had considerable impact on the adaptive capacity in terms of a systematic exclusion of knowledge, values and perspectives. The members’ contributions

appeared to reflect a plurality of relevant insights that were constricted due to the ways they jointly characterized the communicative format within which these contributions took place. The way members related to, especially, representations of external perspectives, perceived consequences of uncertainties and conflicts, contributed to situations when the achievement of discursive closures successfully constricted the exploration of differences. This in turn narrowed the range of diversity in perspectives, knowledge and values that were expressed; factors upon which AM ideally should be exercised. Even though such lost opportunities may have been irrelevant or invalid for management, these factors still need be elaborated upon before such claims can be rationally established and motivated. Accordingly, if claims to validity are not developed in ways that deepen the intersubjective experiences by questioning those claims, potentially relevant knowledge goes unexamined and opportunities for learning are diminished. And what is more, as it is assumed that discursive closures are practices that operate to avoid or suppress conflicts, the applied communicative format that nurtures such practices to take place will make it difficult for participants to investigate root causes and explore solutions with respect to such antagonizing constraints that can be generated through the exploration of divergences. It also appears that an explicit use of uncertainty as a source for argumentation in decision making situations can work to undermine the examination of knowledge and values, which is the exact opposite intent according to the AM criteria. Uncertainty should be a source for learning, not used as a strategic tool to subvert hazardous or antagonistic claims that imply risk taking. Naturally, this may be a solitary phenomenon, temporarily and spatially located to this particular MMG. However, as uncertainty is a widely recognized concept within the AM arena, there are reasons to suspect that the concept may be used through similar practices beyond this group which is also why it should be a target for further investigation.

The second meeting that did not generate the material needed to correspond to the criteria used to distinguish discursive closures and openings, revealed through interviews to be due to two main reasons: (1) It was the first time this group met and the agenda for the meeting was more of a character to accentuate the format for future meetings rather than to discuss and make decisions, (2) the general perception appeared to be that the members share the same goals for the moose stock, be it hunters or landowners. Furthermore, the chairman of this group is also chairman of several other MMGs and s/he indicated later on that this particular meeting was unusually low-key. Furthermore, the members did not offer any indication that my own presence or my recording devices had any effect in the way they would have otherwise acted. For the time being, it can be assumed that when members in this type of meetings with divergent perspectives and values engage in dialogue or debate, discursive closures are a common practice. This assumption is partly based on what has been revealed from contact with chairmen from other groups when attempting to gain access to their meetings, during which it has been expressed that when members convene, they have already formed opinions and are unwilling to explore issues in more general terms, but nevertheless attend to engage in discourses to express their knowledge and values.

The case presented here indicated no strict formal procedures for discussion, but even so, discursive closures were persistently practiced. The procedures for how to deal management issues in these meetings may vary, thus the reasons for discursive closures might be different as well. Accordingly, a wider scope of meetings needs to be subject for investigation to ascertain how well these types of groups meet the criteria for AM. In any case, the normative aspects for communication in SMM need to be cautiously examined as they appear to have been taken for granted, and this case is indicative of this concern. Previous research does not provide an ample descriptive fundament upon which such communicative practices are

achieved in practice and, accordingly, when situated opportunities for change actually emerge.

The main issue that has arisen from this study and needs to be addressed is whether there are ways for members themselves to establish a procedural framework for communication that favors understanding for how to address the items that apparently require them to convene in meetings.

The inaugural quote (p. 3) by Frances Westley epistemologically accentuated a conceptualized view of how management evolves through a process of merging different sources of knowledge, which in turn takes on new expressions which develop new forms for management. AM is rooted in this line of thinking and it entails how representations of knowledge is in constant motion, and faced with ever changing social and environmental situations, valuable knowledge for management has become perceived as a phenomenon that arises from the unexpected. It is thus when our perspectives change that we see situations in novel ways, allowing for new knowledge to emerge. For this to happen, we need to facilitate our ways of communicating rationally in order to approach our own and other's perspectives openly, and to let creativity flourish so that we can learn to adapt.

### **Acknowledgement**

I wish to direct my deepest gratitude to the tireless efforts of my supervisor Dr. Lars Hallgren whose guidance has been exemplary throughout this process. I am also grateful to my beloved fiancée Chelsea Nordick as well as my family for their help and support in every possible way. This paper would not have been realized otherwise.

### **References**

- Alvesson, M. (2009). *Reflexive methodology: new vistas for qualitative research*. 2nd ed. Los Angeles ; London: SAGE. ISBN 1848601115.
- Arnold, J. S., Koro-Ljungberg, M. & Bartels, W.-L. (2012). Power and Conflict in Adaptive Management: Analyzing the Discourse of Riparian Management on Public Lands. *Ecology & Society* 17(1), 380–391.
- Balint P.J., Stewart, R. E., Desai, A. & Walters, L. C. (2011). *Wicked Environmental Problems: Managing Uncertainty and Conflict*. Island Press. ISBN 9781597264754.
- Bernard, H. R. (2006). *Research methods in anthropology: qualitative and quantitative approaches*. 4th ed. Lanham, MD: AltaMira Press. ISBN 0759108684.
- Buchy, M. & Hoverman, S. (2000). Understanding public participation in forest planning: a review. *Forest Policy and Economics* 1(1), 15–25.
- Cox, R. (2010). *Environmental communication and the public sphere*. Thousand Oaks, Calif.: Sage Publications. ISBN 9781412972116 1412972116.
- Craig, R. T. & Muller, H. L. (Eds.) (2007). *Theorizing communication: readings across traditions*. Los Angeles: Sage Publications. ISBN 9781412952378.

- Cromdal, J. (2009). Handlingars konsekvens och tolkningars relevans. Om deltagarorientering inom konversationsanalys. I: Sparrman, A., Cromdal, J., Evaldsson, A-C. & Adelswärd V. *Den väsentliga vardagen: några diskursanalytiska perspektiv på tal, text och bild*. Stockholm: Carlsson. ISBN 9789173312295 9173312290, pp. 39-73.
- Deetz, S. (1992). *Democracy in an age of corporate colonization: developments in communication and the politics of everyday life*. Albany: State University of New York. (SUNY series in speech communication). ISBN 0791408639.
- Folke, C., Hahn, T., Olsson, P. & Norberg, J. (2005). Adaptive Governance of Social-Ecological Systems. *Annual Review of Environment and Resources* 30(1), 441–473.
- Gilmour, A., Walkerden, G., Scandol, J. (1999). Adaptive management of the water cycle on the urban fringe: three Australian case studies. *Conservation Ecology*, 3(1): 11. [online]. Available from: <http://www.consecol.org/vol3/iss1/art11/>. [Accessed 2014-04-07].
- Gunderson, L. (1999). Resilience, flexibility and adaptive management – Antidotes for Spurious Certitude? *Conservation Ecology* 3(1): 7. [online] Available from: <http://www.consecol.org/vol3/iss1/art7/>. [Accessed 2014-04-07].
- Gunderson, L. H., Holling, C. S. & Light, S. S. (Eds.) (1995). *Barriers and bridges to the renewal of ecosystems and institutions*. New York: Columbia University Press. ISBN 0231101023.
- Habermas, J. (1990). *Moral consciousness and communicative action*. Cambridge, Mass.: MIT Press. ISBN 026208192X 9780262081924 9780262581189 0262581183.
- Habermas, J. (2001). *On the pragmatics of social interaction*. United States : M I T Press. ISBN 0262582139 9780262582131.
- Holling, C.S. (1978). *Adaptive environmental assessment and management*. [Laxenburg, Austria] : Chichester ; New York: International Institute for Applied Systems Analysis ; Wiley. (International series on applied systems analysis; 3). ISBN 0471996327.
- Holling, C.S. (1995). What Barriers? What Bridges?. I: Gunderson, L. H., Holling, C. S. & Light, S. S. (Eds.). *Barriers and bridges to the renewal of ecosystems and institutions*. New York: Columbia University Press, pp. 3-36.
- Holling, C. S. & Meffe, G. K. (1996). Command and Control and the Pathology of Natural Resource Management. *Conservation Biology* 10(2), 328–337.
- Johnson, A. & Walker, D. (2000). Science, Communication and Stakeholder Participation for Integrated Natural Resource Management. *Australian Journal of Environmental Management* 7(2), 82–90.
- Johnson, B. L., (1999). Introduction to the Special Feature: Adaptive Management – Scientifically Sound, Socially Challenged? *Conservation Ecology*, 3(1): 10. [online], Available from: <http://www.consecol.org/vol3/iss1/art10/>. [Accessed 2014-04-07].
- Kvale, S., Brinkmann, S. & Torhell, S.-E. (2009). *Den kvalitativa forskningsintervjun*. Lund: Studentlitteratur. ISBN 9144055986 9789144055985.

- Lee, K. N. (1995). Deliberately Seeking Sustainability in the Columbia River Basin. I: Gunderson, L. H., Holling, C. S. & Light, S. S. (Eds.). *Barriers and bridges to the renewal of ecosystems and institutions*. New York: Columbia University Press, pp. 214-238.
- Lee, K. N. (1999). Appraising adaptive management. *Conservation Ecology*. **3**(2): 3. [online]. Available from: <http://www.consecol.org/vol3/iss2/art3>. [Accessed 2014-04-07].
- Llewellyn, N. (2011). *Organisation, interaction and practice: studies in ethnomethodology and conversation analysis*. Cambridge: Cambridge University Press. ISBN 9780521300285 0521300282 9780521881364 0521881366.
- McKaughan, D. J. (2008). From Ugly Duckling to Swan: C. S. Peirce, Abduction, and the Pursuit of Scientific Theories. *Transactions of the Charles S. Peirce Society* 44(3), 446–468.
- Moberg, U. (2010). Analys av samtal. I: Ekström, M. & Larsson, L. *Metoder i kommunikationsvetenskap*. Lund: Studentlitteratur. ISBN 9789144067636 9144067631, pp. 193-211.
- Pedersen, J. (2008). Habermas' Method: Rational Reconstruction. *Philosophy of the Social Sciences* 38(4), 457–485.
- Ravnborg, H. M. & Westermann, O. (2002). Understanding interdependencies: stakeholder identification and negotiation for collective natural resource management. *Agricultural Systems* 73(1), 41–56.
- Satterstrom, F. K., Linkov, I., Kiker, G., Bridges, T., Greenberg, M. (2005). Adaptive management: A review and framework for integration with multi-criteria decision analysis. In: Macey GP, Cannon J, editors. *Redeeming the land: Rethinking Superfund institutions, methods, and practices*. New York (NY): Springer (forthcoming).
- Smith, G. (2003). *Deliberative democracy and the environment*. London ; New York: Routledge. (Environmental politics). ISBN 0415309395.
- Stringer, L. C., Dougill, A. J., Fraser, E., Hubacek, K., Prell, C. & Reed, M. S. (2006). Unpacking "Participation" in the Adaptive Management of Social--ecological Systems: a Critical Review. *Ecology & Society* 11(2), 719–740.
- Thackaberry, J. A. (2004). "Discursive Opening" and Closing in Organisational Self-Study Culture as Trap and Tool in Wildland Firefighting Safety. *Management Communication Quarterly* 17(3), 319–359.
- Walkerden, G. (2006). Adaptive Management Planning Projects as Conflict Resolution Processes. *Ecology and Society*, 11(1): 48. [online] Available from: <http://www.ecologyandsociety.org/vol11/iss1/art48>. [Accessed 2014-04-07].
- Walters, C. J. & Hilborn, R. (1978). Ecological Optimization and Adaptive Management. *Annual Review of Ecology and Systematics* 9(1), 157–188.

- Walters, C. J. (1986). *Adaptive management of renewable resources*. New York : London: Macmillan ; Collier Macmillan. (Biological resource management). ISBN 0029479703.
- Walters, C. (1997). Challenges in adaptive management of riparian and coastal ecosystems. *Conservation Ecology*, 1(2): 1. [online]. Available from: <http://www.consecol.org/vol1/iss2/art1>. [Accessed 2014-04-07].
- Walters, C. J. (2007). Is Adaptive Management Helping to Solve Fisheries Problems? *AMBIO: A Journal of the Human Environment* 36(4), 304–307.
- Wennberg DiGasper, S. *Already adaptive?: an investigation of the performance of Swedish moose management organizations*. [online] (2006-02-06). Available from: <http://epubl.ltu.se/1402-1757/2006/09/>. [Accessed 2014-04-07].
- Westley, F. (1995). Governing design: the management of social systems and ecosystems management. I: Gunderson, L. H., Holling, C. S. & Light, S. S. (Eds.). *Barriers and bridges to the renewal of ecosystems and institutions*. New York: Columbia University Press, pp. 391-427.
- Ångman, E. (2013). Was This Just for Show? Discursive Opening and Closure in a Public Participatory Process. *Environmental Communication: A Journal of Nature and Culture* 7(3), 409–426.

**Public references:**

SFS (1979:429) Skogsvårdslag

SFS (1987:259) Jaktlag

SFS (1987:905) Jaktförordning

Prop. 2009/10:239