DOCTORAL THESIS

The Decisive Role of Street-Level Bureaucrats in Environmental Management

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Street-level Bureaucrats in environmental management

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ABSTRACT

Humanity faces dire challenges associated with environmental degradation. Policy makers try to curb these problems with various policies and management strategies. Some strategies are successful, yet too often, others fail to meet their overall objectives. Scholars in the field of environmental management have suggested several explanations as to why environmental policy fails to address environmental concerns. In this thesis, I take my point of departure in a neglected theoretical component in environmental management research, namely the decisive role of street-level bureaucrats, i.e. bureaucrats working at the end of the policy chain, making operational decisions and taking action based on official policy. The aim of the thesis is to highlight the significant role of street-level bureaucrats in the implementation of environmental policy and to examine which factors that can explain their decisions. In order to fulfil this aim, a tentative theoretical framework encompassing four explanatory factors – management setting, policy understanding, implementation resources and policy beliefs – is developed. A qualitative case study approach is utilised in an attempt to empirically examine how these factors influence decision-making and implementation at the street level. Data is collected by means of semi-structured interviews with 40 street-level bureaucrats working in the fields of fishery and water policy respectively. The results from the empirical studies are used to refine the suggested tentative theoretical framework and propose a more refined framework that can explain street-level bureaucrats' implementation of official policy. The findings suggest that different management settings seem to affect – more or less – street-level bureaucrats' autonomy and discretion. Moreover, bureaucrats' policy understandings, in particular their notions concerning policy coherence, affect their decision-making. The results also imply that the characteristics of bureaucrats' implementation resources, i.e. the actors to whom they turn for policy advice, influence implementation. Finally, differences in the implementation of environmental policies can be explained by the bureaucrats' policy core beliefs. In particular, the bureaucrats' empirical policy core beliefs, i.e. their views on the policy problem and its solutions, seemingly affect how policy is implemented. The results from this thesis underline the importance of street-level bureaucrats in the implementation of environmental policy and the significance of the above mention factors as drivers for street-level action. Thus, the decisive role of street-level bureaucrats should be considered when explaining success and failure in the struggle to curb environmental problems.

Keywords: environmental management, environmental policies, street-level bureaucrats, policy understanding, implementation resources, policy beliefs

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Contemplating on the origin of my PhD journey, it started in the late 1990s when my supervisor, Anders Lidström, handed me the application for the PhD programme at the Department of Political Science at Umeå University and urged me to apply. I had just finished my Master's thesis and was flattered by the proposition. However, once I had been admitted to the programme, I ended up declining the opportunity for various reasons – a decision I have at times regretted. A few years later, I had a shot at a doctorate again, this time at the Centre for Principal Development at Umeå University. After serious consideration, I didn't even apply. A few years ago, Olof Johansson, then head of the programme, aptly pointed out that I had made the wrong decision about that opportunity. Of course I ended up regretting also that decision. I told myself that if I ever got another opportunity to write a doctoral thesis, I would not decline it.

The final stage of this journey began at my current head supervisor Annica Sandström's dissertation dinner in 2008. By a 'simple twist of fate', I ended up at the same table as Carina Lundmark, now assistant professor at the Political science Unit at the Division of Social Science. We talked about this and that, and at the end of our conservation she mentioned that in the near future the Unit were going to recruit a new doctoral student. I thought it was now or never.

All of these individuals have directly and indirectly inspired my PhD endeavour, and with the help of colleagues, friends and family, I have now reached the end of my journey. Firstly, I am grateful that Torbjörn Bergman, then professor at our unit, made it possible for me to become a doctoral student at Luleå University of Technology. Torbjörn, thanks for all your support in my first struggling steps as a PhD student. I also wish to thank Carl Rova, my former assistant supervisor, for always being cheerful.

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Mikael Sevä
Bredviken, Luleå, early spring 2015

To Cina, Linn and Stella

1. A missing unit of analysis in the study of environmental management

Global warming, overfishing, species extinction and toxic pollution are all examples of severe problems facing humanity today. Governments across the world are struggling to curb these dire degradations of our environment, using measures such as harsher environmental legislations, improved environmental policies, new effective policy instruments and a wide range of new management models (Harring, 2014). Yet, evaluations of the outcomes of these strategies often show that environmental objectives are far from fulfilled. To exemplify, several European states are seeing a decline in the volume of fish caught due to a fish stock that is overused despite the common EU fisheries policy (EU Green Paper, Reform of the European Common Fisheries policy, 2009). Furthermore, the EU environmental quality standards for water catchments, introduced by the European water framework directive in 2004, are not even nearly fulfilled (Vattenmyndigheten, 2013; Entson and Gippert, 2012). On the same note, the Swedish Environmental Protection Agency estimates that only two of the 16 Swedish national environmental quality objectives will be achieved by the year 2020 (Naturvårdsverket, 2014). Acknowledging the fact that the list of unaccomplished environmental objectives is much longer (cf. Mineur, 2007; Eckerberg, 2000; Eckerber and Mineur, 2003), this thesis takes its point of departure in the experienced implementation deficits in environmental policy and the urgent need for a deepened understanding of this situation.

Studies aimed at furthering the understanding of successful and unsuccessful environmental policy implementation can be found in

the field of environmental management.[1] The political science and public management literature that deals with the environment, its degradation, possible solutions and how it should be managed is rather comprehensive, which is not surprising since scholars have elaborated on various topics related to the environment since the 1960s. Some studies focus on strategies used by states to transform society in a more sustainable direction (Baker, 2007; Lundquist, 2001). Others deal primarily with environmental policy legitimacy from the citizens' perspective (Matti, 2009), or with drivers of policy change such as advocacy coalitions and policy beliefs systems (Matti and Sandström, 2011; Hysing, 2009; Hysing and Olson, 2008; Wieble, 2005). Several scholars are concerned with various governance modes in promoting sustainable development and environmental policy compliance (Eckerberg and Baker, 2008; Hysing, 2010; Lundquist, 2004). In this branch of research, new management ideals, such as collaborative management, that have emerged to enhance both legitimacy and efficiency in environmental management are studied (Sandström et al., 2014; Sandström and Rova, 2010; Zachrisson, 2009). Finally, there is a line of research focusing on citizens' compliance with steering instruments and their legitimacy in relation to environmental policies (Berlin et al., 2012; Jagers et al., 2010; Jagers and Matti, 2010). Clearly, management of the environment and implementation of environmental policy take various forms and are undertaken by a multitude of actors, and these studies make significant contributions in order to understand why some environmental policies are more successfully implemented than others.

As a complement to the studies referred to above, I wish to explore the environmental policy implementation deficits by addressing the management processes that take place in the public administration, with a particular focus on the practising environmental bureaucrats at the end of the policy chain. These

[1] The field of environmental management is broad and multidisciplinary. Scholars in various academic fields — economics, organisational studies and business administration — have conducted research concerning the management of the environment. In this thesis I will solely focus on studies on the management of the environment, explicitly and implicitly, in the field of political science/public administration/management. Furthermore, public management in this thesis is defined as organisations and institutions that work within the state sector/public sector and have the role as a state unit for implementing government policy.

bureaucrats read official policy, interpret it and convert it into action and make decisions affecting, both indirectly and directly, how various environmental problems are handled. In this thesis I argue that, with a few exceptions (May and Winter, 1999; Nielsen, 2006; Sandström, 2011; Sevä, 2013; Sevä and Jagers, 2013; Trusty and Cerveny, 2012; Winter, 2003; c.f Hysing, 2013, 2014; Hysing and Olsson, 2011, 2012), a crucial component is missing in the study of environmental policy and management, namely the bureaucrats who work at the end of the policy chain and make decisions at the operational level based on public policy. Thus, this thesis is concerned with what role the environmental bureaucrats, practising at the end of the policy chain, play in the implementation of environmental policies.

In order to examine the role of the environmental bureaucrats, I utilise the theory of street-level bureaucracy. The key insight drawn from this theoretical approach is that the bureaucrats working with implementation at the end of the policy chain, i.e. at 'street level', have to be considered in order to fully understand implementation of public policy. The reason for this is that, due to their vast discretion and autonomy, these bureaucrats shape public policy more than their policy masters do (Lipsky, 1980). While previous research on street-level bureaucracy has mainly focused on policy problems in the social policy sector (cf. Brehm and Gates, 1997; Ewalt and Jennings, 2004; Hill, 2006; Keiser and Soss, 1998; Langbien, 2000; May and Winter, 2009; Riccucci et al., 2004; Schierenbeck, 2003), this thesis will demonstrate that the same theoretical approach also can be applied to the environmental field and to explain why environmental policies are more or less successfully implemented (cf. May and Winter, 1999; Nielsen, 2006; Sandström, 2011; Sevä, 2012; Trusty and Cerveny, 2012; Winter, 2003).

Street-level bureaucrats might make decisions that are aligned with official policy. In other cases, their position – being the last link in the policy chain with significant autonomy – can also make them policy makers rather than political servants as their decisions diverge from official intentions (cf. Meyers and Vorsanger, 2003). Several aspects are of interest to investigate when it comes to the role that street-level bureaucrats play in environmental policy

implementation, e.g. bureaucrats' view of their role vis-à-vis political superiors in the political system (cf. Keiser and Soss, 1998; Langbien, 2000) and the interaction between bureaucrats and stakeholders (cf. Nielsen, 2006; May and Winter, 2000; Tummers and Beckers, 2014). Furthermore, street-level bureaucrats are situated in different management settings depending on which policy problem they work with, and this might influence their role in the implementation process (cf. Lynn et al., 2000). Finally, scholars have suggested several more individual factors that influence street-level bureaucrats when they implement policy, which might lead to formal policy objectives not being fulfilled (cf. May and Winter, 2009). This thesis is inspired by the research mentioned above. The problem I address in the thesis concerns the role of street-level bureaucrats in the implementation of environmental policies and which factors that can explain the environmental street-level bureaucrats' decision-making and actions, i.e. implementation.[2] This problem is illustrated in Figure 1 below.

Figure 1. *The crucial role of street-level bureaucrats in environmental policy implementation*

Figure 1 illustrates the point of departure of this thesis. Environmental policy travels down the political and administrative ladder, in different management settings, and ultimately ends up on the desk of the street-level bureaucrat, who makes a decision or takes action based on the official policy. It is further assumed that the decisions made at the street level comprise the implementation of

[2] According to the Oxford dictionary, the concept of implementation is defined as 'the process of putting a decision or a plan into effect; execution'. Thus, in this thesis the concept of implementation is defined as the process of putting a policy into effect, i.e. a street-level bureaucrat who makes decisions or takes action based on an official policy document.

environmental policy; in other words, policy implementation is defined as the actual decisions and actions made by street-level bureaucrats (cf. Sandström, 2011; Sevä, 2013). Thus, actual decisions made by street-level bureaucrats may, or may not, align with the official policy objectives, which implies that the implementation of environmental policy is dependent upon, and shaped by, the individual street-level bureaucrat. Thus, street-level bureaucrats' implementation of official policy is in this study treated as the factor to be explained and the explanatory factors, assumed to influence these bureaucrats' implementation, are presented in the forthcoming theory chapter.

1.1 Aim

The aim of this thesis is to highlight the role of street-level bureaucrats in the implementation of environmental policy and to examine which factors that can explain their decisions. In order to fulfil this aim, I will present, and empirically examine, a tentative theoretical framework that can explain implementation at the street level. Thus, by applying street-level theory on the environmental field, this thesis will make theoretical contributions both to street-level research through the development of a framework explaining street-level implementation, and to the field of environmental management by highlighting the crucial role of street-level bureaucrats' in the implementation of environmental policy.

This aim will be achieved using a qualitative case study approach encompassing both single and comparative case study designs. Studies of environmental implementation in different municipal departments, in different policy sectors, and in different countries will be made. Fisheries policy and water policy will serve as empirical backdrops and the empirical material is collected through in-depth interviews with street-level bureaucrats.

The thesis is organised as follows. The next chapter, Chapter 2, introduces the theory of street-level bureaucracy and presents a tentative theoretical framework for how to analyse street-level decision-making and action. The method and empirical cases are discussed in Chapter 3, and a short introduction to the content of the four papers that constitute this thesis is given in Chapter 4. The

results from the four papers are thereafter presented in Chapter 5, and a revised framework, which summarises the empirical findings concerning the influential factors of street-level action, is suggested in Chapter 6. Finally, I conclude the thesis by discussing possible policy implications for the realisation of environmental policy and identifying some topics for future research venues in Chapter 7 and 8.

2. Introducing street-level bureaucrats

To capture the crucial role that bureaucrats play at the end of the policy chain, important lessons can be drawn from Michael Lipsky's seminal work *Street-level Bureaucracy: Dilemmas of the Individual in Public Services* (1980). Lipsky introduces the concept of street-level bureaucrats, which captures common features in the practice of e.g. teachers, police officers, clerks and social workers. One thing all of these bureaucrats share is a daily interaction with citizens while simultaneously having broad discretion over decisions concerning dispensations and benefits. This discretion implies that formal policy may have difficulty reaching desired effects since street-level bureaucrats make policies in two related respects:

> They exercise wide discretion in decisions about citizens with whom they interact. Then, when taken in concert, their individual actions add up to agency behaviour. (...) The policy-making roles of street-level bureaucrats are built upon two interrelated facets of their positions: relatively high degrees of discretion and relative autonomy from organizational authority (Lipsky, 1980:13).

The discretionary power of street-level bureaucrats is not necessarily a bad thing. After all, interaction with citizens requires discretion in some form, since higher officials and politicians cannot prescribe what action to take in every possible case and decision situation. On the other hand, discretion can lead to a situation where policy outcome differs greatly from policy intentions. Moreover, differential treatment of citizens in the same policy domain can lead to values

such as rule of law and equal treatment being undermined. Higher officials can try to restrict the discretion that the street-level bureaucrats have at their disposal. The risk is then either that the regulations become encyclopaedic and selective implementation arises, or that the probability of street-level disobedience increases due to the distrust displayed by superior officials. A precondition for the discretion that street-level bureaucrats have is the high degree of autonomy from organizational authority. It is not possible for higher ranking officials to have an attention span that is wide and deep enough to control street-level action thoroughly, and even if they did, the costs of this control would be too high in relation to the benefits (Lipsky, 1980).

Thus, the policy-making role of street-level bureaucrat rests, according to Lipsky, on the routines that they establish and the strategies they invent to cope with uncertainties and work pressures. Coping behaviour arises, according to Lipsky, because street-level workers experience a gap between various demands for their services and the often scare resources available to fulfil their work tasks. In response, street-level bureaucrats rationalise, automate or reduce the demand for their service or activity.[3] The coping mechanisms may have significant consequences both for the implementation of public policy and for the fundamental principles of the rule of law. Hence, the behaviour of street-level bureaucrats may undermine policy goals and their intended outcome, or direct formal goals towards informal goals that were not intended by the democratic process; which might lead to decreased legitimacy for the political system (Lipsky, 1980; Weatherly, 1979; Prottas, 1979; Jensen et al., 1991). To conclude, these coping behaviours and the potential consequences are founded on, and originate from, the autonomy and discretion that street-level bureaucrats have at their disposal.

[3] *Rationing* of services occur when street-level bureaucrats allocate public goods and services differently among classes or claimants. Thus, even if citizens in the same position have the same legal right to a service, they receive different services or treatment. Street-level bureaucrats reduce the *demand* for their services through different strategies, e.g. by imposing unsanctioned costs on the client for a specific service and inventing queue systems for services (punishing clients by delaying their service). Street-level bureaucrats also *atomise* their services through people-processing: they only work with parts of the clients' problems and not the whole, or they do e.g. not recognise individual pupils' demands for teaching, instead they categorise the class into different classes (working class children, academic…etc.) and thus design the teaching towards the different classifications not the individual (Lipsky, 1980 chapter 7-10).

Lipsky's seminal work gave rise to a scholarly theme that has elaborated on the street-level bureaucracy. Early studies were strong in identifying coping behaviour, but weaker in explaining decision-making patterns and their causes (cf. Winter, 2002; Nielsen, 2006). The primary aim of more recent research has been to explain how and why discretion arises, with less interest in coping behaviour. Scholars have identified four broad theoretical themes in explaining variation in discretion (May and Winter, 2007; Meyers and Vorsanger, 2003). The first one is signals from politicians and managers about the content and importance of policy (Brewer, 2005; Riccucci, 2005; Winter and May, 2009; Stensöta, 2012). The second one is influences from the organisational machinery in order to control discretion, such as performance measures, incentive structures, detailed rules and procedures, and resource constraints (Winter and May, 2001; Brodkin, 1999). Third, contextual factors have been elaborated, including different implementation contexts, characteristics of targets groups, external pressures from the surrounding society and political culture (Hill, 2006; Brodkin, 1990). Finally, studies have found that the influence of street-level bureaucrats' values concerning relevant policy goals, their work tasks and their work situation has more explanatory power than policy directives, signals from politicians and managers and organisational variables for discretionary decisions (Winter and May, 2007; Brehm and Gates, 1997; Maynard-Moody and Musheno, 2003).

The studies above differ when it comes to context, theoretical focus and results (which sometimes contradict each other). Yet according to Meyer and Vorsanger (2003), these divergences have more to do with the choice of theoretical approach, methods and research context than with fundamental disagreements among scholars within the tradition (cf. May and Winter, 2007). Below I will introduce a theoretical framework, based on the research discussed above, in order to guide the empirical studies of this thesis. But first some notes on street-level bureaucrats in the environmental field.

2.1 Street-level bureaucrats in environmental management

It should be noted that the bureaucrats focused on in this thesis – environmental bureaucrats – in some aspects differ from Lipsky's traditional street-level bureaucrats as they do not always have daily face-to-face contact with clients/stakeholders and their practising of authority is more anonymous, which may affect e.g. their disposition to follow national policies. In addition, environmental street-level bureaucrats are usually not professionals in the same way policemen, teachers and social workers usually are. Instead they tend to have a broad variety of different educational backgrounds. It is nevertheless reasonable to assume that also environmental bureaucrats at the frontline have more or less discretionary power and autonomy similar to street-level bureaucrats.

The argument underpinning this thesis is that all bureaucrats who work at the end of the policy chain have both autonomy and discretion that enable them to influence policy outcomes. Street-level bureaucrats in the environmental sector might not have the same interaction with citizens as their counterparts in the social sector, which means that the coping mechanisms discussed above might not be so prevalent. Keiser (2010) showed, however, that even in situations when street-level bureaucrats lack face-to-face interaction with clients, they still possess discretionary power when determining eligibility in social security programmes. Thus, street-level bureaucrats in the environmental field likely have other coping strategies, due to other constraints, that might affect policy outcome. Nevertheless, the key tenant in street-level research is that street-level bureaucrats have autonomy and discretion, and that these two factors make them de facto policy makers because of their ability to influence policy outcome. This argument is supported by several scholars who have shown that street-level bureaucrats in the environmental sector have the same crucial role as those working in the social sector (May and Winter, 1999; Nielsen, 2006; Kieser, 2010; Sandström, 2011; Trusty and Cerveny, 2012; Winter, 2003). Thus, street-level bureaucrats in the environmental sector are in this thesis considered to be comparable with the 'original' street-level bureaucrats, as coined by Lipsky, and not a different type of bureaucrat. Departing from the notion that street-level bureaucrats

in the environmental policy sector have both discretion and autonomy, which factors should then be considered in order to understand and help explain how they implement and shape public policy? This question will be discussed in the next section.

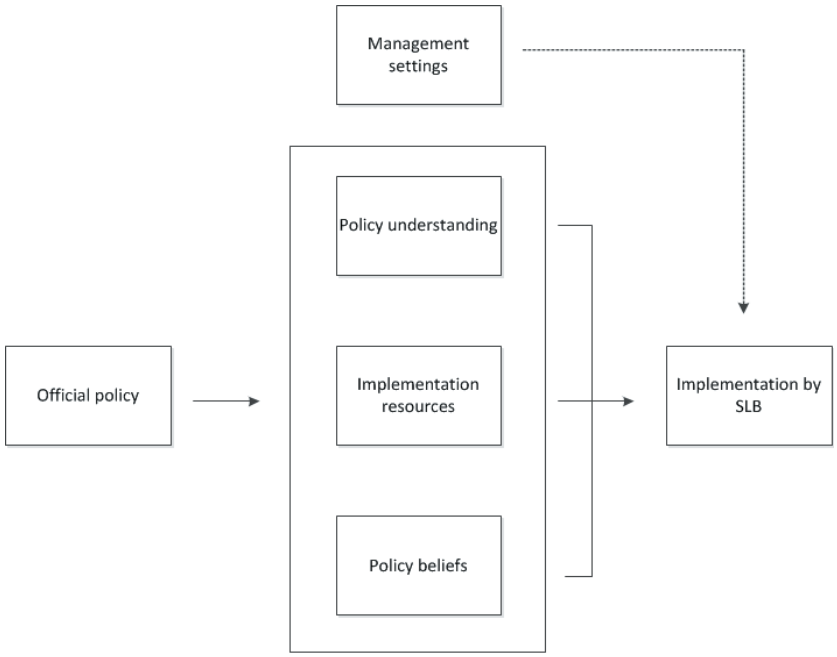
2.2 A tentative theoretical framework that explains street-level implementation

Scholars within the street-level bureaucracy tradition have offered more or less comprehensive frameworks for analysing and explaining street-level bureaucratic action and decision-making (Nielsen, 2006; Tummers and Becker, 2014; Jewel and Glazer, 2006). Most of these frameworks; however, have studied street-level bureaucrats in the social sector, who interact intensively with citizens. Keiser (2010) suggests three factors that can explain decision-making by street-level bureaucrats in situations not involving this face-to-face interaction with citizens, namely, adherence to agency goals, attitudes and values of street-level bureaucrats, and perceptions and knowledge about other actors in the policy setting. These explanatory factors are more or less in line with those found by May and Winter (2007) when studying street-level bureaucrats implementing employment policy reforms in Denmark. May and Winter (2009) suggest that bureaucratic action and decision-making reflecting policy outcomes are primarily dependent on three different factors: bureaucrats' understanding of policy goals, their professional knowledge and their policy predisposition (cf. Sandström, 2011; Sevä, 2013). Scholars within the street-level tradition have also suggested that contextual factors, such as different organisational and management settings, can explain street-level decision-making (c.f. Meyers and Vorsanger, 2003). These factors should be incorporated in a framework, since environmental bureaucrats work in various policy sectors, and thus in different management contexts (c.f. Sevä and Jagers, 2013). The tentative framework presented below is inspired by the scholarly work discussed above.

Thus, in this thesis, I elaborate on four different factors derived from the literature on street-level bureaucrats: management setting, policy understanding, implementation resources and policy beliefs.

These four factors constitute the central part of the tentative theoretical framework that is presented in Figure 2. The framework identifies how these important factors relate to public policy and implementation (see Ostrom, 2005 and Carlsson, 2000 for a discussion on frameworks, theory and models). All six factors included in Figure 2 as well as their relationships will be discussed below. Based on this framework, a set of theoretical research questions will be formulated to guide the empirical analysis. I will start by discussing the factor that will be explained, namely implementation by street-level bureaucrats (SLB).

Figure 2. *A tentative framework for analysing street-level implementation*



Note: The dotted line from the box 'management settings' indicates that the factor that is to be explained is street-level bureaucrats' autonomy and discretion; not the implementation of official policy.

2.2.1 Implementation by street-level bureaucrats

The factor to be explained in Figure 2 refers to the actual decisions and actions that street-level bureaucrats take, i.e. the implementation of a policy. These decisions may or may not be in line with official policy. However, it is reasonable to assume based on the fact that they have autonomy and exercise discretion that street-level bureaucrats make decisions that at times diverge from official public policy and take actions that are not always sanctioned by higher level policy makers.

2.2.2 Official policy

The policy concept is one of the most debated in political science (see Hogwood and Gunn, 1984; Sabatier, 1999). This thesis will neither elaborate on the policy concept, nor present an indisputable definition, but will rather propose a definition that fulfils the particular aim of the thesis. When I refer to official policy in this thesis, I refer to a regulation, policy programme or strategy that is defined by governmental actors with the authority to formulate official policy, i.e. politicians or public agencies. I will present the particular policies that this thesis will study in the forthcoming method section, Section 3.

2.2.3 Management setting

As mentioned above, the policy-making role of street-level bureaucrats rests upon two interrelated facets, namely that they have a relatively high degree of discretion and autonomy from the higher-level authorities (Lipsky, 1980).[4] Scholars have shown that different organisational and management settings that bureaucrats work within can either increase or decrease their discretion and autonomy and thus affect their policy-making role (cf. Lynn et al., 2000; May and Winter, 2009; Meyer and Vorsanger, 2003).

[4] The concepts of autonomy and discretion are interrelated and sometimes treated as synonyms (Lipsky, 1980; Clark; 1984, Lidström, 1991). For an overview of the concepts of autonomy, see Verhoest et al. (2004). Also Lindley (1986) and Dworkin (1988) have discussed the concepts. Discretion is elaborated in the works of Bull (1980), Davis (1969), Galligan (1986) and Dworkin (1977). In this thesis, autonomy is defined as street-level bureaucrats' freedom of action (Lindley, 1986; Dworkin, 1988), and discretion as capacity for action (Taylor and Kelly, 2006). For more indepth discussion, see paper 1.

The implementation of public policy can thus be executed in various management settings. One dominant management ideal can be labelled the Weberian and is firmly rooted in the notion of sovereign people who are to govern themselves through representative democracy. In this outspoken top-down model, the public administration is seen as a neutral instrument aimed at implementing the will of the people. Politicians formulate public policy and exercise their control of the bureaucracy through command and control, and the tour de force is rule application, which promotes values such as the rule of law and equal treatment (cf. Gualmini, 2007; Olsen, 2005; Pierre, 2012). In this management ideal, street-level bureaucrats have limited autonomy and restricted discretion in order for politicians to control the implementation of public policy (cf. Pierre, 2012; Olsen, 2005; Weber, 2007). Restricted discretion implies that street-level bureaucrats have a few different decision-making options, and not a plethora, to choose among and that their decisions are supervised by superiors (cf. Lipsky, 1980; Lidström, 1991; Lundquist, 1987).

Another ideal that has emerged more recently is collaborative management, which is founded in the idea of decentralisation of political power and the inclusion of private stakeholders in policy making. In order to enhance legitimacy and efficiency in the management processes, policy should be implemented in an on-going process in which key stakeholders and citizens take an active part. The role of politicians in this setting is primarily to define legal frames within which concerned actors can then interact in networks (Sandström, 2008) or through collaborative management structures (Carlsson and Sandström, 2008; Koppenjan and Klijn, 2004) to refine more operational policies. The founding idea of collaborative management is that the involved bureaucrats and stakeholders deliberate on policy and, ultimately, end up in agreement on policy substance, which will enhance the legitimacy and efficiency of the policy (cf. Berkes and Carlsson, 2005; Plummer and FitzGibbon, 2004). In this ideal construct, street-level bureaucrats have a high degree of autonomy from higher level policy makers to ensure the ability to deliberate on policy content with stakeholders, which might lead to a lower degree of discretion as they are dependent on other

actors to implement policy (cf. Stoker, 1998; Rhodes, 1996; Lundquist, 2004; Pierre and Peters, 1998). Thus, there are reasons to believe that the management setting influences the degree of autonomy and discretion of street-level bureaucrats.

2.2.4 Policy understanding

Lipsky (1980) stated that higher officials cannot take for granted that lower-level workers a priori understand public policy and transform it to decisions and actions conforming with policy goals and intentions. Policy goals are usually comprised of several sub-goals, i.e. client-centred goals that may conflict with organisation-centred goals etc. (Lipsky, 1980; cf. Maynard-Moody and Musheno, 2000; Vedung, 2009). Vague policies are a common feature in policy sectors where it is difficult for politicians to have a clear view of the exact policy content due to the complexity of problems (cf. Hysing and Olsson, 2012; Lundquist, 1987). Even in decision-making situations where the goals are clearly defined, and no evident goal conflict exists, formal policy does not necessarily provide advice to street-level bureaucrats on how to put the policy into action, since there are no standard operational procedures to adhere to (cf. Meyer and Vorsanger, 2003). Furthermore, a policy can be more or less coherent. Policy incoherence is experienced when the objectives of a specific policy are inconsistent with another policy aiming to solve the same problem. Situations like these might result in selective implementation when the bureaucrat can choose which policy to implement (cf. Nilsson et al., 2012; Hrelja, 2011).

All in all, these circumstances might result in street-level bureaucrats developing different understandings of formal policy, its substance and implications for their decision-making (Sandström, 2011; Sevä, 2013; cf. May and Winter, 2009; Lundquist, 1987). Thus, policy understandings refer to how street-level bureaucrats perceive the substance, implications and coherence of policy, and these understandings are here believed to be important for implementation.

2.2.5 Implementation resources

Hill (2003) has in a study of a local policing reform in the US shown that street-level bureaucrats (policemen) turn to different implementation resources, such as governmental institutions, universities, professional associations or consultants, for assistance in interpreting the meaning of policy and how to put it into practice. Implementation resources are defined as actors with an interest in a certain policy area who assist decision-makers and, accordingly, shape the implementation of policy. In cases when formal policy is perceived as unclear, and the street-level bureaucrats experience problems interpreting its essence, these implementation resources potentially influence policy in a way that might, or might not be, in line with the original intentions of official policy makers (cf. Likspy, 1980; Meyer and Vorsanger, 2003).

Thus, in this thesis the concept of implementation resources refers to individuals or organisations that help street-level bureaucrats learn about policy or best practice for developing policy. The advice provided by these actors likely influences the bureaucrats' knowledge of policy and therefore shapes decisions and the implementation of policy (cf. Sandström, 2010; Sevä, 2013).

2.2.6 Policy beliefs

Street-level researchers have suggested that individually held norms and values might affect street-level bureaucrats' decision-making. Maynard and Mosheno (2003) suggested that norms and preferences that are in line with official policy promote implementation, but also that the bureaucrats' views on what is fair and morally right at a more general level affect their decisions. Similarly, Sandfort (2000) proposed that street-level bureaucrats develop collective beliefs concerning the moral justifications for their actions and decisions when interacting within their organisational boundaries. In a study of discretion in decision-making of bureaucrats in the USDA forest service, Trusty and Cerveny (2012) showed that the bureaucrats' values, in a more general sense, affected their decisions (cf. Keiser, 2010).

In order to develop this factor further, I incorporate insights established within the Advocacy Coalition Framework (ACF)

regarding the notion of policy core beliefs (Sabatier and Jenkins-Smith, 1999; Weible and Sabatier, 2009). Policy core beliefs refer to actors' views on the nature of the policy problem and its solutions and are defined as 'fundamental policy positions concerning the basic strategies for achieving core values within the subsystem[5]' (Sabatier and Jenkins-Smith, 1999: 133). Moreover, policy core beliefs can be separated into two different types of beliefs according to their generalisability, scope and robustness: normative policy core beliefs and empirical policy core beliefs (Sabatier and Jenkins-Smith, 1999; Weible, 2005). Normative policy core beliefs comprise basic values related to a specific policy subsystem, e.g. beliefs regarding conservation versus use in environmental management. Empirical policy core beliefs deal with aspects of the overall policy problem, i.e. the description of the environmental problem, its seriousness, the view of the management system design, and the effectiveness of different policy instruments (cf. Matti and Sandström, 2011, 2013; Weible, 2005).

In this thesis, I depart from the idea that policy core beliefs influence street-level bureaucrats' actions and decisions. Furthermore, the use of the two different aspects of policy core beliefs – empirical and normative – provides a refined analytical instrument in exploring this factor further.

2.2.7 Research questions

In accordance with Figure 2, implementation of official policy by street-level bureaucrats is treated as the dependent factor in relation to the four explanatory factors: management setting, policy understanding, implementation resources and policy beliefs. Figure 2 suggests that street-level bureaucrats might understand and interpret official policy differently and that their own policy beliefs and prevailing implementation resources affect their decisions. Furthermore, different management settings set the frames for street-level action by influencing the sphere of autonomy and room for discretion. Evidently, the figure is significantly simplified as these

[5] 'A subsystem consists of those actors from a variety of public and private organisations who are actively concerned with a policy problem or issue, such as air pollution control, and who regularly seek to influence policy in that domain' (Sabatier and Jenkins-Smith, 1999: 119).

factors are both intermixed and inter-related (i.e., feedback mechanisms exist between the factors as well as between the factors and their outcomes). Thus, based on the tentative framework presented in Figure 2 and the above discussion, the following research questions can be formulated:

Q1) *How do different management settings affect the extent of autonomy and discretion that street-level bureaucrats experience*?

Q2) *How do street-level bureaucrats' understanding of official public policy affect their decision-making and action*?

Q3) *How do street-level bureaucrats' implementation resources affect their decision-making and action*?

Q4) *How do street-level bureaucrats' policy core beliefs – normative and empirical – affect their decision-making and action*?

I will return to the tentative framework in Chapter 6 to revise the framework in light of the answers to these research questions. In the next chapter, I will discuss the different case studies that form the basis of this thesis, as well as the empirical material collected and how it was analysed.

3. Method

This chapter discusses the adopted case study design, the rationale for the selection of cases and the collection of the empirical material. The more specific methodological issues, however, are elaborated in each of the four papers included in this thesis.

3.1 Case study approach

A qualitative case study approach is used in order to fulfil the aim of this thesis. A case study is defined as a study where a bounded system is in focus. This means that a case study focuses on a specific (social) problem, e.g. a political programme, an event, a person, a process, an institution or a group. Case studies are fruitful when a scholar is interested in discovering new sides of and learning more about a social phenomenon, rather than in testing hypotheses and producing statistical generalisations. Case studies are primarily concerned with 'contextual interpretation', i.e. with ascertaining the interaction between different significant factors that characterise the studied phenomena (cf. Yin, 2014; Stake, 1995; Miriam, 1988 Miles and Huberman, 1994; Gilliam, 2001).

What case(s) does this thesis address? Yin (2014) distinguishes between more concrete and less concrete cases. The former can be e.g. individuals, groups and organisations and the latter communities, relationships and decisions. I argue that, in this thesis, bureaucrats constitute the primary unit of analysis, which is studied in different empirical settings, while their decision-making process constitutes the case. Thus, the case is a process, i.e. the implementation of a policy. By studying this process in different empirical settings, differences and similarities in street-level

bureaucrats' implementing behaviour can be distinguished and analysed in relation to the explanatory factors presented in the theoretical framework. This brings me to the question of what kind of conclusions can be expected from the different case studies.

The thesis sets out to deepen our understanding of which factors can explain street-level bureaucrats' action and decision-making, i.e. the implementation of public policy. Thus, the ambition is to contribute to theory development. The thesis departs from a framework (see Figure 1) derived from previous street-level research, and from there a set of theoretical questions have been derived. Within the frame of this thesis, these questions are examined by means of a case study approach, in different empirical contexts, and the results of these studies will, at a final stage, be used to refine the tentative framework of street-level implementation (cf. Dubios, 1992; Wieck, 1979; Kirkeby, 1994; Esinhart, 1989; Strauss and Corbin, 1990).

According to Yin (2014), the results from case studies cannot be used to make empirical generalisations nor determine causality casualty between different theoretical factors or variables. The case study does not represent a representative sample and therefore the researchers cannot extrapolate probabilities (statistical generalisations). This said, with the right research design, the researcher can expand or generalise theories, i.e. make analytical generalisations, based on case study research. In other words, these analytical generalisations may modify, reject or advance theoretical concepts or propose new theoretical concepts that arise from the results of a case study. Yin (2014) states that generalisations that are based on a case study take place at a conceptual level, i.e. theoretical, level, and thus exceed the particular case (Merriam, 1988). For example, the (theoretical) results from this thesis can be used as a point of departure when studying street-level bureaucrats in other empirical settings, and to formulate theoretical propositions on what factors can explain street-level bureaucrats' implementation of official policy.

3.2 Presentation of the empirical studies

Street-level bureaucrats, my unit of analysis, are usually found in classrooms, crowded welfare offices or on the streets, as teachers, social workers and police officers (Lipsky, 1980). However, street-level bureaucrats can also be found elsewhere, at regional welfare offices (Keiser, 2010) and in the environmental sector at both regional and local level (Trusty and Cerveny, 2012; Winter, 2003). This thesis incorporates three empirical studies of environmental bureaucrats in two different policy contexts, namely the fishery sector and the water sector. I will utilise both a single and a comparative case study approach. The rationales for each of the four empirical studies are discussed below, and the different case study designs are also accounted for.

The first empirical study is based on a comparative research design that encompasses a comparison between street-level bureaucrats who work with fishery management and water management, respectively, at two regional authorities in Sweden, i.e. the County Administrative Board (CAB) and the River Basin District Authority (RBDA). The unit of analysis in this study are the street-level bureaucrats who work within these two different management settings and the case is the decision-making process. The aim of the study is to examine whether and if so how different management settings affect the bureaucrats' autonomy and discretion, and how the bureaucrats comprehend and make decisions based on their formal commissions. The two policy sectors were selected because they comprise two opposite management settings: fishery management is organised based on a top-down ideal whereas water management has more in common with a collaborative management ideal where interaction with stakeholders is considered important. Thus, the autonomy and discretion of the studied street-level bureaucrats should, at least in theory, differ between these two management settings.

Also the second empirical study is based on a comparative case study approach. The focus of this study is to examine street-level bureaucrats working with fishery management at the regional level in Sweden and Finland. The unit of analysis is the street-level bureaucrat working at the regional level, and the study focuses on

decision-making in regard to fish stocking, i.e. the release of hatchery-reared fish into the sea. Thus, also in this study the case is a decision-making process, and the study aims to identify how different factors affect the decisions of street-level bureaucrats. The rationale for this empirical study is that despite being subject to the same (international and EU) policy, these countries represent different fish stocking practices: In Sweden bureaucrats at the studied CABs make more divergent decisions regarding fish stocking than their counterparts in Finland, street-level bureaucrats working at the Centres for Economic Development, Transport and Environment (ELY-centres), who make more coherent fish stocking decisions. Another argument for analysing these two countries is that both countries are adjacent to the Baltic Sea and one country's decision may have a negative impact on the other. Thus, this study sets out to explain the differences in stocking decisions between the two countries.

The third empirical study is designed as a single case study, yet with comparative elements, of Swedish street-level bureaucrats working at the municipal level with the implementation of the EU Water Framework directive (WFD), more specifically with the implementation of the Program of Measures (PoM) defined by the RBDA. In this study the unit of analysis is street-level bureaucrats working with water management in their respective municipality. The study is concerned with how different factors affect the implementation of the PoM by the street-level bureaucrats. The reason for selecting this case is that ten years have passed since the WDF was introduced in Sweden and, according to the yearly evaluation by the RBDA, less than fifty percent of the municipals claim to make decisions and take actions based on the PoM. The study addresses, and sets out to explain, this implementation deficit by examining how individually held policy core beliefs, policy understanding and prevailing implementation resources influence decision-making. Street-level bureaucrats from two municipalities in each of the five river basin districts in Sweden were selected for the empirical investigation. Furthermore, half of the studied bureaucrats worked within the environmental department and the other half in the technical department, which enables a comparison of the

implementing behaviour between bureaucrats working in the two different departments. This third empirical study is elaborated in two separate papers (see papers 3 and 4 below).

3.3 Interviews and data collection

Interview studies constitute my primary method for collecting data. Interviews are necessary in order to understand how actors perceive the world. The method literature usually makes a distinction between open and semi-structured interviews. While the former aims to enhance knowledge about the unknown and about areas in which the existing knowledge base is undeveloped, or to address actors' interpretations, the latter aims to investigate phenomena for which there is existing knowledge about the studied object (Devine, 2002; Kvale, 1996). Since this thesis elaborates on a phenomenon – the street-level bureaucrat – that has been researched previously, and since I utilise a predefined analytical framework that identifies possible explanatory factors for decision-making and implementation, I use semi-structured interviews to collect the data.

3.3.1 Interview design

Semi-structured interviews were used in all empirical studies. The interview guides were based on different themes, derived from the theoretical framework, and under each theme some more specific questions were listed. I worked with themes and not standardised questions to reduce the risk of influencing the respondent too much and to ensure that unexpected answers can come out of the interviews (cf. Flyvberj, 2001; Kvale, 1996).

I did not follow the interview guide exactly during the interviews. The information shared by the respondents was not always in line with the question that had been asked. When this happened it was noted in the guide to enable me to return to the unanswered questions later (cf. Hole and Solvang, 1991; Patton, 1980). Some of the interviews were conducted by a research assistant. The validity of these interviews was secured in two steps: First, the interview guide was designed by me and thoroughly discussed with the assistant. Second, the research assistant

conducted a pilot interview, and the resulting transcript was discussed in order to ensure high quality of the interview and that it captured data I needed to answer my research questions. The interviews conducted within the framework of this thesis can be described as structured conversations on different topics. The content of the interview manuals was at some point revised, usually between the first and second interview, to improve the formulation of questions or to change the order of questions (cf. Starrin and Renck, 1996).

The empirical material of this thesis constitutes information collected during 40 semi-structured interviews lasting 30-90 minutes. The interviews were recorded and then transcribed for analysis; some of the transcriptions were made by a research assistant. The data for the first empirical study comprise 11 interviews with street-level bureaucrats at the regional level in Sweden, five from the fishery unit at the CAB and six from the RBDA. The second study is based on nine interviews: four with bureaucrats from the fishery units at four different CABs in Sweden and five with bureaucrats from the regional ELY-centres in Finland. The selected sample represents street-level bureaucrats at different regions from north to south in both countries. The third and fourth studies are based on 20 interviews with street-level bureaucrats working in ten different Swedish municipalities. Two municipalities from each of the five river basin districts were selected and one bureaucrat from the environmental department and one from the technical department were interviewed in each municipality.

Some notes on the strengths and weaknesses of the empirical material must finally be made. Interviews are associated with various challenges to validity. To start with, the respondents might believe that the researcher is conducting an audit of the agency or policy performance, and thus fear that the study can have a negative effect on them in the future. Due to this risk, the respondent may avoid some questions or exaggerate their answers, i.e. window dressing (Kvale, 2002). Another strategy that the respondent can make use of during an interview situation is to talk about how things should be, or ought to be, instead of telling how they actually are. The respondent can also consider the study as a mean to improve the policy or

working conditions and therefore view the researcher as a person through which discontent against the policy can be channelled in hope that this will lead to improvements. Moreover, there is a risk that dissatisfaction is widely exaggerated as a strategy to achieve an impact. The researcher has to bear all of this in mind both when designing the interview study and analysing the material (Bell, 1996).

Despite these (potential) flaws in the empirical material, the advantages of using interviews are greater than the disadvantages. Interviews provide us with information on unexplored qualitative phenomena since the questions can be tailored according to the particulars of the study. The above-mentioned problems of disinformation can be reduced if the researcher reassures the respondents that the results from the study will not be used to evaluate the agency's performance. Problems with misleading information decrease if several interviews are conducted since several answers in the same direction should indicate that the stories are valid. Using qualitative interviews, with open-ended questions, ensures that the respondent can talk freely about issues and increases the chance that their statements are based on personal beliefs and not researcher bias (cf. Flyvberg, 2001). Table 1 summarises the approaches applied in each of the four papers.

Table 1. *The design of the thesis*

Paper	*Aim*	*Case design*	*Data*
Paper 1	Examine whether and how different management settings affect street-level bureaucrats' (SLBs) autonomy and discretion	Comparative case study Water and fishery management at regional level in Sweden	11 interviews
Paper 2	Examine and explain differences in fish-stocking decisions by SLBs in Sweden and Finland	Comparative case study. Fishery management at regional level in Sweden and Finland	9 interviews
Paper 3	Examine and explain how policy understanding and implementation resources affect SLBs' implementation of the PoM at municipal level	Single case study with comparative element. Water management at municipal level in Sweden	20 interviews
Paper 4	Examine and explain how policy core beliefs affect SLBs' implementation of the PoM at subnational level in Sweden	Single case study. Water management at municipal level in Sweden	20 interviews (the same as in paper 3)

4. Introducing the articles

This chapter introduces the aim and major results of the four different articles that this thesis is based on.

In the first paper, *Inspecting Environmental Management from Within: The role of street-level bureaucrats in environmental policy implementation*, my co-author Sverker Jagers and I assert that an important element is missing in much of the current environmental management literature, namely, the street-level bureaucrat. The aim of the paper is to deepen the understanding of the role street-level bureaucrats play within different management ideals and, through this discussion, identify how they affect the functionality of governing structures and processes. To this end, we interview street-level bureaucrats in different management settings, enabling evaluation of the degree to which their practices correspond with the ideals expressed in the literature. We find a rather poor match between these ideals on one hand and the way street-level bureaucrats perceive government and carry out their commissions on the other.

The second paper, *A comparative case study of fish stocking between Sweden and Finland: Explaining differences in decision making at the street level*, departs from the fact that stocking programmes are currently developed in significant numbers in the Baltic Sea, despite the fact that fish stocking might have unfavourable effects on the genetic composition of wild populations. The aim of the study is to examine and propose explanations for potential differences in fish stocking practices between Finland and Sweden. A comparative case study, focusing on the decisions made by street-

level bureaucrats at regional level, was conducted. The results show that Finnish bureaucrats make more similar decisions than their Swedish colleagues. The lower regional variation can be explained by greater similarities in policy beliefs and the fact that Finnish bureaucrats, in cases of uncertainty, consult the same implementation resource. Thus, by clarifying policy substance and designing a central organisation for the provision of knowledge and advice, policy makers can counteract regional variation in fish stocking practices.

In paper three, *Incoherent policy and lacking advice: addressing the inadequate implementation of the European Water Framework Directive*, my co-author Annica Sandström and I discuss the implementation of the WFD in Sweden. In this study, the implementation of the Program of Measures (PoM) – which is part of the European Water Framework Directive – is explored. The impact of two explanatory factors on decision-making is also examined, including the bureaucrats' understanding of formal policy, and their implementation resources, i.e. networks of advice. Twenty qualitative interviews with bureaucrats' at sub-national level were conducted. The results verify the critical role of these bureaucrats as only one-third of them make decisions in line with the PoM. They also indicate that the bureaucrats' understanding of how coherent the policy is, and whom they turn to for advice, matter for the turnout. Higher-level policy makers could thus support implementation by adjusting policy incoherence and improving existing and organising new resources to provide these bureaucrats with guidance.

The implementation of the WFD is further discussed in paper four, titled *Do policy core beliefs influence street-level bureaucrats' action? The implementation of the water framework directive in Sweden*. This paper sets out to explain the inadequate implementation of the WDF and PoM by examining the street-level bureaucrats' policy core beliefs by means of a single case study based on 20 interviews. This is a novel theoretical approach in street-level research. The results imply that the street-level bureaucrats' empirical policy core beliefs, i.e. their notions about the management system and the policy instruments, influence their willingness to implement the WFD, whereas the normative policy core beliefs, i.e.

their notion about the importance of the conservation of water as a natural resource, have less influence. The results also indicate that street-level bureaucrats in the environmental sector have a more positive view on the empirical policy core beliefs and thus are more willing to implement the PoM.

5. Results

In this chapter, I will discuss the results from the papers and answer the research questions formulated in Section 2.2.7.

Let me begin with the first research question: *How do different management settings affect the amount of autonomy and discretion that street-level bureaucrats experience*? The results from paper one indicate that street-level bureaucrats act neither as the management ideals would suggest nor with their formal commissions and internal steering. We had expected the bureaucrats in the more traditional Weberian (top-down) management organisation to have rather low autonomy and restricted discretion. The empirical results did not support this assumption, i.e. they displayed high degrees of both discretion and autonomy from organisational authority. In the case of water management (i.e. collaborative management), we expected to find bureaucrats with a higher degree of autonomy but restricted discretion. The empirical results indicate that the studied street-level bureaucrats have high autonomy, while their discretion, in some areas of their work, is more restricted. These findings lend weak support to our theoretical proposition. However, it seems that regardless of the management setting, the studied bureaucrats have a relatively high degree of both autonomy and discretion, enabling them to influence official policy outcomes.

The second, third and fourth research questions all concern the degree to which various factors can explain the street-level bureaucrats' implementation of official policy. The second research question asked: *How do street-level bureaucrats' understandings of official public policy affect their decision-making and action*? The results from article two show that bureaucrats in both Sweden and

Finland perceived the policy content to be ambiguous, especially in regard to genetic considerations in fish stocking. In Sweden, this ambiguity has resulted in significant divergences when it comes to how policy is implemented; bureaucrats at regional level make their own interpretations of official policy and the implementation differs. In Finland, by contrast, a common interpretation, across the investigated ELY centres, has evolved, giving rise to more similar decisions. Thus, different practices have evolved in the two countries, due to unclear massages from higher-level policy makers. In Finland, bureaucrats have found a common strategy to deal with this uncertainty whereas the same situation in Sweden has given rise to a range of different ways to interpret the content of policy.

Results from paper three show that policy understanding, in particular regarding whether the studied bureaucrats consider policy as coherent or not, does influence their implementing behaviour (assessed by the extent to which they consider the PoM when making decisions). Nearly all of the studied street-level bureaucrats, both implementers and non-implementers, view the policy as unclear and claim that the PoM does not provide any clear guidance for their decisions. Comparing the two groups in terms of their notion of policy coherence, however, a distinctive pattern emerges. The group of street-level bureaucrats who perceive policy as coherent are more willing to implement the PoM, whereas the other group of bureaucrats, who experienced extensive incoherence, i.e. clashes between different policies, do not consider the PoM when making decisions.

These results give at hand that street-level bureaucrats' policy understanding influences their implementation of official policy. This result has been confirmed by other studies in the field (cf. Meyer and Vorsanger, 2003; May and Winter, 2009). Furthermore, the findings imply that polices that are both unclear and incoherent have a particularly strong effect on the non-implementation behaviour of street-level bureaucrats (cf. May et al., 2006; Nilsson et al., 2012).

The third research question was: *How do street-level bureaucrats' implementation resources affect their decision-making and action*? Results from paper two (the comparative analysis of fish-stocking decisions in Sweden and Finland) imply a link between

implementation resources and implementing behaviour. The study shows significant divergences between how implementation resources are utilised in the two countries and there are reasons to believe that this affects the implementation. The Swedish street-level bureaucrats consult different implementation resources in cases when they perceive policy as ambiguous. Some bureaucrats consult universities and experts at national agencies, others do their own research and yet others are more self-sufficient. This diversity gives rise to diverse knowledge input concerning genetic concerns and fish stocking practice, which leads to different decisions being made at regional level. In Finland, all bureaucrats expressed that they consult the same organisation, The Finnish Game and Fisheries Research Institute (FRGI), when they are uncertain about their decisions. This leads to a more common knowledge base and thus more similar fish stocking decisions across regions.

Results from paper three also indicate that there is a relationship between the use of implementation resources and the implementing behaviour. The study shows that street-level bureaucrats who consult implementation resources in cases of uncertainty tend to implement policy to a higher degree than those who do not seek advice and assistance. In particular, the bureaucrats who turn directly to the RBDA for policy advice implement the PoM to a higher extent than others. Thus, turning to state agencies for advice seems to be correlated with higher implementation. It is reasonable to assume that in cases where street-level bureaucrats seek advice only from internal resources, i.e. their colleagues, the probability of following local practices instead of official policy increases. These results are in line with previous research that suggests that different implementation resources give different advice and thus underpin different interpretations of official policy (cf. Hill, 2003).

Let us move on to the last question: *How do street-level bureaucrats' policy core beliefs – normative and empirical – affect their decision-making and action*? Results from study two confirm that policy beliefs have an impact on street-level action and decision-making in the case of fish-stocking practice. The Swedish bureaucrats have different policy beliefs regarding fish stocking and genetic

diversity. Some respondents believed that the genetic issues were important to consider prior to decisions, whereas others were less concerned with these issues and questioned the actual impact of fish stocking on the genetic component. In Finland, the bureaucrats shared more similar policy beliefs, thus leading to more similar implementation at regional level than in Sweden.

On the same note, the results from paper four indicate that there is a relationship between the policy core beliefs held by street-level bureaucrats and their willingness to implement the PoM at municipal level in Sweden. The results show that street-level bureaucrats' normative policy beliefs have little impact on decision-making, while their empirical policy core beliefs matter significantly. Street-level bureaucrats who implement the PoM share empirical policy beliefs that align with the beliefs on which the programme is based; the implementing actors all experience problems with the water quality and are in favour of the new management system and the policy instruments. All non-implementing street-level bureaucrats, however, share negative beliefs towards both the management system and the policy instruments. Furthermore, street-level bureaucrats working in the environmental department have both positive normative and positive empirical policy core beliefs, which makes them more willing to implement the PoM than their counterparts in the technical department, who have more negative policy core beliefs, especially the empirical ones.

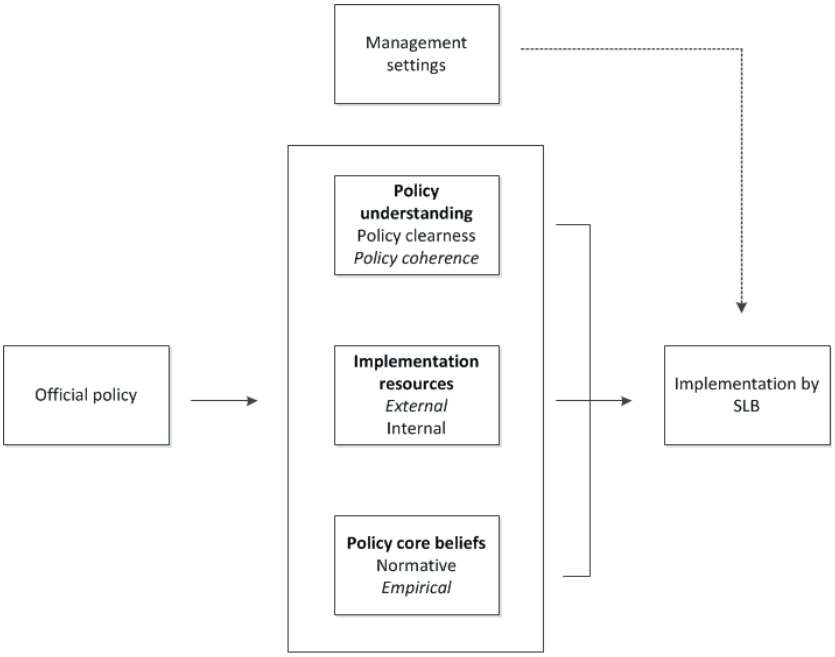
To conclude, the results of paper four indicate that in order for public policy to impact street-level decision-making, the beliefs underpinning the policy and the beliefs held by the bureaucrats have to go in tandem. The normative policy core beliefs seem to have no direct impact on decision-making. However, the results indicate that the empirical policy core beliefs, corresponding with the beliefs expressed in official policy, have an effect on the bureaucrats' willingness to implement official policy. These results confirm previous findings that values and beliefs have an impact on street-level action (cf. Winter and May, 2009; Brehm and Gates, 1997; Maynard-Moody and Musheno, 2003) yet challenge previous studies that have suggested that normative policy beliefs are the primary driver for actors to advocate a specific policy in e.g. coalition building

(see Matti and Sandström, 2011; Weible and Sabatier, 2009). The results also imply that street-level bureaucrats who work in different departments at municipal level might have different policy core beliefs, beliefs that affect their willingness to implement environmental policies (cf. Hysing, 2013; Hysing and Olsson, 2011; Olsson and Hysing, 2012).

6. Theoretical discussion

With the empirical results presented in the previous chapter at hand, the tentative framework presented in the theoretical chapter (see Figure 2) can be further refined.

Figure 3. *A framework for explaining street-level implementation*



Note: Italics in the boxes indicate that these sub-factors seem to have greater influence on the dependent factor than the others. The dotted line from the box 'management settings' indicates that the factor that is to be explained is street-level bureaucrat's autonomy and discretion, not the implementation of official policy.

The empirical results indicate that *management setting* has some effect on the autonomy and discretion of the street-level bureaucrat. Street-level bureaucrats in the Weberian management setting have high degrees of both autonomy and discretion. This result is not in line with the theoretical proposition of a low degree of autonomy and restricted discretion. Street-level bureaucrats in the collaborative management setting have a high degree of autonomy and somewhat restricted discretion. This result is more in line with the initial theoretical proposition. Figure 3 indicates a relationship between management setting and the autonomy and discretion that street-level bureaucrats experience. However, the relationship is somewhat different than theoretically proposed.

The results suggest that bureaucrats' *policy understandings* have an effect on street-level decision-making and action. Unclear policies can lead to street-level bureaucrats neglecting, or only partially implementing, the official policy. A policy that is understood as incoherent and contradicting other policies related to the policy problem hampers the processes of implementation. In situations where policy is considered to be both unclear and incoherent, the probability of non-implementation behaviour increases considerably. The empirical results imply that there is a relationship between the actors' policy understanding and their decision-making. Figure 3 suggests that the relationship between policy coherence and implementation by street-level bureaucrats is more influential than policy clarity.

If policies are considered as unclear and incoherent, street-level bureaucrats can consult different *implementation resources* for advice to increase their understanding of policy and thereby increase the probability for decision-making in accordance with it. The results show that the existence and characteristics of the implementation resources influence street-level action. In cases of uncertainty and when a network of advisers is missing or not utilised, official policy might not reach its intended goals. The results of this thesis point at the particular importance of state agencies since these actors can provide knowledge and advice in accordance with official policy objectives. Other actors – professionals, academics and experts in the policy field – might have their own interpretation of policy and

therefore give advice that diverges from official policy. Thus, street-level bureaucrats who turn to the responsible state agency for advice are more likely to implement the intended goals of the policy. Accordingly, Figure 3 indicates that there is a relationship between implementation resources and the decisions made by the bureaucrats, external implementation resources in particular.

Policy core beliefs affect the willingness of street-level bureaucrats to implement official policy. The results indicate that the implementation of official policy does not increase when street-level bureaucrats have normative policy core beliefs, i.e. notions regarding conservation vs. use of natural recourses that correspond with the central ideas of official policy. Instead, for implementation to occur, street-level bureaucrats also need to share the empirical policy core beliefs on which the official policy is based, i.e. beliefs regarding what management system and policy instruments are needed in order to handle the policy problem. Thus, it seems that it is not sufficient for street-level bureaucrats to only have normative policy core beliefs that are in line with official policy. In order to implement policy, these normative policy core beliefs must be combined with empirical policy core beliefs that are in favour of the current management system and strategies. In Figure 3, the empirical policy core beliefs are therefore marked as being more important than the normative policy core beliefs when it comes to explaining the implementation of official policy.

To conclude, the framework in Figure 3 suggests that the influence of official policy on street-level action is least successful in situations where official policy is perceived as unclear and incoherent, where there are no or merely internal implementation resources to consult for advice and where there is a mismatch in beliefs between the bureaucrat and official policy. In those situations, street-level bureaucrats become de facto policy makers, i.e. they shape official policy in ways that were not intended by the policy makers' initial goals. The framework also suggests that different management settings more or less influence the autonomy and discretion of street-level bureaucrats and can therefore indirectly influence their implementation of official policy.

7. Policy implications

Some policy implications can be addressed based on the empirical results and theoretical discussion. Usually when a public policy objective is not fulfilled, or not successfully implemented, politicians will call for more polices in order to address the problem at hand. This call for more policies is likely based on the logic that politicians have to signal both willingness and capability to handle contemporary policy problems to the electorate. Nevertheless, studies addressing implementation deficits suggest that more polices is not always the solution to the problem (for an overview see Hill and Hupe, 2002). More polices increases the institutional complexity (Koppenjan and Klijn, 2004) and can enable bureaucrats to deliberate which policy to implement and therefore give rise to selective implementation (cf. Lipsky, 1980; Lundquist, 1987; Rothstein, 1994)

The results from this thesis suggest that the process of implementation that takes place within the public administration can explain implementation deficits, and the crucial role of street-level bureaucrats in this process has been highlighted. This begs the question of what official policy makers can do to counteract the policy-making role of street-level bureaucrats. My framework both identifies problems and suggests possible solutions.

First, unclear and incoherent polices decrease the probability that street-level bureaucrats will implement them. Policy makers can make an effort to formulate policy objectives in a more precise manner and also provide advice on and standard operating procedures for how to meet the objectives. Policy makers can also revise polices that regulate a specific policy area in order to make

them more coherent with each other. This can be done by introducing new regulations to enhance integration between different policies, or by abolishing existing, and potentially overlapping, regulations. Policy makers could also, when designing new polices, deliberate with street-level bureaucrats on substance and objectives so that local knowledge can be brought into the policy process. All in all, this would increase policy understandings among street-level bureaucrats and thus increase the probability that they will adhere to official policy.

Second, policy makers cannot a priori assume that street-level bureaucrats understand the implications of public policy. In order to enhance policy understandings, policy makers can design and direct implementation resources towards street-level bureaucrats so that they can be advised on how to interpret policy. If street-level bureaucrats consult implementation resources residing outside the public domain, they might receive advice that is not in line with the intentions of the policy makers, thus giving rise to implementation that deviate from the original goals. Hence, public policy makers should strive to design robust implementation resources within the public sphere, resources that can give street-level bureaucrats knowledge that coincides with the original intentions of the public policy makers.

Finally, official policy makers could consider and try to influence the street-level bureaucrats' policy beliefs. There are different strategies to this endeavour. Education and on-the-job training can help the bureaucrats interpret policy and thereby change their beliefs. Another strategy is for mangers and politicians to more strongly argue for the importance of official policy goals being fulfilled, either by signalling the substance of the goals and intentions of official policy or by emphasising the role of the street-level bureaucrats as implementers and not policy makers.

If policy makers can adopt some of the above suggestions, they can increase the probability that street-level bureaucrats will adhere to official policy. In other words, by strengthening the resources and capabilities that street-level bureaucrats have at their disposal, either by incentives or sanctions, policy makers can shape the environment

that street-level bureaucrats work in and thereby increase the probability that they implement the goals formulated at higher levels.

8. Concluding remarks

The overall problem addressed in this thesis concerns what role the environmental bureaucrats, practising at the end of the policy chain, play in the implementation of environmental policy. The aim was to introduce factors which can explain street-level bureaucrats' implementation of environmental policies. Drawing on previous street-level bureaucratic research, a tentative framework for analysing implementation at street level was developed and theoretical research questions formulated. Based on the empirical results from the qualitative case studies, the theoretical framework has been revised and some theoretical assumptions regarding street-level implementation have been formulated.

The results reveal that one should consider the decisive role that street-level bureaucrats play in the implementation of environmental policies in order to explain implementation success and failures. However, there are, of course, several other theoretical spectacles to wear when trying to understand and explain both successful and less successful implementation of environmental policies. The perspective in this thesis does not provide a complete picture but, nevertheless, emphasises an important component, i.e. street-level bureaucrats, that should not be neglected in the field of environmental policy and management.

The framework used for analysing and explaining street-level implementation has been fruitful. The results suggest that there are relationships between how street-level bureaucrats implement official policy and the three proposed explanatory factors policy understanding, implementation resources and policy beliefs. Furthermore, the results suggest that different management settings

– more or less – have an impact on the autonomy and discretion of street-level bureaucrats. However, the influence of management settings on the three other factors has to be further elaborated in order to establish their effect on street-level bureaucrats' implementation of official policy. Thus, both success and failure of environmental policy implementation at regional and local level can be explained by using the framework. The framework can be useful in explaining policy implementation in other policy areas as well. If the framework is used in comparative studies of street-level bureaucrats in the environmental sector, social sector and other sectors, it can be further developed and validated.

Still, this thesis has not been able to elaborate on all the important factors influencing street-level action. Previous studies on street-level bureaucrats have discussed various coping mechanisms and how these mechanisms influence their actions and decisions. The thesis has not elaborated on the coping mechanisms, mainly because street-level bureaucrats in the environmental sector do not interact with citizens as much as in the social sector. On a different note, there is also a need to further elaborate on the interaction between the factors included in the framework. Which of them explain actions taken by street-level bureaucrats better than others, and what is the nature of the interactions between the factors?

There are several possible directions for future research. One way forward is to test the framework in a large-N study that includes different policy sectors, in order to measure the explanatory strength of different factors and, also, to be able to explore the interaction effects between them. Street-level bureaucrats in different management settings, and in different policy sectors, need to be further investigated in order to understand the relationship between their autonomy and discretion and management settings. The effect of management settings on policy understanding, implementation resources and policy beliefs needs to be further investigated in order to understand how these different factors relate and influence implementation by street -level bureaucrats. There is also a need for integrating organisational factors into the model – not only different management settings but also how organisational norms and cultures affect street-level bureaucrats. Moreover, street-level bureaucrats'

policy core beliefs and their influence on the other explanatory factors included in the framework should be further investigated. For example, one might expect that street-level bureaucrats with policy beliefs in line with official policy goals might be more willing to enhance their policy understanding and seek advice from implementation resources. The relationship between street-level action and implementation resources would also be interesting to explore further. Different implementation resources might give different advice on public policy depending on their own interests in that policy area. How do street-level bureaucrats react if they receive advice that contradicts formal policy goals? How do learning processes emerge at street level; under what conditions do new knowledge and advice give rise to changes in the implementing actors' policy beliefs? Does street-level learning, in the sense of changes in beliefs, also result in new practices and decision-making behaviour? Finally, other factors that might affect street-level bureaucrats' willingness to implement public policy should be further investigated, such as signals from superiors and politicians about the importance of implementing public policy.

This thesis has addressed the decisive role that street-level bureaucrats play in the implementation of environmental policies, and has advanced a theoretical framework that can be used to explain success and failure in the implementation of environmental policies at both regional and local level in the administrative system. Michael Lipsky (1980) coined the concept of street-level bureaucrats, and established the scholarly tradition on street-level bureaucracy, with the key argument that street-level bureaucrats shape policy more than their superiors do. The bulk of street-level research has, however, been conducted in the social welfare sector. This thesis has illustrated that the less-studied street-level bureaucrats in the environmental sector, also are more or less de facto policy makers. Thus, street-level bureaucrats in the environmental sector play an important role in shaping the implementation of official environmental policy.

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Inspecting environmental management from within: The role of street-level bureaucrats in environmental policy implementation

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ABSTRACT

In this paper, we assert that an important element is largely missing in much of the current environmental policy literature regarding different management ideals: street-level bureaucrats (i.e., the practicing and, typically, anonymous civil servants at the very end of the environmental policy chain). Thus, we aim to enhance a deeper understanding of the role that street-level bureaucrats play within different management ideals, and through this discussion, we indicate how they affect the functionality of governing structures and processes. We do so by interviewing street-level bureaucrats carrying out their role in different management settings, enabling evaluations of the degree to which their practices correspond with the ideals expressed in the literature and in official directives. We find a rather poor match between these ideals on one hand and the way street-level bureaucrats actually perceive that they are internally steered and how they carry out their commissions on the other hand.

1. Introduction

Environmental management and policy implementation tend to be guided by either *top-down*, *market-based* or *participatory* ideals. Each ideal has pros and cons and thus vindicators and antagonists. Many environmental theorists have formerly advocated forcible measures to break the backs of negative and escalating environmental trends (Ehrlich, 1968; Hardin, 1968; Heilbrunner, 1974; Meadows et al., 1974; Ophuls, 1977), and top-down ideals have simultaneously guided much of the Western-world environmental management (Eckersley, 2004). Gradually, however, economists began arguing that environmental problems ought to be viewed as negative market externalities and that the principal way to overcome such problems was to "internalise" them; i.e., to include the environmentally related costs into the price of a product. This line of reasoning has spurred market-based management such as environmental taxes and cap-and-trade instruments (Knill and Liefferink, 2007; Sterner, 2012). The participatory ideal, finally, is inspired by various sources. On the one hand, philosophers and theorists such as Habermas (1984) and Dryzek (1990) have maintained the importance of deliberation and public participation for successful and publically rooted decision-making. On the other hand, it has been supported by empirically oriented scholars such as Ostrom (1990; 2005), who have studied the local management of common pool resources and argued for the benefits of participatory-oriented (co-)management.

These ideals differ in applicability; e.g., depending on which environmental problem is at stake. For example, the degree of excludability, geographical scale and level of interpersonal trust among the involved actors largely determine success in Ostrom-inspired management. Today, market-based management is commonly (although not exclusively) adopted on emissions, while harsher top-down-oriented management, such as legislation and prohibition, tend to be applied in the context of more urgent matters such as toxicity and other health-related problems. When surveying the research field, our impression is that a vast majority of the environmental management literature is concerned with how various expressions of these three systems differ in their structure and the principal outcome (effects) of adopting the different ideals (see Berkes, 2008; Berkes and Carlsson, 2005; Cocklin et al., 2007; Eckerberg and Joas, 2004; Kapoor, 2001; Plummer and FitzGibbon, 2004). In this article, we instead highlight the functionality of these systems. More specifically, we direct our focus to *the role and functioning of frontline bureaucrats* practising within a different kind of environmental administration (c.f. Stern et al., 2010, Svara, 2006). This is basically warranted for two reasons. First, in the study of environmental management, few works

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have explored street-level bureaucrats implementing environmental policies (with a few exceptions; see May and Winter, 1999; Nielsen, 2006; Sandström, 2011; Sevä, 2012; Trusty and Cerveny, 2012; Winter, 2003). Second, within the established research field concerned with street-level bureaucrats (Lipsky 1980) – reasonably the most natural literature to consult – environmental bureaucrats are a neglected unit of study (c.f. Brehm and Gates, 1997; Evalt and Jennings, 2004; Hill, 2006; Keiser and Soss, 1998; Langbien, 2000; May and Winter, 2007; Riccucci et al., 2004). This is surprising, since environmental bureaucrats are the officials who eventually implement most environmental policies. Thus, if they do not act as prescribed by the management ideals, the policies will hardly be fulfilled, regardless of original intentions and setup. The predominant argument here is that, therefore, one cannot properly evaluate the functionality of especially the top-down and the participatory environmental management modes (in which the bureaucrats have a *direct* and *active* implementing role)[2] unless we also carefully study how environmental bureaucrats apprehend their tasks and commissions and how they convert them into practice.

More specifically, *the aim of the paper is to investigate (a) how environmental bureaucrats in top-down organizations and participatory organizations apprehend their implementation commissions and the internal steering they are subjected to and (b) how they put this into practice*. To make our case and to determine whether there appear to be any major differences between bureaucrats in the two management ideals, we have performed a smaller empirical study in which we interviewed frontline bureaucrats in two different Swedish sectors: fishery and water management. The former is basically organized in line with the top-down ideal, while the latter is strongly influenced by a participatory and more persuasion-oriented ideal.

In what follows, we argue that, to fulfil our aim to further the understanding of frontline bureaucrats' role in the implementation of environmental policies within different management ideals, the interdependence between the two concepts of autonomy and discretion needs to problematize. This theoretical work includes the less-explored argument that, in order for frontline bureaucrats to have discretionary power (i.e., the ability to convert policy into action), they need both freedom of action and capacity for action. Furthermore, both of these forms of action are endogenous factors that work independently despite the formal management structures. Thus, they give rise to bureaucratic action that does not correspond to our investigated management ideal. Bureaucrats working at the frontlines of policy delivery are, therefore, crucial components in managing the environment.

The paper is organised as follows. In Section 2, we introduce the top-down and the participatory management ideals, account for the most essential findings in the research on street-level bureaucrats and clarify how we should expect bureaucrats to act, according to the two management ideals. We finalize this primarily theoretical section by formulating research questions. In Section 3, we present the two Swedish fields, fishery management and water management, and schematically illustrate how they are organized. In Section 4, we account for how the interviews were conducted and discuss various methodological issues related to our study. After the results are provided in Section 5, we conclude by highlighting our major findings and discuss how the research on environmental frontline bureaucrats can be furthered and additionally linked to the study of environmental management.

2. The role of street-level bureaucrats in environmental management

Scholars in various academic fields – predominantly economics, organizational studies and business administration – have conducted research concerning the management of the environment. Studies have focused on different impacts of environmental regulations on various firms and industries such as regulations' impact on economic growth and profitability (Ward, 2009); their effects on a firm's competiveness (Jaffe et al., 1995); and their role as drivers for technological change (Managi et al., 2005) and as barriers for new firms to enter markets (Dean and Brown, 1995). Other studies have been engaged in the different strategies that firms use and can be used to cope with environmental regulations being imposed upon them (King, 2009; Schaefer, 2009; Sharma, 2001). In addition, we find studies with a more explicit focus on the public administrations role in promoting environmental activity within industrial companies (Brio et al., 2002) and how different regulation regimes promote compliance to environmental policies among companies (Cabugueira, 2004; Georg, 1994; Sam et al., 2009; Silvo et al., 2002).

Scholars within our own discipline – political science – have also studied the management of the environment, both implicitly and explicitly. For example, we find studies that focus on different strategies on which states embark to transform society in more sustainable directions (Baker, 2007; Lundquist, 2001). Others deal with environmental policy compliance and legitimacy from the citizen's perspective (Matti, 2009) and different drivers for policy change such as advocacy coalitions and policy beliefs systems (Matti and Sandström 2011; Sabatier and Jenkins-Smith, 1999; Weible, 2005). Several scholars are also concerned with various governance modes in promoting sustainable development and environmental policy compliance (Baker and Eckerberg, 2008; Hysing, 2010; Lundqvist, 2004). Others focus on new management ideals that have emerged in order to enhance both legitimacy and efficiency in environmental management (Sandström, 2008; Sandström and Rova, 2010; Zachrisson, 2010). Finally, there is a work of literature focussing on citizens' compliance with various steering instruments and their legitimacy in relation to environmental policies (Berlin et al., 2012; Jagers et al., 2010; Jagers and Matti, 2010).

Clearly, management of the environment and the implementation of environmental public policy are executed in various forms and by various actors. As we can see, the above-mentioned studies tend to focus upon management processes within firms and the relationship between regulators, regulations and firms and companies and the role of the state in promoting sustainable development, managing the environment and implementing environmental policies. Contrary to all these studies, however, we instead wish to highlight and explore management processes that take place *within* the public administration, with a particular focus on the practising bureaucrats in different (public) management modes.

As discussed in the Introduction, it has been common to direct environmental management according to two dominating ideal types, or modes, within which environmental bureaucrats are to operate. The first management ideal can be labelled as *the Weberian* and is firmly rooted in the notion of sovereign people who are to govern themselves through representative democracy. In this outspoken top-down model, the public administration is seen as a

[2] The market-based ideal type of environmental management, sometimes labelled *new public management (NPM)*, is characterized by politicians providing bureaucrats with (a) a legal framework and (b) policy goals, after which independent market actors fulfil the public policies through competition (Osborne and Gaebler, 1992). Clearly, in this situation, bureaucrats have an indirect – gatekeeping – role; on the one hand, they formulate ex-ante policy goals, and on the other hand, they evaluate – ex-post – whether the goals are being reached or not. That is, they oversee that the actors on the market fulfil the goals originally set by politicians.

neutral instrument aimed at implementing the will of the people. Politicians formulate public policy, they exercise their control of the bureaucracy by command and control and, on an operational level, the *tour de force* is rule application. The *modus operandi* in the Weberian ideal type is authority, since it represents the idea that bureaucrats are to follow the will of their political masters/superiors and to be accountable to them in order to promote values such as equal treatment and rule of law (c.f. Gualmini, 2007; Olsen, 2005; Pierre, 2012).

The second ideal type we label as *co-management* and is founded in the idea of decentralization of political power. In order to enhance legitimacy and efficiency in the management processes, policy should be an ongoing entity in which key stakeholders and citizens take an active part. Contrary to authority, the role of politicians is primarily to set legal frames, within which concerned actors thereafter are to interact in networks (Sandström, 2008) or through collaborative management (Sandström and Rova, 2010) to formulate more operational policies. The bottom line is that the involved actors shall deliberate about policy and, ultimately, end up in a consensus about policy content. An often certified benefit with this ideal type is that it enhances values such as legitimacy (bureaucrats are both accountable to their political masters *and* to the "street") and efficiency (increased compliance among the stakeholders being involved; see Berkes and Carlsson, 2005; Plummer and FitzGibbon, 2004).

These two ideals of environmental management can be summarized as in Table 1:

2.1. Street-level bureaucrats

In order to explain the implementation of environmental policies, important lessons can be learned from research on street-level bureaucrats, which refers to civil servants interacting daily with citizens while at the same time having broad discretion over decisions concerning policy outcomes. According to this branch of research, policy is seldom made by higher-ranking officials, but instead by street-level bureaucrats interacting with citizens (Lipsky, 1980).

Lipsky's seminal work has developed a scholarly theme that has elaborated further the concept and the research of street-level bureaucracy. For example, several studies have examined *controls* over street-level bureaucrats and the ability to influence action at the front line of policy delivery. These studies examine signals from political superiors (Keiser and Soss, 1998; Langbien, 2000), organizational settings and arrangements (Hill, 2006), the administrative level and their emphasis on policy goals for the organization (Evalt and Jennings, 2004; Riccucci et al., 2004), enhancement of the capacity of the staff (Winter, 2003) and supervision from the managers (Brehm and Gates, 1997). Other studies have more explicitly elaborated on the *manager's* role in influencing street-level workers. For example, when studying the implementation of welfare reforms in several states in the USA, Riccucci (2005) found that managers have little impact on the action taken at the front line. On the other hand, Brewer (2005) suggests that managers play an important role in influencing frontline workers' action. Studies have also suggested that street-level bureaucrats' *values and ideology* have more or less impact on action and decisions (May and Winter, 2007; Maynard-Moody and Musheno, 2000).

Despite the plethora of studies on street-level bureaucrats, only a very limited body of research has focused on their role on the environmental scene. The few studies that we know of deal with, e.g., how street-level bureaucrats treat regulated companies differently due to various coping mechanisms (Lehman Nielsen, 2006) and the fact that bureaucrats' enforcement styles affect environmental stakeholders' compliance to rules and regulations (May and Winter, 1999). Studies have also demonstrated that street-level bureaucrats' norms and values have an impact on environmental policy implementation (Sevä, 2012; Trusty and Cerveny, 2012; Winter, 2003). However, none of these studies have more explicitly elaborated on the key tenant of street-level bureaucrats' policy-making role; i.e., their autonomy and discretion vis-à-vis formal management structures and processes. This is surprising, since they play a crucial role in the policy chain and in the actual realization and implementation of policies.

It should be noted that the bureaucrats we are concerned with (environmental bureaucrats) differ from the traditional Lipskyan street-level bureaucrats, for example, in that they do not always have daily face-to-face contact with their clients/stakeholders. Their practice of authority is generally more anonymous and may thus affect, for example, their disposition to follow national policies. In addition, environmental frontline bureaucrats are usually not professionals in the way that policemen, teachers, social workers and other street-level bureaucrats usually are. Instead, they tend to have a variety of educational backgrounds. Perhaps they'd be better described as experts or civil servants with some generic knowledge typically applicable within many different policy sectors (c.f. Lundquist, 1998). It is nevertheless reasonable to assume that environmental bureaucrats at the frontline also have more or less discretionary power and autonomy, which is similar to that of street-level bureaucrats. In this context, an important question arises: How does this combination of autonomy and discretion affect the implementation of policies in different environmental management arrangements? In order to answer these questions, we, by way of introduction, temporarily return to Lipsky again.

2.2. Theorizing autonomy and discretion

Throughout his work, Lipsky uses the two concepts of autonomy and discretion. Yet, even though he describes how, why and when they occur and he clearly treats them as preconditions for the policy-making role of street-level bureaucrats, he never defines them explicitly.[3] However, a close reading reveals that a precondition for street-level bureaucrats to have discretion is that they have more or less autonomy, either taken by themselves and thereby shirking or sabotaging official directives or granted by their superiors, because the tasks assigned to them require human judgment in one way or the other (c.f. Brehm and Gates, 1997; Ham and Hill, 1984). Thus, in line with Lundquist (1987), we here argue that the concepts of autonomy and discretion are interrelated and

Table 1
Different management ideals.

Different management contexts	Ideals of environmental management	
	Weberian	Co-management
Character of policy formation	Hierarchical policy formation	Ongoing policy formation
Institutional setting	Command and control (rules)	Network/cooperation
Micro-setting/organisational level	Rule application	Deliberation and consensus

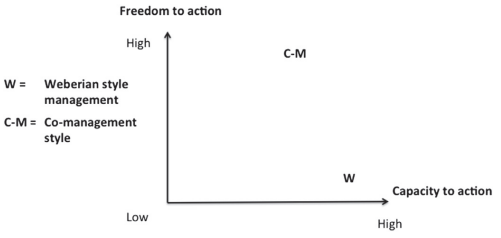
Comment: Inspired by Hill and Hupe (2002) and Kickert et al. (1999).

[3] The concepts of autonomy and discretion are interrelated and are even sometimes treated as synonyms (Clark, 1984, Lidström, 1991). For an excellent overview on the concepts of autonomy, see Verhoest et al. (2004); moreover, Dworkin (1988) and Lindley (1986) have discussed the concept in depth. Discretion is elaborated upon in the works of Bull (1980), Davis (1969), Dworkin (1977) and Galligan (1986).

that the latter cannot exist without the former. Let us elaborate somewhat further.

In order for street-level bureaucrats to have *discretionary* power, they need both freedom of action and capacity for action, as indicated in Model 1. The concept of *freedom of action* is closely related to autonomy. Street-level bureaucrats are free to act if superiors put few constraints upon them. They are then autonomous in a true sense (c.f. Dworkin, 1988; Lindley, 1986). Even if there are different restraints on action, street-level bureaucrats can act in ways that are unsanctioned by superiors. Primarily, three factors are usually said to put constraints on freedom of action. First, this can be confined by *political signals*. The wording, addressing and stressing of public policy on the part of both central and local politicians affect frontline workers' attention to official policies (Keiser and Soss, 1998: Langbien, 2000). A second factor is *managerial supervision*. This refers to different strategies that superiors command to ensure that workers' performance and decision-making adhere to official policy (Brewer 2005; Riccucci, 2005). Finally, *delegation* has mainly to do with the extent to which organizations and higher-ranking officers delegate authority to interpret and make decisions on policy content to the frontline (May and Winter, 2007).

Street-level bureaucrats' *capacity for action* is related to the above discussion on discretion and is connected to formal policy and resources (c.f. Taylor and Kelly, 2006). As previously mentioned, policy can be unclear or ambiguous; furthermore, policy does not always provide street-level bureaucrats with explicit knowledge on how to translate it into action (i.e., guidance for practise). In order to enhance understanding of policy, street-level bureaucrats can turn to different actors, such as governmental institutions, universities, professional associations, or consultants. Thus, the actors to which street-level bureaucrats turn if they need help to interpret policy affect their knowledge of policy and therefore shape decisions and the implementation of policy (Hill, 2005; May and Winter, 2007). Furthermore, street-level bureaucrats might lack resources; the official programme can lack sufficient funding, there can be a shortage of staff capacity and/or the existing standard operational procedure can be insufficient to solve the problem at which the official programme is aimed (c.f. Lipsky, 1980; May and Winter, 2007). Thus, even if street-level bureaucrats, for example, enjoy a great degree of freedom of action, they might simultaneously experience a low capacity for action; i.e., they can be said to have restricted discretionary power (c.f. Lidström, 1991; Lundquist, 1987).



Model 1. Street-level bureaucrats' discretionary power in different ideal types of management. *Comments*: With inspiration from Lundquist (1987). The model illustrates discretionary power as a function of freedom of action and capacity for action. Thus, according to the literature, street-level bureaucrats in the co-management (C-M) ideal have a high degree of freedom of action and less capacity for action. Their counterparts in the Weberian ideal (W) have a high degree of capacity for action and a lower freedom of action.

Let us now finally link our discussion about freedom to act and capacity to act to the two management ideals. Let us begin with the Weberian model. As illustrated in Model 1, it is reasonable to assume that the street-level bureaucrats' freedom of action is highly restricted (low), since their superiors are the ones laying down the rules and directives. There is thus a clear distinction between policy formulation and implementation, and the policies are travelling down an intra-organizational process, resulting in bureaucrats being rather inflexible and only moderately adaptable to the surrounding society (c.f. Olsen, 2005; Pierre, 2012; Weber, 2007). At the same time, however, bureaucrats in the Weberian management ideal must enjoy a rather high capacity for action in order to implement the top-down public policy. Legal frameworks are here *modus operandi* in guiding bureaucratic action, and there should be little or no discrepancies between rules and administrative behaviour. Bureaucratic decisions are based on rules that promote due process and equal treatment among citizens. Simply, there is one "best way" to apply the law for each single case (Pierre and Peters, 1998, 2003). In addition, politicians and superiors must have granted bureaucrats sufficient resources required to implement the policy.

In the co-management ideal (i.e., where the political power is decentralised and the bureaucrats have mandated to formulate operational policies in dialogue with stakeholders), the freedom of action granted to street-level bureaucrats must be high, as indicated in Model 1. In order to persuade bureaucrats to cooperate with other societal actors, governments have changed their forms of steering when implementing public policy, from direct interventional means (hard law) to less direct instruments (soft law), such as framework legislations, management by objectives, performance evaluation, financial incentives, and network management (c.f. Hill, 2005; Pierre, 2012; Pierre and Peters, 1998; Rhodes, 2007; Stooker, 1998). However, the capacity for action for street-level bureaucrats in the co-management mode is not as high as in the Weberian ideal. Lower-level bureaucrats depend on higher-level bureaucrats for resources, who in turn are dependent on ministers for their budgets. The relationship goes both upwards and downwards; lower-level bureaucrats also depend on stakeholders and other bureaucrats to gain knowledge, resources and legitimacy to carry out their office. Hence, the state and its bureaucracy have to collaborate with a wide range of societal stakeholders in order to get public policy implemented (c.f. Rhodes, 1996; Stooker, 1998). The underlying idea is that this will enhance effectiveness, participation and output legitimacy (Lundqvist, 2004; c.f. Pierre and Peters, 1998).

2.3. Research questions

Based on the discussion above, we can now state our research questions to be applied to our two empirical cases:

1) *How much freedom of action (FAO) do bureaucrats in the two different management ideal have, and how is it manifested?* This question refers to the first part of our aim; i.e., to determine how street-level bureaucrats apprehend their commission and internal steering.
2) *How much capacity for action (CFA) do bureaucrats in the two different management ideals have, and how is it manifested?* This question refers to the second half of our aim; i.e., to determine how street-level bureaucrats put their commissions into action.
3) *To what degree do bureaucrats' FAO and CFA correspond with the ideals found within the two management models, and what implications might our results have for the current environmental management?*

3. Case description and methodology

Historically, Swedish environmental politics has been characterized by strong central steering (Weberian) and a technocratic bureaucracy influenced by various societal actors; i.e., "corporatism" (c.f. Duit et al., 2009). In recent years, an institutional reform has been implemented, enhancing broader participation in much of the current natural resource management. This has a great deal in common with what is typically referred to as a *co-management* ideal (c.f. Zachrisson, 2010). Based on this short background, we argue that two cases are of particular interest for our purposes: water management and fisheries management. This is because the organizational design of Swedish water management largely resembles the co-management ideal type, whereas the fisheries management has kept many structures and processes that characterize the Weberian type of management. Furthermore, both of these policy sectors are integrated into the County Administrative Board (CAB), facilitating the study of how (or whether) the same institutional settings affect bureaucrats in different policy sectors. Let us introduce our cases somewhat further.

3.1. Case I – fishery management

The Swedish National Board of Fisheries (NBF, *Fiskeriverket*) is the government authority responsible for the conservation and exploitation of Sweden's fishery resource. The NBF is subordinated within the Ministry of Agriculture. While the broader policies are made by the government, the more detailed regulations are decided by the NBF. The CAB is responsible for Sweden's fisheries management at the regional level and works under the purview of the government and the NBF. The CAB fishery unit is an implementing agency for national fisheries policy and is thus the last link in the parliamentary steering chain. Much of their decision-making is based on "hard law"; i.e., various regulations delegated from the NBF. However, there are certain areas where they are sovereign to make their own decisions based on Sweden's fisheries legislation and EU's Common Fisheries Policy (Rova, 2004). The decision-making procedures in the CAB are typically bureaucratic; this means that a major part of the decisions concerning different stakeholders cannot be made by single bureaucrats. Instead, they have to report their decisions to a senior bureaucrat, who then formally makes the decisions. These procedures are common in the Swedish bureaucracy and serve to promote due process (SFS, 2007: 285). The bureaucrats at the CAB fishery unit make decisions based on the fishery legislation and have authority based on their position to implement national policy (SFS, 2007: 285). Clearly, as shown in Fig. 1, the CAB and its fishery unit has much in common with the Weberian ideal.

3.2. Case II – water management

In 2004, the European Water Framework Directive (WFD) was incorporated into the Swedish environmental legislation. This policy sector is characterized by conflicting political goals, many different actors and the fact that different layers of the public sector are involved in the governing process. One way to solve these problems has been to implement local co-management (Duit et al., 2009).

The Swedish River Basin District Authorities (RBDAs, *Vattenmyndigheterna*) are responsible for implementing the WFD. Swedish water management is organized into five different river basin districts which have the authority to make policy decisions. Each district has an RBDA. Moreover, in each district, there are several CABs that provide the RBDA with policy information. One important feature of the water management is that the government has emphasized openness and broad participation in the implementation of the directive, which is also expressed in the national regulations (SFS, 2004:660). The idea is that local knowledge and involvement both facilitates and improves water management output legitimacy (Lundqvist, 2004).

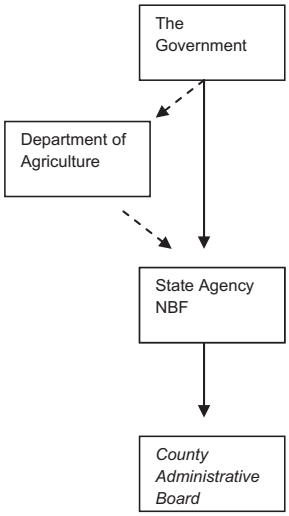


Fig. 1. Fishery management (Weberian ideal type). *Comments*: The box text in italics indicates the organizational boundaries within which the street-level bureaucrats reside, which is our unit of analysis. The arrows point out the steering direction according to formal legislation and policy.

This design indicates a co-management ideal. Furthermore, all policy recommendations made by RBDA bureaucrats have to be confirmed by the Water Delegation (WD, *Vattendelagationen*), which is chaired by the county governor (CG, *landshövdning*). Moreover, in every river basin district, there are Water Councils (WCs, *Vattenråd*) with which the RBDA ought to deliberate policy content before any formal decisions are made. A WC consists of stakeholders from municipalities, industries, landowners, and various other interest groups. The WCs are important partners to the RBDAs. Their members can, already in an early stage, get involved in decisions about how the water should be managed (Ekelund-Entsson and Gipperth, 2010). All of this indicates that the water management has a flexible institutional setting, which should enable both vertical and horizontal deliberation (c.f. Lundqvist, 2004). The RBDAs are mainly governed by "soft law" (goals and indicators), decided upon by the government. The national state agencies in this area are the Swedish Environmental Protection Agency (EPA) and the Swedish Meteorological and Hydrological Institute (SMHI), both responsible for various guidelines in order to help the RBDAs implement policy. All in all and as described in Fig. 2, the Swedish water management has a lot in common with the co-management ideal.

4. Data collection

The article is based upon a comparison between two single case studies – fishery and water management – both conducted at one county administrative board (CAB) in Sweden. The respondents were recruited via the CAB's website, where all of the bureaucrats working at that unit could be identified. We contacted them to

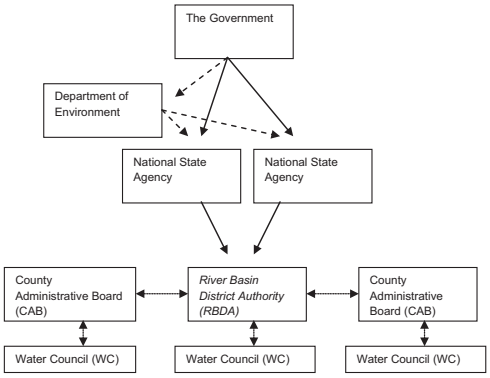


Fig. 2. Water management (co-management ideal) in one of the river basin districts. *Comments*: The Environmental street-level bureaucrats primarily reside in the box River Basin District Authority, which is our unit of analysis. The arrows point out the direction of governing, and the two-sided arrows describe the deliberation processes based on formal policy.

make appointments for interviews. In order to enhance validity, all of the involved bureaucrats at both units were interviewed to capture eventual different views and answers to our questions. Thus, the empirical part of the article is based on 11 qualitative interviews conducted during November and December 2009; five are involved in fishery matters and six in water management. Due to the anonymity of the respondents, we have chosen not to disclose the location of the CAB. We used semi-structured interviews; i.e., the interviews were based on a pre-designed interview guide, which contained thematic questions that were open ended. The benefit of this design is that it combines structure with flexibility (Kvale, 1996). The design was such that it opens up for unexpected information and is flexible enough to ask different follow-up questions in order to get deeper and more nuanced answers. Simultaneously, however, it was structured enough to keep the interviewees within the topic of the study. All of the interviews were conducted face to face and lasted for 45–90 min, and they were transcribed word for word. In order to check for potential biased answers from the respondents, the information about the organizational structure and process gathered in the interviews was finally crosschecked with official documents from the two policy sectors. All quotations in the empirical part were translated from Swedish to English.

The interviews were analysed based on our research questions and theoretical framework. We asked the respondents questions regarding the external and internal steering signals concerning their formal mandate to act and how they understood them. These questions referred to their freedom of action. To capture the bureaucrats' capacity for action, we also asked questions regarding their understanding of various policies within their realms and if they had the capacity to enforce them. We finally analysed the answers based on our theoretical model (1).

5. Empirical results

In this section, we answer our research questions and have organized the content accordingly. We start by exploring the freedom of and capacity for action in fishery management and move on to water management, thus exploring the street-level bureaucrats' discretion.

5.1. Exploring freedom of and capacity for action in fishery management

Bureaucrats at the CAB fishery unit express that policies (i.e., laws and regulations) are made by the parliament and the government. The NBF issues binding ordinances based on the mentioned rules and regulations (Interviews 2, 3, 4 and 6), which indicates a more traditional Weberian management ideal. However, all of our respondents say that there are no direct steering signals from the government. Even more noteworthy is that the bureaucrats at the fishery unit can deliberate the content of the appropriation directive from the government with higher officials at the Ministry of Agriculture (Interviews 2, 3, 4, 6 and 11). One bureaucrat elaborated upon the process as follows:

> "We manipulate the decision-making bodies, sure we do. We have a great relationship with the ministry, and prior to each letter of regulation we talk to them about which tasks we would like to be assigned, and then we get them…. It's like, we make sure we get the political approval of what we are going to do. They appreciate that we give them suggestions. They want us to do that, they are aware of their limitations, they are in Stockholm and don't know what's going on" (Interview 6).

The other bureaucrats at the CAB fishery unit were less explicit but confirmed that they basically govern themselves and seemed to agree that the most prominent steering instrument at their disposal is the appropriation directive (Interviews 2, 3 and 5). Some of the bureaucrats also expressed the wish that more of the Swedish fishery policies would be made at the regional level (Interviews 3 and 5). If there are no direct steering signals from the government and the national state agency, one should expect higher-ranking CAB officials to have opinions about how and with what the bureaucrats ought to work. Instead, however, all of the bureaucrats said that the internal steering at the CAB is almost non-existent, except for some planning documents intended to guide the work during the upcoming year. Noteworthy is that these documents are typically formulated by the bureaucrats themselves (Interviews 3, 4, 6 and 11). Thus, nothing of what we find in the interviews indicates that the respondents perceive their organization to be particularly bureaucratic. If anything, the empirical results rather indicate similarities with an autonomous state agency.

Our respondents expressed that the output from the policy process is partly articulated through "hard law," which comes in the form of regulations from the NBF. As one of the bureaucrats expressed, "The NBF formulates the rules that we need to comply with and they determine the extent of our decision-making authority. We have some liberty to decide on exceptions to these rules" (Interview 3). However, this does not provide the full picture. First, all of the bureaucrats said that they have a high degree of freedom of action when interpreting the regulations and that they often have opinions that differ from those of the NBF regarding how to apply the regulations (Interviews 2, 3, 4, and 6). Second, Swedish fisheries policy also advocates different environmental goals, such as fish conservation and ecosystem-based management (c.f. Fiskeriverket, 2007). However, bureaucrats at the fishery unit do not consider these environmental goals to be legitimate and therefore tend to disregard them.

What is more noteworthy is that the NBF does not follow-up on how the CABs work with the environmental goals, resulting in bureaucrats neglecting them and prioritizing other aspects of the national fisheries policy. According to the respondents, their work should focus primarily on the commercial aspect of the fishery policy, which they also do (Interviews 2, 3, 4 and 6). This indicates that bureaucrats disregard national policy because of their high degree of freedom of action.

Bureaucrats at the CAB fisheries unit also seem inclined to "protect their turf" – the less other CAB units interfere with their work, the better. This seems to be the case particularly with respect to the environmental unit, which has ambitions to cover the conservation and biological aspect of the fisheries policy. Bureaucrats also stated that the fishery unit is pretty much like a self-governing satellite within the CAB because superiors do not signal what they shall focus on in their day-to-day work (Interviews 3 and 6).

We now account for how the bureaucrats perceive their capacity for action.

All of the interviewed bureaucrats expressed that they consult the law and the instructions given by the NBF when making decisions. However, they do not always interpret laws and regulations in the same way the NBF does, a factor that sometimes results in disputes with the NBF on how to exercise the law (Interviews 2, 3, 4 and 6). One interpretation of the disputes with the national agency is that many bureaucrats suffer from conflicting loyalties regarding which "demos" (legitimate masses) should actually govern them – the national or the regional one. As one of the bureaucrats said, "The NBF wouldn't see to the interests of professional fishermen in our region, so that's our part, we have to work for their interests, that the fishermen in our region are not ignored. Had there only been the NBF as this type of organization, there would probably only be eel fishery in the region of Skåne" (Interview 4). The other respondents were less explicit, though everybody expressed similar views. These findings imply that the policy promoted by the NBF is not always considered legitimate among the respondents and that the CAB bureaucrats have better insight into the stakeholders' interests in the county than the NBF has.

Many of the bureaucrats' day-to-day activities are structured around the Swedish fisheries legislation, as they typically deal with issues such as exemption from regulations within the legislation, the right to deploy fish in fish farms and decisions regarding grants for investments. However, since many issues are primarily concerned with different stakeholders, no bureaucrat can make the decisions by him- or herself. Instead, they usually need to be anchored upstream in the organization. For example, bureaucrats must report their suggested decisions, including thoroughly accounting for the legal paragraphs on which the decisions are based, to senior bureaucrats, who then formally make the decision. As previously mentioned, this procedure is common in the Swedish bureaucracy as a way to promote due process. However, all of the respondents expressed that they have broad discretion when interpreting law and regulations and that the decisions they advocate are adapted to fit the regional context, which does not uphold values such as equal treatment and rule of law. Moreover, their superiors usually decide in line with the bureaucrats' suggestions. In addition, the fishery regulations issued by the NBF are rather encyclopaedic; i.e., there is a risk for "selective" implementation, which some bureaucrats also confirmed (Interviews 3 and 6).

Another source of influence, in addition to formal steering instruments, is the senior bureaucrats who have long careers at the CAB fishery unit, especially when it comes to interpreting the fishery law, but also including other policies. A typical example is a case in which one of the bureaucrats with less time at the CAB tried to make a senior bureaucrat work more with conservation and environmental aspects of the fishery policy. This initiative was, however, turned down by the senior bureaucrat because, according to him, these questions are not prioritized, as it is the commercial side of the fisheries that is the prime target (Interview 4; see also Interviews 3 and 6).

Individual bureaucrats at the CAB fishery unit can also be characterized as policy entrepreneurs, since they try to change or influence policies initiated by the NBF, both as a member of different government commissions and through direct contact with senior NBF bureaucrats. However, according to the respondents, the results from the bureaucrats in trying to influence the national fishery policy are modest (Interviews 2 and 6).

All in all, these and various other examples point towards rather self-governing bureaucrats at the CAB fishery unit who seem to prioritize the interests of regional stakeholders rather than the national goals and who also have the power to implement their own policies and agendas. Thus, the bureaucrats have both high freedom of and capacity for action, and taken in concert, they have a high degree of discretionary power.

5.2. Exploring freedom of and capacity for action in water management

With regard to the management model that the Swedish government has designed for the RBDAs, we should certainly expect bureaucrats to take both far-reaching initiatives and to extensively deliberate with different stakeholders throughout the various implementation processes, including with different municipalities in the water basin districts; i.e., the regional demos (c.f. Ekelund-Entsson and Gipperth, 2010). How, then, do our interviewed bureaucrats perceive their freedom of action?

Clearly, the RBDA bureaucrats expressed a strong will to implement the Water Framework Directive (WFD). However, the respondents also stated that the government keeps a low profile regarding the implementation of the WFD. This includes the responsible state agencies; i.e., the Swedish Environmental Protection Agency (EPA) and the Geological Survey of Sweden (SGU). In addition, all of the respondents said that the effectiveness of the different implementations of the WFD would have been significantly improved had the national entities taken a more active role. As one of the bureaucrats expressed, "There haven't been any clear national directives… a lot of the management has been up to the RBDAs to decide, and it has been requested that the national units should take that responsibility" (Interview 8).

None of the interviewed bureaucrats consider the stakeholders in the river basin district to have been actively involved in the implementation processes of the directive, perhaps with the exception of the formal referral process that has been conducted in the river basin district (Interviews 1, 8 and 9). The organization seems to be less flexible and adaptable than what the institutional design of the RBDA prescribes. Furthermore, the bureaucrats called for a more bureaucratic organization in order to promote values such as equal treatment and rule of law (Interviews 1, 8 and 9; c.f. Ekelund-Entsson and Gipperth, 2010).

Furthermore, the only steering instruments at their disposal are "soft" ones, which are basically the goals in the national legislation and the WFD and the guidelines from the EU. To be able to properly execute their authority, all of the respondents therefore demanded more efficient steering instruments from the national level when it comes to both content and process. However, neither the government nor the national agencies responsible for the WFD have responded to their demands (Interviews 1, 8 and 9).

Another important although rather vague (and apparently very important) steering instrument referred to in this context is *time*. The respondents expressed that the most significant driving force in their work is to get all of the products finished on time so that the delegation can make the required decisions before they have to report them to the European Commission. The EU has a rigorous time schedule and reporting system to which the bureaucrats have to adhere (Interviews 1, 8, 9 and 10).

Furthermore, higher-ranking RBDA officials have been giving the bureaucrats clear guidelines both regarding policy content and process, which, according to the respondents, has helped them to

fulfil their duties and thus circumscribed their autonomy (Interviews 8, 9 and 10).

The implementation process within the water management is not in line with the official directives and the co-management ideals, which are discussed above, since the bureaucrats have not deliberated with stakeholders in the river basin district when formulating policy. However, as the results above demonstrate, had the bureaucrats been able to choose, they would have preferred that the government and the responsible state agencies use their power to both formulate and coordinate national policy. In other words, the bureaucrats actually prefer less freedom of action. However, due to a lack of national steering signals, their superiors have taken an active role in signalling which goals should be prioritized. This analysis now explores what kind of capacity for action the bureaucrats express that they have when it comes to implementing the WFD.

According to most of the interviewed bureaucrats, they see themselves as pioneers paving their own way in their ambition to implement the WFD. There are literally no policy guidelines from the government or the two state agencies responsible for the water issues (Interviews 1, 8 and 9). For example, the policy guidelines from the two mentioned state agencies only appeared when the first management cycle was complete (in late 2009). The following statement is a typical illustration of how the bureaucrats perceive this process:

> "[The Swedish Environmental Protection Agency] has no power to decide over us, but they should provide instructions and guidelines, and that's of course a way to control what work we should do and the guiding documents. But they have been very passive. It has been difficult to make them take that role. We can only speculate about the reasons for this. Maybe it's because they didn't become a national water authority themselves…. We are not going to spend any more energy on this. And the guidance work has been done backwards. They started with the wrong document. The handbook was published the week before we printed the action program draft. I think that's a scandal" (Interview 1).

All of the interviewed RBDA bureaucrats agreed that they have to formulate policy all by themselves, and they call for stronger policy guidelines from the government and state agencies. Consulting EU material concerning how the member states should interpret the WFD has partly compensated for this discrepancy.

Furthermore, the input (mainly knowledge and information) needed to produce the policy documents requested by the WFD (e.g., environmental quality standards, program of measures, monitoring plans, and river basin management plans) has primarily been received from *other* CABs in the river basin district. At each CAB in the district, there is a secretariat that is to provide data to the RBDA to ensure that they can fulfil their duties. The design of the water management in Sweden strongly advocates for deliberation with stakeholders in the district as a device to enhance knowledge about the local arena. However, the bureaucrats at the CAB secretariat stated that they had not received enough information from the municipalities and water councils to be able to perform that well. Inadequate information is due to a lack of time and to the reluctance of stakeholders in the river basin district. Furthermore, historically, the CABs in the district have used different methods when collecting data regarding water management. Thus, the data received by the RBDAs has been of varying quality and has served as an obstacle to creating the required policy documents (Interviews 5 and 7).

The work of preparing the different policy documents has taken place in various groups consisting of bureaucrats from *other* RBDAs in the country, although that has not been the formal intention. Working in cross-horizontal groups serves to create harmony among the policy documents from the different RBDAs in order to promote values such as equal treatment and rule of law (Interviews 8 and 9). While the bureaucrats have been able to formulate environmental quality standards inter-organized by themselves, their first draft of programs of measures, guided towards state agencies and municipalities, was not approved by the water management directors. Instead, the directors worked out their own proposal for the program of measures that the bureaucrats had to accept, thus significantly decreasing their freedom of action. Several of the bureaucrats at the RBDA felt that this indicated a lack of trust in their work and was clearly an act of steering from their superiors in one of the most important issues that the bureaucrats were assigned to create, all by themselves, according to the WFD (Interviews 5, 7 and 8).

Many stakeholders are engaged in the Swedish water management, both public and private, and in order to implement policy, the RBDAs are dependent on their cooperation. However, according to the respondents, several state agencies and municipals have expressed that they only take orders from the government and not from the RBDAs (Interviews 8 and 9). In response to the direct question of what will happen with the policy recommendations in the program of measures, the RBDA bureaucrats responded that it is "written in the stars." One of them reported as follows:

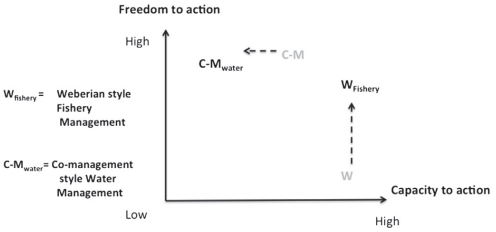
> "Our action programs target authorities and municipalities. And we are to tell which measures should be undertaken, and according to the Environmental Code, they must implement the measures needed according to an action program. The Code enables us to delegate tasks, but at the same time, there is a risk there will be conflicts partly with the hierarchy; we are delegating a task that only the central government can delegate to a unit above us in the hierarchy. They are only responsible to obey the government. Many of the issues we have regulated in the action program normally belong in the letter of regulation, assignment to develop guidelines, assignment to design instruments. Some agencies have signalled that they don't want such assignments from the RBDAs – they have to come from the government if they are going to do it. Because they feel that they answer to the government and not the RBDAs" (Interview 8).

According to all of the bureaucrats, it is a difficult task to give guidelines to other state agencies regarding measures that are required to fulfil the program of measures: "…we can't give direct orders to other agencies. We have to formulate ourselves in an indirect manner regarding what we want them to do, because of the nature of the Swedish public administration" (Interview 9). All bureaucrats mentioned that it is still very unclear whether these "soft" steering instruments will ever meet their objectives, due to a reluctant state and municipal actors. "This way of steering has never been tested in Sweden; we are pioneers and the future will tell whether it will work – I don't believe it's going to work" (Interview 9; see also Interview 8). All in all, these answers indicate that the bureaucrats have a rather high level of freedom of action when it comes to formulating important aspects of policy, however circumscribed by their superiors in some areas. What is more noteworthy is that they seem to have less capacity for action when it comes to the implementation of policy, since they are dependent on other public actors in order to fulfil their duties.

6. Discussion

The main empirical findings are summarised in Model 2.

In both fishery and water management, bureaucrats more or less resemble the street-level bureaucrats described by Lipsky (1980). They both enjoy freedom of action, and they all have a certain capacity for action at their disposal, though to various degrees. In



Model 2. Environmental bureaucrats' discretionary power in different ideal types of management. *Comments:* Compared to the original – and expected – positions where bureaucrats in the co-management (C-M) ideal have a high degree of freedom of action and less capacity for action and in the Weberian ideal (W) a high degree of capacity for action and a lower freedom of action, our results signal different positions. The co-management bureaucrats ($C\text{-}M_{water}$) express that they have considerably less capacity to action then expected. Furthermore, the weberian bureaucrats ($W_{fishery}$) consider themselves having far more freedom to action than had been expected.

fishery management, bureaucrats have high freedom of action; neither any political signals nor signals or supervision from superiors in their organizations are to be found. Supervision is an important factor determining if bureaucrats work or shirk (or sabotage) their commission according to their policy principals (c.f. Brehm and Gates, 1997). More noteworthy is that they have the power to deliberate about the content of the appropriation directive. Thus, although practising within an outspoken Weberian organization, the policy process starts from the bottom up, which is quite the opposite of what we had expected. The agents here become principals, and thus formulate their own commission, flipping the pyramid of delegation and accountability (c.f. Winter, 2003). The bureaucrats in the fishery management stated that they think that the rules and regulations are rather clear when it comes to both process and content. However, the rules and regulations are extensive, and therefore they can use their discretion in order to choose which rule they shall adhere to, thus leading to *selective implementation*; in our case, this results in the promotion of commercial rather than environmental interest (c.f. Hrelja, 2011). They also add their own rules to the existing ones in order to make the policy more efficient and to ensure that they better adhere to their own policy beliefs (c.f. Sandford, 2000). Moreover, the bureaucrats stated that they have capacity to act and enforce the fishery policies in their region. Thus, they have discretionary power (both a high degree of freedom of action and capacity for action), as indicated in model 2 (cf. W with $W_{Fishery}$). Interpreted in this way, one can say that they act more or less as street-level bureaucrats, in line with Lipsky (1980), and are therefore important actors in formulating or altering official policies.

In water management, no political and state agency signals express the importance of implementing either the water framework directive or any supervision by state agencies. Thus, as indicated in model 2, the street-level bureaucrats in RBDA have rather high freedom of action. However, within the organization, the bureaucrats' superiors signal that it is important to fulfil the goals of the water framework directive. The bureaucrats, for example, stated that their freedom of action has been circumscribed when it comes to internal procedures, such as what to work with and when different policy documents shall be presented to their superiors. In previous studies, delegation of authority to lower-level bureaucrats and supervision from managers within the organization have been found to be important factors that decrease frontline workers' freedom of action (c.f. Brewer, 2005). The bureaucrats in the Swedish water management case also stated that their capacity for action has been circumscribed by their superiors. This is the case, for example, when formulating one of the most important policy documents required by the WFD, the program of measures. One can only speculate as to why the RBDA directors have chosen to decide jointly on the content of the program of measures. One reason might be that the measures are pointed towards other state agencies and municipals and are thus too politically sensitive upon which for the bureaucrats to decide. Another reason might be that the directors are held accountable for the content of the program of measures by the government and therefore have chosen to formulate them all by themselves. This is in line with the scholars who have argued that it is hard to hold street-level bureaucrats accountable for their decisions and action (c.f. Meyers and Vorsanger, 2003). Furthermore, the action taken by the superiors at the RBDA has also circumscribed the possibility that bureaucrats will deliberate with stakeholders on the content of the program of measures, which is otherwise considered an important feature in the implementation process of the WFD in order to enhance legitimacy and effectiveness (c.f. Lundqvist, 2004). Furthermore, the bureaucrats in the water management case stated that they had doubts that the policy documents they have formulated will ever be implemented, due to the lack of capacity to enforce them. They also expressed the desire for the government and the national agencies to provide them with appropriate resources to enforce the content of the different policy documents that they have formulated. One might also wonder how legitimate the steering instrument is in the eyes of the bureaucrats if they are not effective in improving water quality. The lack of capacity for action that the bureaucrats state might lead to their prioritisation to work with tasks that are more easy to fulfil than with more complex matters that are required to improve the water quality, which is the main goal of the WFD (c.f. Winter, 2002). All in all, the bureaucrats working in water management have less resemblance with the street-level bureaucrats than was asserted by Lipsky (1980); they have rather low capacity for action in some areas, whereas their freedom of action is rather high (cf. model 2, C-M compared with $C\text{-}M_{water.}$)

7. Conclusion

To cope with environmental problems and other collective action problems (Olsen, 1965) successfully, political institutions and steering are required. Whether the environmental protection will be successful or not is largely determined by how the institutions are organized and what policy instruments are adopted. However, in this paper, we have argued that successful environmental management is also determined by the staff or the bureaucrats practising within the organizations; i.e., what authority and means they have at their disposal and how they choose to put them into practice. Thus, the aim of this paper has been to investigate (a) how environmental bureaucrats in top-down organizations and participatory organizations perceive their implementation commissions and the internal steering they are subjected to and (b) how they put this into practice. This was conducted through the theoretical lens of street-level bureaucracy (Lipsky, 1980) and by studying bureaucrats holding office in the Swedish fishery management (Weberian) and in water management (co-management). In both cases, we find that the bureaucrats are important factors in the implementation of public policy. However, they act neither as the management ideals would suggest nor with their formal commissions. We had expected the bureaucrats working in the more traditional Weberian management organization to have rather low freedom of action but a higher capacity for action, which we did not find. If future research reveals similar results, it will be important to ask how to ensure that street-level bureaucrats within Weberian management ideals act in a purposeful way. In the case of water management (i.e., the co-management organization), we expected

to find bureaucrats with high freedom of action who were forced to cooperate with stakeholders in order to enhance their capacity for action, neither of which was found. Also, these findings generate interesting food for thought. If additional studies of environmental street-level bureaucrats practising within co-management organizations produce similar results, it should be worthwhile to raise questions regarding the actual (through-put and out-put) benefits of applying the co-management ideals within the environmental sector. However, it should be noted that these are the results from one comparative single case study in one country. In order to both verify and problematize our results, they should ideally be compared with and further researched, both with regard to additional cases but also with a focus on street-level bureaucrats working in different countries; e.g., where one has more and longer experience in various co-management arrangements in the environmental management field.

From a theoretical perspective, it has been fruitful to analyse the discretionary power of the studied bureaucrats as a combination of freedom of and capacity for action. Thus, as shown above, in order for bureaucrats working at the frontline of policy delivery to have discretion, shape policy and also enforce it, they need both freedom of and capacity for action. If one of the components is missing, they are more or less "lame ducks" when it comes to implementing policy. Thus, in order to fully understand discretion, it should be treated as a two-dimensional concept. Further studies in various policy settings need to be done in order to confirm this tentative theoretical hypothesis.

Also, from a practical perspective, important learning can be gleaned from our results. First, both politicians and managers need to tighten up the internal steering structures and process in order to decrease the bureaucrats' discretionary power. This seems to be the case especially in order to promote values such as rule of law and due process regarding stakeholders within fishery management. Second, there is an urgent need for politicians and higher-ranking officials to clarify policy content and design more efficient steering instruments in order to promote formal policy content, especially in water management, particularly if they have the ambition to live up to the promised stakeholder engagement as a means to enhance legitimacy within that sector.

To finalize: Quite clearly, by engaging in the exercise of more thoroughly examining also the human components of environmental management organizations, new learning can be gathered regarding their functionality.

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A comparative case study of fish stocking between Sweden and Finland: Explaining differences in decision making at the street level

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ABSTRACT

Even though fish stocking might have unfavourable effects on the genetic composition of wild populations, stocking programmes are currently developed in significant numbers in the Baltic Sea. The aim of this study is to examine and propose explanations for potential differences in fish stocking practices between Finland and Sweden. A comparative case study, focusing on the operational decisions made by frontline bureaucrats at the regional level, is conducted. The results show that frontline bureaucrats in Finland make more similar decisions than their colleagues in Sweden do. The lower regional variation can be explained by greater similarities in policy beliefs and by the fact that Finnish bureaucrats, in cases of uncertainties, consult the same implementation resource. Thus, by clarifying policy substance and by designing a central organisation for the provision of knowledge and advice, policy makers can counteract regional variation in fish stocking practices.

1. Introduction

The intentional introduction of hatchery-reared fish is seen as a central tool in modern fishery administration, and fish stocking programmes are currently developed in significant numbers in the Baltic Sea. Intentional introductions are made for several reasons: to support endangered fish stocks, to increase the stock of harvestable yield, and/or to compensate for declines in stock due to hydropower development. The short-term economic effects of stocking programmes have been considered more or less successful while the programmes tend to be perceived as less successful from a conservation perspective due to potential negative effects on the genetic diversity [1]. One major concern is the use of and spread of alien populations—namely, genetically distinct populations within species that are released outside their natural habitat due to fish stocking. The consequences of these practices can be dire: Natural gene stock might decrease or change radically, adaptive capacity might be lost, and species may even become extinct. Such consequences might also affect biodiversity among different species, thereby affecting the balance of the ecosystem as such [2]. Thus, the short-term valuable effects can cause unfavourable effects on the genetic composition of wild fish populations in the long run if the stocking programmes are not properly governed and guided using appropriate scientific knowledge [1].

Addressing this particular problem in the context of the Baltic Sea, current fish stocking practices illustrate the challenges and problems of governing a shared natural resource (i.e., a common sea that crosses formal administrative borders). All countries adjacent to the Baltic Sea have signed several treaties that aim to conserve biological diversity and protect the sea from further environmental degradation [3–5]. However, common treaties do not necessarily imply common practices. The implementation process brings about significant challenges as many different levels of governance supranational, national, regional, and local are engaged in the process of realizing these far-reaching goals [6]. Multilevel governing structures, and the existence of a multitude of actors representing different policy sectors, can result in different interpretations, disagreements, and divergences [7]. Governance is further complicated due to the uncertainty originating from the availability and reliability of scientific information concerning the natural environment.

Fish stocking is one illustrative example of such problems as several policies, from both the UN and the EU, directly and indirectly impact national regulations concerning fish stocking. In two recent studies, Sandström addressed the gap between science and practice in Sweden, advocating for a more restrictive approach to fish stocking [5,8]. The vast substantial and institutional uncertainties of the governing system were identified as variables that complicate the realisation of fish stocking practices that incorporate considerations of genetic diversity. At the

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operational level, bureaucrats have to "navigate within a complex policy subsystem of multiple actors and policy-making institutions, conflicting goals and disparate problem definitions" [5]. Furthermore, Sandström's study demonstrated that the Swedish fish stocking policy consists of a wide array of different regional policies, thereby implying large regional variations despite the same national policy [8]. These are troublesome findings, not the least for the prospect of successful preservation of genetic diversity in the Baltic Sea, but also for values such as procedural fairness and equal treatment within the public administration.

This study departs from a call for comparative studies in order to deepen our understanding of how different countries adjacent to the Baltic Sea deal with the uncertainties embedded in the policy subsystem [8]. Accordingly, fish stocking practices in Sweden and Finland are compared, and the forthcoming analysis shows divergences between the two countries. The regional variation typical in the Swedish case was not evident in Finland. How can this difference between these two countries be explained? The current study focuses on a particular and often overlooked component in the literature on natural resource governance; the *frontline bureaucrats*, who make decisions at the operational level. In this paper, it is argued that these frontline bureaucrats' understanding of formal policy, their policy beliefs, and their implementation resources affect fish stocking decisions. Thus, the aim of this paper is to examine and propose explanations for differences in fish stocking policies between Sweden and Finland. This issue will be elaborated upon by undertaking a comparative case study investigating fish stocking practices, focusing on the operational decisions made by frontline bureaucrats at the regional level.

The paper is organised as follows. First, the theoretical framework is presented and the research questions specified. Second, the cases are thoroughly introduced, and the chosen methodology is presented. Third, the empirical results are presented and analysed. Finally, a theoretical discussion is undertaken based on the empirical findings, and the paper ends with a conclusion and some notes on policy implications and future research.

2. Theory

A classical theme in public administration involves determining who has power over policy. One key question is whether bureaucrats are servants or masters and to what extent they can be governed and controlled by their political superiors [9,10]; The traditional view is that politicians formulate polices and bureaucrats implement them; in other words, bureaucrats are considered to be a neutral implementing instrument that follows the intention of policy principals. Scholars have elaborated upon and questioned this view, and several studies have suggested that bureaucrats have other roles as well, implying overlapping roles between politicians and bureaucrats and suggesting that bureaucrats have more or less influence over policy outcome [11].

Implementation research shows that no clear link exists between policy intent and bureaucratic action. Several explanations have been suggested for the deviation from public policy, including (1) the nature of the policy process, such as its design, resources allocated to its execution, and the validity of the casual theory [12,13]; (2) organisational variables, such as organisational culture and inter-organisational cooperation [14]; (3) implementation environment, such as behaviour of the groups affected by the policy and public opinion [15]; and (4) implementation structures, such as policy being moulded in a process involving several actors at the local level and the characteristics of this structure determining how state policy corresponds to action at the operational level [16]. Several syntheses among these explanations have also been made [17,18]. The lesson to be learned from these studies is that the translation of higher level goals into street-level action is subject to several disjunctive influences [19].

To explain implementation and policy outcome at the operational level, lessons can be learned from research on street-level bureaucrats [20], which refers to civil servants interacting daily with citizens while at the same time having a wide discretion over decisions concerning policy outcomes. According to this branch of research, policy is seldom made by higher-ranking officials, but instead by street-level bureaucrats interacting with citizens [20]. However, the bureaucrats in this study (i.e., those who make the stocking decisions at the regional level) differ from street-level bureaucrats in some important aspects. First, they do not engage in daily face-to-face contact with their clients/stakeholders, which makes their practice of authority more anonymous. Second, the bureaucrats studied herein are not in a strict sense professionals; rather, they typically have a wide range of educational backgrounds and can be described as experts or civil servants with generic knowledge that might be applicable to several policy sectors [21]. Then again, similar to street-level bureaucrats, one might expect that the studied bureaucrats have a significant amount of discretionary power and autonomy. In this paper we refer to these actors as *frontline bureaucrats*.

With the crucial role of frontline bureaucrats as a point of departure, which factors should be considered in order to explain decisions made by these actors? In this paper, decisions reflecting policy outcome are argued to be dependent on primarily three different factors: bureaucrats' understanding of formal policy, their policy beliefs, and their implementation resources [5,19–22]. All these factors are assumed to explain frontline bureaucrats' decision making and, accordingly, possible divergences in regional policy.

Understanding of formal rules. Understanding of formal policy refers to how frontline bureaucrats perceive the substance and implications of policy. Vague policies are a common feature in policy sectors, where it is difficult for politicians to have a clear view of the exact policy content because of the complexity of problems. Furthermore, policies in a subsystem can be extensive and non-coherent, which can result in selective implementation [20,22–23]. All in all, these factors might result in frontline bureaucrats developing different understandings of formal policy, its substance, and implications. It is assumed that their understanding of policy affects their decisions.

Policy beliefs. Policy beliefs are defined as the frontline bureaucrats' understanding of the policy problem. In cases of uncertainty or vague policies, the bureaucrats' own policy beliefs become a decisive factor in the implementation process. Policy beliefs refer to actors' notions of the nature, seriousness, causes, and possible solutions of the policy problem at hand. The formal policy, in regards to both substance and process, might not correspond with bureaucrats' own beliefs, thereby leading to selective strategies or non-cooperation in different ways [20–24]. Thus, the policy beliefs held by bureaucrats affect the implementation of formal policy, and divergent beliefs might explain differences in decision making at the lower levels of administration.

Implementation resources. Implementation resources refer to individuals or organisations that can help the implementing units – namely, frontline bureaucrats – learn about policy or best practise for developing policy. Policy is just text on a piece of paper until it is put into action. As previously mentioned, policy can be unclear or ambiguous; furthermore, policy does not always provide frontline bureaucrats with explicit knowledge on how to translate it into action (i.e., guidance for practise). In order to enhance understanding of policy, frontline bureaucrats can turn to different actors, such as governmental institutions, universities, professional associations, or consultants. Thus, the implementing resources to which frontline bureaucrats turn, if they need help to interpret policy, affect their knowledge of policy and therefore

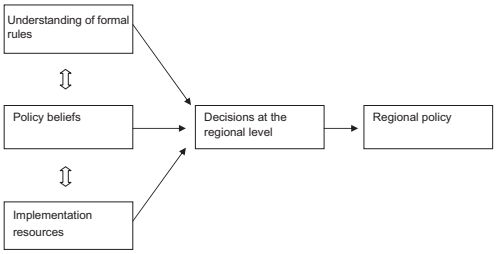

Fig. 1. Governing processes at the operational level, based on [5,19–22].

shape decisions and the implementation of policy [25]. The analytical model is presented in Fig. 1.

In accordance with Fig. 1, decisions made by the frontline bureaucrats are in this study treated as the dependent factor in relation to the three explanatory factors. It is further assumed that these decisions compose regional policy; in other words, policy is defined as the pattern of actual decisions. Thus, policy is just a written text on a piece of paper until it is enacted and implemented by bureaucrats at the front line of the policy chain. Fig. 1 suggests that frontline bureaucrats understand and interpret formal policy differently and that their own policy beliefs and prevailing implementation resources affect their line of decisions. Evidently, the model is significantly simplified as these factors are both intermixed and inter-related (i.e., feedback mechanisms exist between the factors as well as between the factors and their outcomes). Thus, based on the theoretical discussion, the following more specific research questions have been formulated.

1. How do bureaucrats at the regional authorities in Sweden and Finland understand formal fish stocking policy?
2. What policy beliefs do bureaucrats at the regional authorities in Sweden and Finland have when it comes to genetic concerns in fish stocking?
3. To which actor(s) do bureaucrats at the regional authorities in Sweden and Finland turn in cases of uncertainty in how to understand formal fish stocking policy?

3. Cases and research method

Comparing the overall institutional framework of the two countries, great similarities as well as some divergences are found. In Sweden, the Agency for Marine and Water Management (SwAM),[1] which falls under the Ministry of Agriculture, is responsible for the conservation and exploitation of fishery resources. The national legal framework that regulates fish stocking consists of the Environmental Code, the fisheries law, governments' regulations, and the prescriptions of the SwAM. Taken together, these policies set the conditions for the operational decisions concerning fish stocking. All introductions or movements of fish from one area to another require permission from the County Administrative Board (CAB).[2] In short, the legal documents state that no permission to release fish is issued if the species or population are considered inappropriate for the character of the water or if a risk of spreading diseases occurs [26–27]. Thus, it is the frontline bureaucrats at the CAB fishery unit who make the actual stocking decisions based on the above-mentioned legal framework.

In Finland, the responsibility for the fishery resources is divided. Non-commercial species fall under the Ministry of Environment while commercially important species fall under the supervision of the Ministry of Agriculture and Forestry. The Finnish Game and Fisheries Research Institute (FGFRI) – a government-funded research organisation – has a unit for fish research and is also responsible for state aquaculture activities. Fish stocking is regulated in the national Fisheries Act. The law implicitly recognises the value of genetic diversity in fish stocks by prohibiting "actions that may harmfully influence nature or its balance" [28]. If new species or stems are to be introduced – non-native species or stocks – a warranty or permission from the local fisheries administration is requested; otherwise, the decision remains with the owner of the water. Permissions are issued by the fishery authority unit at the Centres for Economic Development, Transport and Environment (ELY-centres). Thus, it is the frontline bureaucrat at the ELY-centres who makes the actual decisions concerning fish stocking based on the above-mentioned legal frameworks.

Sweden and Finland have similar governing systems, although Finland differs from Sweden in that the former does not have a National Board of Fisheries responsible for issuing more detailed regulations based on the Finnish Fishery Act. Instead, Finland has the more independent research institute FGFRI. Another difference of significant importance is that, in Sweden, all releases needs to be authorised while in Finland, permission is only needed in cases when a new stock will be used. Thus, in Finland the bureaucrats at the ELY-centres only have discretionary power over some of the decisions made concern fish stocking in their region, whereas in Sweden the bureaucrats have discretionary power over all the decisions made in their region.

The current study compares how frontline bureaucrats make decisions concerning permissions to stock fish at a regional level in Sweden and Finland, including waters that are adjacent to the Baltic Sea. The focus is exclusively on fish stocking practices involving salmon and salmon trout. The reasons for this are threefold: (1) These species are commonly used for large-scale introductions; (2) Genetic considerations are of particular importance in these species as they are composed of genetically distinct populations; and (3) Salmonids are well researched, which means that considerable scientific information describing the genetic composition and possible impact exists [2]. Moreover, the empirical analyses do not cover the specific policy framework regulating introductions with regard to trade, compensational releases, genetically modified organisms, or introduction within Natura 2000. Thus, the large amounts of releases made due to compensations for either rivers or creeks disturbed by human action, due to hydropower, or waters that are disturbed by human action (e.g., pollution or the building of roads) are not researched in this study.

To fulfil the aim of this study, the stocking practices in four CABs and five ELY-centres were analysed. The CABs and the ELY-centres represent different geographic areas in Sweden and Finland, from north to south, and were selected to capture potential differences in stocking practices. The empirical material was collected through interviews with the frontline bureaucrats responsible for decisions on fish stocking within their organisations. The interviews were conducted in 2010 and 2011 and were semi-structured, designed for open-ended answers, and lasted between 30 and 90 min. The interviewees were asked questions

[1] During the collection of the data for this study, the National Board of Fisheries was the agency responsible for Swedish fisheries policy. Starting 1 July 2011, a new agency became responsible for the implementation and supervision of the Swedish fisheries policy: the Swedish Agency for Marine and Water Management (SwAM).

[2] The County Administrative Board is the regional authority in Sweden responsible for the implementation of the government policies and decisions in the region; Sweden has 21 CABs.

about the following themes: reading of formal rules, policy beliefs, implementation resources, and their actual fish stocking decisions. The interviews were tape recorded and transcribed for qualitative analyses. In order to enhance validity, the author returned to the respondents to ensure that the interview data were correctly interpreted.

4. Results

In this section, a comparative analysis identifying differences when it comes to within-country variation is conducted and, thereafter, the empirical factors that are assumed to explain differences between countries are analysed.

4.1. Decisions and regional policy

In Sweden, two of the investigated CABs practice fish stocking; however, the extent and reason for this line of action differ. In one of the regions, a vast number of fish are regularly deployed in order to enhance the social, recreational fishing and economic aspects of fishing (Interviews 3 and 4). The other two regions share a very restrictive view on fish stocking; in one of them, no releases are made while the other one deploys fish for its own research purposes only. The motive behind the chosen approach is that conservational aspects are highly valued (Interviews 1 and 2).

In Finland, all investigated ELY-centres authorise fish deployment in small numbers. According to the Fisheries Act, water owners need permission from the ELY-centres only when new populations are to be introduced. All bureaucrats at the ELY-centres share a restrictive view when it comes to releases of new populations (Interviews 1–5).

To conclude, in both countries, fish stocking is performed at the regional level. However, the amount of and reason for it differs. In Sweden, fish stocking is performed in two of four regions, including vast numbers in one region, thereby resulting in significant regional differences. In Finland, a small number of releases are permitted in all of the five investigated regions. Thus, the analysis suggests that different decisions regarding fish stocking are made in Sweden while the Finnish bureaucrats make more equal decisions across the different ELY-centres.

4.2. Understanding of formal rules

Swedish bureaucrats expressed different views regarding the clarity and substance of rules, regulations, and guidelines. They also made different interpretations regarding what policy actually implies for their own decisions. Two bureaucrats perceived regulations as generally clear, although interpretations are needed (Interviews 3 and 4). Meanwhile, others considered them to be ambiguous, especially when it came to which population can be used in stocking (Interview 2). In response to a direct question, asking one interviewee what the person did in the case of ambiguity, the answer was that "*it is up to the administrator to decide*" (Interview 3). Different opinions regarding the sufficiency of formal rules to sustain genetic diversity of fish stocks were also found. Two of four bureaucrats thought that clarifications were needed. The following statement illustrates this perspective: "*Apart from the salmon rivers, the law is too ambiguous*" (Interview 2).

A similar tendency was noted in the Finnish case. Two of five bureaucrats considered rules and regulations to be clear (Interviews 1 and 2). The other three pointed to the fact that the fisheries law merely states that different fish populations should be held apart while nothing is said about how (Interviews 3–5). Four of the five interviewees thought that the law would need clarifications concerning how genetic diversity should be considered when practicing fish stocking (Interviews 1–5). However, all of the bureaucrats stated that, even if the policy is unclear, when making decisions about fish stocking they consider the value of genetic diversity. The reason for this is that a common cross-regional policy has evolved among different ELY-centres regarding how to handle genetic questions in fish stocking. As one bureaucrat said: "*We have our own cross-regional policy when it comes to which actors can release fish, where, and what stems to use*" (Interview 2). Moreover, all of the bureaucrats said that the current revision of the Finish fishery law will improve decisions concerning fish stocking because the new law will clearly state that genetic diversity is an important value in fishery management.

To conclude, several bureaucrats in both countries perceived that the regulations concerning fish stocking are unclear and need to be clarified in order to make efficient and legitimate decisions. However, in Finland the bureaucrats at the ELY-centres have established a common regional policy across their organisations concerning fish stocking.

4.3. Policy beliefs

All bureaucrats in Sweden agreed with the statement that genetic diversity in the fishery population is an important value to uphold and ought to be considered in fishery management (Interviews 1–4). Three of the four interviewed bureaucrats shared the view that fish stocking can cause problems (Interviews 1, 2, and 4). The reason for this is mainly twofold. First, reared populations can spread to the natural population, which leads to a higher fishing stock in total; as a result, the fishery pressure might rise, which may cause the collapse of the natural populations. Second, fish stocking can pose a threat to the natural gene pool, even if that risk should not be overestimated (Interviews 1, 2, and 4). However, one of the bureaucrats expressed a more ambiguous belief about the consequences of fish stocking and how it affects genetic diversity: "*Stocking might, perhaps, in some cases cause problems due to the spread of invasive species and populations*" (Interview 3). This person stressed that there is no sign of historical releases causing any problems for fish populations (Interview 3). Finally, all of the bureaucrats thought that the genetic impact depends on the number of releases and the methods used.

All of the interviewed Finnish bureaucrats considered genetic diversity of fish stocks to be an important value to uphold in fishery management (Interviews 1–5). Releases of fish can cause problems in genetic diversity if different populations are mixed, especially if breaded fish is released in waters with a natural population. Therefore, according to the bureaucrats, it is imperative to have good knowledge about the genetic composition of the fish in the waters. However, the bureaucrats thought that releases of fish could be motivated in some cases. One of the bureaucrats captured the rationale behind their stance, stating that, "*if the water is already tampered with and if the natural reproduction is hampered, and thus the fish population is down to a very low level, then releases of fish might be the only way to secure that there is fish to catch*" (Interview 1). All Finnish bureaucrats argued that there should not be any releases in waters with natural populations of fish (Interviews 1–5).

To summarise, in Sweden three of four bureaucrats shared the view that fish stocking can be problematic. One of the interviewee had a more ambivalent view. The Finnish bureaucrats were generally more reluctant to apply fish stocking and were especially concerned about the long-term effects on genetic diversity in "natural" waters.

4.4. Implementations resources

The Swedish bureaucrats consulted academic research in their work and defined the crucial role of the SwAM as a mediator for scientific knowledge through their reports and conferences. Three of the four bureaucrats also mentioned contact with universities (Interviews 1–3). However, differences were evident among the counties. One bureaucrat referred to a large and diversified network of mediators who can help when it comes to troublesome questions (Interview 1); this county was even conducting its own scientific experiments related to fish stocking (Interview 1). Another county, on the other hand, distinguished itself by having a relatively poor knowledge network, although that bureaucrat claimed that knowledge is important: "*I am very interested in these questions, but I cannot exactly say what I do, other than that I keep myself updated in these questions*" (Interview 4). All of the respondents stressed the uncertainty of prevailing scientific knowledge (Interview 1–4).

In Finland, the bureaucrats consulted the FRGI regarding fish stocking questions, specifically when it came to questions regarding genetic diversity. If bureaucrats had doubts about which population to release in certain waters, they turned to FRGI for guidance, and all interviewees stated that they always followed the recommendations from FRGI, which is considered to be a forerunner when it comes to knowledge concerning genetic diversity in Finland (Interviews 1–5). Furthermore, all bureaucrats maintain close contacts with universities in this area, and several ELY-centres were involved in research projects concerning fish stocking. All interviewees emphasised that scientific knowledge is important and that they, in cases of uncertainty, rather postpone decisions until satisfactory knowledge is gathered. "*If a water owner has made an application to release fish in water and if that population is of a different stem then the original we turn to FRGI for advice. If they do not think that the stem* [*population*] *is suitable for that water we do not give the applicant a permission to deploy fish. Furthermore, sometimes we do our own investigation of that water to be sure that no mistakes are done*" (Interview 2). Furthermore, several bureaucrats said that the policy is unclear when it comes to the long-term strategy of fish stocking; in order to reduce that uncertainty, they consult bureaucrats at other ELY-centres in order to work out a regional practise.

To conclude, bureaucrats in Sweden consider scientific knowledge to be more or less important regarding fish stocking. However, no common view exists among bureaucrats when it comes to the value of scientific knowledge or whom to consult. In Finland, all bureaucrats expressed that scientific knowledge is very important, and the notion about significant scientific uncertainty was not expressed. Moreover, all Finnish bureaucrats indicated that they turn to FRGI for policy advice and follow its recommendations strictly. Bureaucrats also consult their counterparts at other ELY-centres in order to enhance their understanding about how to implement policy at the regional level.

5. Discussion

The aim of this paper is to examine and propose explanations for differences in fish stocking policies between Sweden and Finland. Three research questions were posed in order to fulfil this aim: (1) How do bureaucrats at the regional authorities in Sweden and Finland understand formal fish stocking policy? (2) What policy beliefs do bureaucrats at the regional authorities in Sweden and Finland have when it comes to genetic concerns in fish stocking? (3) To which actor(s) do bureaucrats at the regional authorities in Sweden and Finland turn in cases of uncertainty about how to understand formal fish stocking policy? The main empirical findings are summarised in Table 1.

In both Sweden and Finland, formal policy is more or less ambiguous, which would – at least theoretically – promote different decisions between regional agencies. The empirical findings in the Swedish case support that proposition. The studied frontline bureaucrats handle the substantial uncertainties characterising the policy subsystem differently. In Sweden, the bureaucrats interpret policy documents on their own. In Finland, a common regional policy has evolved on how to handle questions related to fish stocking based on inter-organisational cooperation. Thus, a more common understanding of policy in Finland than in Sweden constitutes one explanation for more equal decisions [19,25].

As previously discussed, if formal policy documents are ambiguous and therefore difficult to interpret, then – at least theoretically – bureaucrats' own policy beliefs will have a greater impact on how they implement public policy. The Swedish bureaucrats have different policy beliefs concerning fish stocking, which might explain different regional stocking. In Finland, bureaucrats have more similar views on fish stocking. Thus, another likely explanation for more equal decisions in Finland is that bureaucrats share the same policy beliefs when it comes to fish stocking [19].

Bureaucrats occasionally need help interpreting policy in order to implement it as intended. In Sweden, different implementation resources are used, which might lead to different policy advice and can thus constitute yet another explanation for regional differences. Moreover, the Swedish bureaucrats also questioned the validity of scientific research. In Finland, all bureaucrats consult FRGI for policy advice and emphasise that scientific knowledge is important; this is likely to promote a common knowledge base. They also consult each other in order to better understand how to interpret policy. Thus, another explanation for the more equal decisions concerning fish stocking in Finland than in Sweden is the implementation resources the bureaucrats consult in order to understand how policy should be handled in practice [25].

This paper has sought to explain differences between fish stocking policy in Sweden and Finland at the regional level. Based on the discussion thus far, the following explanations can be presented: (1) Different policy beliefs exist among bureaucrats in Sweden compared to similar beliefs among bureaucrats in Finland. Bureaucrats in Finland have a more restrictive view, whereas the bureaucrats in Sweden are divided between those who advocate for the release of fish and those who do not. (2) Another explanation is that various implementation resources are used by bureaucrats in Sweden, whereas in Finland one central implementation resource is used. All in all, this leads to more

Table 1
Explaining differences in frontline decisions between Sweden and Finland.

	Sweden	Finland
Understanding of formal policy (official rules, regulations, and guidelines)	Different understandings of formal rules	Different understandings of formal rules
Policy beliefs	Different policy beliefs among bureaucrats	Similar policy beliefs among bureaucrats
Implementation resources	Different implementation resources	Similar implementation resources
Decisions	Different decisions	Similar decisions

similar decisions concerning fish stocking in Finland than in Sweden. Thus, bureaucrats working on the front line at policy delivery have proven to have a great impact on fish stocking policy at the regional level in the studied countries.

6. Conclusion

The findings of this paper, generated through the lens of frontline bureaucrats, point towards policy beliefs and implementation resources being the two decisive factors defining policy outcomes in policy subsystems characterised by great institutional and substantial uncertainty. The findings have implications for policy and management. In order to increase the effectiveness of implementation, formal policymakers can clarify policy content concerning fish stocking and genetic diversity in both countries. In particular, the Swedish case calls for deliberative strategies from central policymakers to more effectively govern frontline bureaucrats to gain more equal policy output. By designing a structure with one central implementation resource, which frontline bureaucrats consult, policymakers can promote more similar decisions at the regional level. Another approach is to promote inter-organisational cooperation among regional authorities to sustain a common understanding among frontline bureaucrats, thereby promoting more equal policy outcomes. Moreover, politicians and/or managers can provide frontline bureaucrats with education via on-the-job training in order to enhance their knowledge about fish stocking and the values of genetic diversity.

Frontline bureaucrats have been shown to be an important analytical unit in order to understand and explain decision making at the regional level, especially when the concept is linked to a theoretical model that explains their actions. However, significantly more research has to be undertaken to more thoroughly understand the relations between the explanatory factors studied in this paper. Another venue for future research is to explore how frontline bureaucrats interact with stakeholders. Frontline bureaucrats work at the fringes of their organisations; their role is both to uphold the values of the organisation and to be adherent to stakeholders and citizens in order to uphold both efficiency and legitimacy. The question is how this interaction works and who influences whom.

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III

Incoherent policy and lacking advice: Addressing the inadequate implementation of the European Water Framework Directive

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Abstract

This study addresses the role of street-level bureaucrats in the context of water policy and examines which factors that influence their decision-making. The implementation of the program of measures, which are part of the European Water Framework Directive, is studied and the impact of two factors – policy understanding and implementation resources; i.e. networks of advice – on decision-making is examined. A qualitative case study of street-level bureaucrats' on the sub-national level in Sweden was performed. The results verify the critical role of these bureaucrats, as only one-third of them make decisions in line with the program of measures. Moreover, the results indicate that the bureaucrats' understanding of how coherent the policy is, and to whom they turn for advice, matter for the turnout. Higher-level policy makers could thus support implementation by adjusting policy incoherence and by improving existing, and organizing new, resources to provide these bureaucrats with guidance.

Keywords: European Water Framework Directive, Implementation resources, Policy coherence, Policy understanding, Street-level bureaucrats, Water governance

Introduction

Street-level bureaucrats, working at the end of the public policy chain, have been assigned a critical role in the public policy process. Considering their large sphere of autonomy and discretion, when transforming formal policy into daily decisions on lower levels of public administration, these bureaucrats have been identified as highly influential in the turnout of public policy and, accordingly, also as a critical unit of analysis in the field of policy analysis (Knill and Tosun, 2012; Hupe and Hill, 2002, 2007; Lipsky, 1980). However, our knowledge of these bureaucrats' decision-making is still limited, particularly with regard to decisions concerning the environment (May and Winter, 1999; Lehmann Nielsen, 2006; Trusty and Cerveny, 2012; Winter, 2003; Sevä and Jagers, 2013). This study addresses the role of street-level bureaucrats in the context of water policy and examines the factors that influence their decisions. The European Water Framework Directive (WDF) constitutes the empirical setting

of the study, and the analysis focuses on the implementation of the program of measures, which are part of the WDF, at the municipal level in Sweden.

The European Water Frame Work Directive (WFD) demands a comprehensive approach to the struggle towards achieving good-quality European waters (Directive 2000/60/EC). The WDF brought about significant institutional changes when it was incorporated into the Swedish legislation in 2004. A new governance system, composed of regional River Basin District Authorities (RBDA), i.e. public authorities responsible for the water quality within their respective region, was formed, and new policy instruments were developed. As a consequence of the WDF, the Swedish water policy is currently governed by a set of Environmental Quality Standards (EQS) that are defined by the RBDAs. These standards are further concretized in programs of measures that should be considered by other state agencies and municipalities prior to decision-making.

Previous studies have, however, suggested that the WFD and the program of measures are being inadequately implemented at lower levels of administration. The yearly evaluations that are undertaken by the RBDA show that less than half of the Swedish municipalities make decisions and take action in accordance with the program of measures (see Appendix 1). This lack of realization of the WFD has been addressed previously, and attempts to reach explanations have been made. While some researchers have emphasized the vast complexity of the policy problem itself (Duit *et al.,* 2009), others have exposed weaknesses in the design of the governance system (Entson and Gippert, 2010; Lundquist, 2004) and how the new system relates to the former governance system (Andersson *et al.,* 2012; Bratt, 2004; Keskitalo and Pettersson, 2012). Thus, one might expect that a study of decision-making at the subnational level will reveal significant differences in how the programs of measures are considered.

This paper draws on a branch of research in public administration and policy analysis that acknowledges the bureaucrats at the front line, the so-called *street-level bureaucrats*, when searching for explanations to variations in policy and implementation (Lipsky, 1980; May and Winter, 1999; Nielsen, 2006; Trusty and Cerveny, 2012; Winter, 2003); this perspective has been downplayed in the context of environmental policy (Sevä and Jagers, 2013). The key insight drawn from this research is that the vital role of street-level bureaucrats must be

considered in order to fully understand the implementation of public policy (Lipsky, 1980). Environmental regulations and policy, such as the WDF and the program of measures, will not be fulfilled if not supported by decisions, made by the bureaucrats at the front line, that are consistent with the intentions and goals expressed in these official documents.

Several factors have been suggested as influential for the turnout of decision-making at the street level. External factors, assumed to affect the behavior of the individual bureaucrat, include policy design and signals from superiors (May and Winter, 2007; Meyers and Vorsanger, 2003). Equally, there are also internal factors, such as the disposition of values and beliefs of the individual bureaucrat (Dehnhardt, 2014; Maynard and Musheno, 2003; Trusty and Serveny, 2012). In this paper, the influence of two factors are assessed, namely the bureaucrats' policy understandings and the characteristics of their accessible implementation resources, i.e. the networks of actors that provide them with advice (Hill, 3003). These two factors (further developed in the theory section) are believed to be of particular importance for implementation within the environmental sector, since environmental policy is complex and normally surrounded by vast institutional and substantial uncertainty (c.f. Duit *et al.,* 2009; Koppenjan and Klijn, 2004).

Aim

The aim of this study is to examine and explain how the WDF is implemented at the subnational level in Sweden. The study accents the decisive role of street-level bureaucrats and examines how the bureaucrats' policy understandings and accessible implementation resources affect their decisions. This aim is fulfilled though a qualitative case study in which twenty Swedish municipal bureaucrats, working with water management issues, are interviewed.

The empirical scope of the paper is restricted, yet the study makes theoretical as well as empirical contributions to the existing literature. It makes use of a theoretical perspective rarely applied to the field of environmental management. Moreover, it examines the relevance of two explanatory factors on street-level decision-making that have been suggested, but rarely tested, as influential in previous studies. Finally, the paper contributes to the puzzle of why the WFD has not been adequately implemented and, finally, formulates policy advice that could potentially improve its realization.

The decisive street-level bureaucrat

The theoretical approach of, this paper builds on Lipsky's (1980) seminal work on the decisive bureaucrat at the street level, or the end of the public policy chain. When introduced, the concept of street-level bureaucrats aimed to capture the shared features of the practice of teachers, police officers, clerks, and welfare workers, for example. The common denominator of these public officials is that they have daily interaction with citizens while simultaneously enjoying high autonomy and a great deal of room for independent decision-making from higher-level authorities (Lipsky, 1980; Brodkin, 2012). This sphere of discretion is not negative by definition. Higher officials and politicians cannot prescribe every possible case and decision-making situation that is encountered by bureaucrats at the lower levels, and it is hardly possible for higher-ranking officers to possess the wide and deep attention span needed to control street-level action, which means that the costs for such control most likely exceeds the benefits (see Lipsky, 1980; Hoogwood and Gunn, 1993). Thus, the decisions made by the street-level bureaucrat might be unsanctioned by their superiors and diverge from official policy.

It should be noted that the bureaucrats of this study partly differ from the traditional street-level bureaucrat described above. The environmental bureaucrats do not necessarily engage in daily face-to-face contact with clients and stakeholders; their practice of authority is often more anonymous, and they usually have a broad variety of educational backgrounds. Thus, rather than professionals, they are more appropriately described as experts, possessing certain generic knowledge that makes them apt for their commission (Lundquist, 1998). Nevertheless, scholars have argued that also environmental bureaucrats at the frontline have more or less discretion and autonomy clearly resembling that of street-level bureaucrats (May and Winter, 1999; Nielsen, 2006; Trusty and Cerveny, 2012; Sevä, 2013; Sevä and Jagers, 2013; Winter, 2003). Adopting this perspective, one can expect differences in the implementation of the WDF on the municipal level – disregarding the fact that Swedish municipalities are situated within the same formal institutional settings and adhere to the same policy – due to the decisive street-level bureaucrats.

Factors that influence implementation on the street-level

The underpinning argument of this paper is that street-level bureaucrats play a crucial role in the implementation of official policy at the municipal level. Implementation is herein defined by what magnitude the program of measures is considered in decision-making and arguments are presented below regarding why bureaucrats' policy understandings and accessible implementation resources should be considered in the search for explanation for the lack of implementation.

The concept policy understanding refers to how the studied street-level bureaucrats perceive the substance of official policy and what it implies for their decisions. Public policy of contemporary society, and environmental policy in particular, is characterized by great substantive and institutional uncertainty, that is, ambiguity with regard to both the nature of the policy problems and the institutional structure amending the solutions (Koppenjan and Klijn 2004). Bureaucrats at the lower levels have to navigate through this complexity. Decisions at the street level are made within a context that entails divergent views on the policy problem and its solutions, conflicting goals and interests, and vague and (at times) competing policies and strategies (May and Winter, 2007; Sandström, 2010; Keiser, 2010).

Given the vast complexity described above, decisions that are made at the street level are likely affected by how concerned bureaucrats interpret and understand the essence and meaning of policy. The extents to which the bureaucrats consider policy substance as clear or unclear likely influence their inclination to integrate the program of measures into their daily work. It could be expected that bureaucrats are more prone to develop their own practices or tend towards old routines in situations in which policy is perceived as unarticulated and vague (c.f. May and Winter, 2007; Meyers and Vorsanger, 2003; Keiser, 2010).

Policy might also be considered as more or less coherent. Policy coherence refers to the consistency of objectives, instruments, and practices within (or between) policy areas (Nilsson, *et al.*, 2012) and possible incoherence is illustrated by institutional clashes and goal conflicts in regard to a specific policy problem. Decision-making situations that are ridden with great policy incoherence likely give rise to the phenomena of selective implementation (for a discussion on selective implementation, see Lipsky, 1980, and Lundquist, 1987) when the bureaucrat chooses among assortments of policy objectives to rationalize behavior when making decisions (c.f. May and Winter, 2007). Thus, there are reasons to believe that the

bureaucrats' understanding of policy, its clearness and coherence, likely influence implementation.

The concept of implementation resources refers to the individuals and organizations that assists the implementing unit to learn about policy or best practices (Hill, 2003). As discussed above, official policy does not necessarily provide the implementer with explicit guidance on how to read policy, how to deal with conflicting objectives, or how to transform policy into action. In their attempt to develop a better understanding of policy and how to implement it, bureaucrats can consult with a wide range of actors, such as governmental authorities, universities, professional associations, or private consultants. Implementation resources are the networks of actors, within or outside the government[1], that support the street-level bureaucrats with information, knowledge, and advice in situations of uncertainty.

Different implementation resources might provide different advice. Studies of fishery policy implementation have shown great variability both in regard to how prone bureaucrats are to search for advice and in regard to whom, i.e. what type of actors they consult (Sandström, 2011; Sevä, 2013). A distinction between internal and external implementation resources is made for the purposes of this study. Internal implementation resources refer to actors within the implementing organization, i.e. co-workers or superiors within the municipality. Turning towards internal actors only might increase the risk of pursuing decisions that follow the existing practices and align with the organizational culture rather than official policy (c.f. Meyers and Vorsanger, 2003; Hill, 2006; Brodkin, 1990). Other municipalities, state agencies, interest organizations, experts, and research organizations fall within the category of external implementation resources. Considering the design of the Swedish water governance system, the system encompasses organizational entities that are especially designated to, alongside other tasks, assist the implementing units with information and advice; namely, the regional RBDAs (described in the introduction) and the regional Water Councils (WCs), which are public-private collaborative arenas formed with the purpose to enhance knowledge exchange among concerned actors (further described in the method). Thus, the RBDAs and the WCs are officially mandated implementation resources with the responsibility to clarify and prescribe

[1] Hill's (2003) definition of implementation resources is reserved for actors who are found outside the formal government. Previous studies, however, have identified government agencies, or departments within, that fulfill the function as implementation resources (Sandström, 2011; Sevä, 2013). Therefore, a more inclusive definition of the concept is applied for the purpose of this paper.

best practices in their efforts to help actors to implement the official policy objectives. Advice from these agencies likely aligns better with official policy than the advice from co-workers or other external organizations does. Thus, when examining the external implementation resources in the context of water policy, it is of particular interest to determine whether the street-level bureaucrats make use of these resources that are instituted by the new governance system.

[Figure 1]

Figure 1 summarizes the analytical framework[2] that encompasses the theoretical concepts and illustrates the theoretical reasoning of this study. The figure above suggests that street-level bureaucrats understand and interpret official policy differently and that these understandings, together with the prevailing implementation resources, affect their line of decisions, i.e. policy implementation. Based on theory, it is reasonable to assume that there is a casual relationship between policy understandings and implementation resources on the one hand and the degree of implementation on the other (as shown by the arrow in Figure 1). The research design of this study, however, restricts the ability to determine causality, and the possible interaction effects, between the two explanatory factors, are not researched within the frame of this study[3]. This been said, two research questions (RQ) are formulated based on the analytical framework (Figure 1).

RQ1. Do bureaucrats' policy understandings – in terms of policy *clearness* and *coherency* – affect how the program of measures is considered in decision-making?

RQ2. Do bureaucrats' implementation resources – with regard to the *usage* of implementation resources and what *type* of organization these represent – affect how the program of measures is considered in decision-making?

To answer these questions, the municipal bureaucrats will be mapped in terms of how they relate to the program of measures when making decisions, how they understand policy, and

[2] Figure 1 illustrates a reduced theoretical framework (not a model) and, as such, it serves as a conceptual map and identifies the factors of importance from which research questions can be deduced. For a thorough discussion on differences between frameworks, theories, and models, see Carlsson (2000) and Ostrom (2005).

[3] In order to determine causality, longitudinal data or experiments are necessary. Studies of interaction effects among variables would benefit from large-n studies and statistical analyses.

the characteristics of their accessible implementation resources (see Figure 1). This information will be presented in the empirical results section and, subsequently, will be analyzed in the discussion section. The analysis will be devoted to distinguishing common features among bureaucrats with similar implementation behavior and possible divergences between those who do differently. Before this process is executed, however, the empirical case and the method will be more thoroughly explained.

Case description and method

The Swedish system for water management is currently organized into five different river basin districts, governed by river basin district authorities (RBDAs). The RBDAs have the overall responsibility for implementing the WFD and should in this endeavor coordinate the efforts of a large and diverse set of public actors, e.g. other state agencies, the regional county administration boards, municipalities, and private stakeholders. The RBDAs work with several policy instruments and via different policy documents to govern the actions taken by these concerned actors. The environmental quality standards (EQS) stipulate standards for good water quality, and the programs of measures describe what measures that need to be taken in order to reach the EQS (SFS 2004:660). According to the Swedish environmental code, the EQS and the program of measures are legally binding documents (Ekelund-Entson and Gippert, 2010). Six measures listed in the program of measures are directed toward the municipals; three of these measures are of concern for the technical department; two concern the environmental department; and one relates foremost to the decisions taken by the department for planning and building (Ekelund-Entson and Gippert, 2010; see also Appendix 1). Thus, in this study, implementation is assessed by how these measures are considered in daily decision-making.

Apart from the RBDA, the new management system encompasses regional water councils (WC). Each river district is composed of several WCs that involve a multitude of public actors, such as municipalities, regional state agencies, interest organizations, and private actors, depending on the local context. The role of the WCs is twofold. First, the WCs should be consulted by the RBDA prior to decisions defining the EQS, thus safeguarding of that local knowledge is implemented in the process. Second, the WCs should constitute collaborative arenas for knowledge exchange and deliberation among the multitude of actors and organizations that work with the implementation the program of measures (c.f. Ekelund-

Entson and Gippert, 2010; SFS 2004:660; c.f. Lundquist 2004). For an overview of the water governance system in Sweden, see Appendix 2.

Data collection

Data was collected by means of interviews with twenty bureaucrats in ten different municipals from each of the five river basin districts in Sweden. Two bureaucrats from each municipality were interviewed, one each from the environmental and technical departments. The sample represents different parts of the country and the two departments primarily involved in implementing the program of measures. To ensure the anonymity of the respondents, the names of the municipalities are not disclosed in this paper.

The interviews were semi-structured with open-ended thematic questions. The benefit of this design is that it combines structure with flexibility (Kvale, 1996); it creates potential for unexpected information and follow-up questions while still staying with the topic of the study. The interviews were conducted over the phone and lasted between 45 to 90 minutes. The respondents were asked questions about their work and how they make decisions. To capture implementation, the interviewees were asked how they relate to the program of measures when making decisions. Thus, the bureaucrats' own statements concerning how they consider the program of measures were used to assess implementation. Whether the decisions made by these bureaucrats coincide with official policy or not is beyond the scope of the study. Furthermore, the respondents were asked to elaborate on the WFD in general and the program of measures in particular to capture their policy understandings. Sub-questions concerning clearness (i.e. if they know how to act based on the program of measures) and coherence (i.e. if they experience any institutional clashes) were included. Finally, the respondents were asked with whom they consult in cases of uncertainty to map their implementation resources.

The interviews were transcribed and qualitatively analyzed, and the answers were sorted into categories based on the respondents' theoretical understanding of policy understanding and implementation resources.

Results

Implementation is assessed by how the program of measures is considered in decision-making and, based on this aspect, the bureaucrats can be divided into three groups: implementers, partly implementers, and non-implementers (see Appendix 3 for a summary of the responses provided during the interviews). The group of implementers comprises six bureaucrats (Street-level bureaucrat (SLB), 3-6, 8, and 15) and among the actors in this group, the program of measures has become an integrated part of their work and influential for their decisions. Six respondents are placed within the group of non-implementers. These actors declare that they do not consider the program of measures when making decisions, and a common response from these actors is that they would rather base their decisions on local routines, municipality policy, or national policy (SLB 13-14, 16, 18-20). Eight bureaucrats were put into the group of partly implementers. To enhance the stringency of the analysis, this group of actors is excluded from the forthcoming analysis.

Policy understandings

Policy understanding reflects how the WDF and the programs of measures are perceived in the eyes of the implementing bureaucrats when it comes to clarity and coherence. Considering *clearness*, the interview study reveals that the notion of an ambiguous and unclear policy is widely spread among the interviewed actors. All but two bureaucrats do consider the program of measures to be unclear and motivate this stance by declaring that it is too abstract and, therefore, offers poor guidance for practice (SLB 3-5, 8, 13-20). The following demonstrates how two of the bureaucrats described the program of measures:

> The water governance system as such is unclear, both when it comes to legal and economic steering instruments, the measures in the program of measures are vague (SLB 5).

> The program of measures is very hard to interpret and make use of in decision-making. Furthermore, different state agencies and municipals have their own interpretations of the program (SLB 18).

One of the measures listed in the program concerns the municipal planning and building process and establishes that new housing projects must safeguard that the EQS are not

negatively affected. Nevertheless, according to one of the bureaucrats, the actual implications of housing projects for the environment are difficult to disentangle, which makes the program hard to translate into concrete decisions:

> Neither the state nor any other actors for that matter can, with any certainty, tell that a new housing project affects any specific water negatively. There are so many other factors that can influence water quality. Therefore, it becomes hard to see how we can apply the program of measures in our planning and building process. It is difficult to interpret and make use of in practice (SLB13).

One strategy for how to deal with this vagueness and still be able to apply the program of measures in decision-making is to have the bureaucrats adjust the program to local conditions and to transform it into local measures (SLB 3-6 and 8). As told by one of the respondents:

> The program of measures is not easily comprehended. In our municipality, we have transformed the abstract measures into more specific measures to know which kind of action that should be taken to fulfill the goals (SLB 8).

Thus, as a consequence of this perceived uncertainty, municipals and state agencies develop local management routines that, according to some of the interviewed bureaucrats, diverge significantly from official policy (SLB 13-14, 16, 18-20). The link between the program of measures and the routines and decision-making procedures is missing (SLB 16).

Two of the interviewed bureaucrats, however, diverge from the others in their description of the program of measures as being clear and easily understood (SLB 6, 15). As stated by one of these actors:

> I believe that the program is easy to apprehend and that the measures are clear, since I have worked with them for quite some time now. At the beginning, however, I found it hard (Interview 15).

Policy coherence reflects the bureaucrats' views on how the program of measures relates to other policies on water governance. Less than half of the respondents (five out of twelve) have not experienced any goal conflicts with other policies (SLB 3-6, 15). One bureaucrat states the following:

> I cannot recall that I have thought of any clashes or contradictions between the program of measures and other policies. The Swedish environmental code works towards sustainable development, which is also the goal of the WDF and the water governance system in Sweden (SLB 4).

The other respondents (seven in number) do consider the policy to be incoherent. One person describes a conflict between the municipal planning and building regulations, the environmental code, and the program of measures in the following way:

> One goal of the program is to prevent that water quality from being affected negatively by different municipal planning and building projects. However, this does not prevent us from starting new projects, even if it affects the quality of our waters in a negative way. The Swedish planning and building act affects our decision more than the program of measures does (SLB 6).

Many respondents who consider the policy as incoherent also claim that other policies are easier to act upon and apply in decision-making (SLB 16, 18- 20). As asserted by two of the interviewed actors:

> Many different policy documents regulate the work with water management in our municipal. For example, we have the Swedish environmental code, the program of measures from the RBDA, and local policy documents. When it comes to actions and decisions regarding the quality of our waters catchments, we use first and foremost the guidelines from the Swedish environmental code, thereafter our own policy documents (SLB 20).

> When it comes to policies regulating pollution with a potentially negative impact on the Baltic Sea, we use the Baltic Sea action plan instead of the program of measures, because the goals in that plan are much easier to implement (SLB 16).

Other bureaucrats point to the fact that the responsibility to implement the program of measures is widely spread among public agencies and stakeholders and argue that it becomes difficult to unravel who is responsible for what action (SLB 18-20).

[Table 1]

Table 1 summarizes the information provided by the twelve street-level bureaucrats on their understandings of policy. To enhance the transparency of the forthcoming discussion, in which distinguishing patterns of the two groups are searched for and analyzed, the first column in the table presents the implementers' responses and the second column the responses of the non-implementers.

Implementation resources

Implementation resources refer to the actors and organizations that the bureaucrats consult in cases of uncertainty concerning the meaning of policy and how to go about implementing it. Different strategies are utilized for this purpose. Three respondents, however, state that they do not look for guidance, since there is no remedy to their struggles and no answers to their questions (SLB 13, 16, and 19):

> The program of measures is very nonconcrete, and the decided EQSs are so difficult to interpret and apply in decision-making. There is no one to turn to for advice on these matters. I do not believe that anyone can answer the questions or provide us with advice on how to realize the program (SLB13).

Two bureaucrats consult internal implementation resources only (SLB 3, 14); four make use of external resources only (SLB 4-5, 18, 20), while three bureaucrats seek assistance from both internal and external actors (SLB 6, 8, 15). These bureaucrats consult both their co-workers and the RBDA; as expressed by one of them:

> If I do not know how to interpret the program of measures I will turn to my co-workers for guidance. Often we need to make our own interpretation, otherwise it becomes hard to implement. On some occasions, however, I have turned directly to the RBDA (SLB 8).

Co-workers constitute the most commonly used internal implementation resource, but one of the interviewed bureaucrats works within a municipality that has a specialized water management coordinator that is assigned with the task of developing local strategies for how to work with the WFD. As stated by this bureaucrat:

> First and foremost, I turn to my co-workers for advice. In our municipality we also have an internal resource, whom we can consult, to help us to read the program of measures (SLB 3).

The RBDA is the only external implementation resource that was mentioned during the interviews:

> The RBDA has developed several documents that can help us to interpret the measures in the program. If uncertainties still exist, I call the RBDA for advice (SLB 5).

The advice provided by the RBDA is not always considered as helpful, however, and some respondents express a shortage of efficient implementation resources. This claim is supported by one of the interviewed bureaucrats as follows:

> The RBDA has written the program of measures and decided on the different standards for the water catchment in our municipal, so, accordingly, this is the evident actor to consult if we need help to understand the measurers. However, on some occasions not even the RBDA, in our water district, can provide any answers our questions (SLB 20).

It is notable that none of the interviewed actors consult the WCs that, according to the Swedish water governance system, should be a deliberative forum for discussions on how to implement the WDF in the concerned water districts. As a matter of fact, the bureaucrats in this study expressed great skepticism with regard to the WCs. They questioned the role of the WCs and the ability of the councils to reach common recommendations because of the wide diversity of the actors involved. They also refer to the fact that the WCs lack a formal mandate to make decisions that are binding for the municipalities (SLB 3- 6, 8, 15-16, 18-20). As exemplified by the citations below:

> I think that the WCs could be a good forum allowing for different stakeholders to meet and discuss water issues. But my experience is that they has not fulfilled that function, because the role of the WCs in the Swedish water management system is not well defined, and the meetings I have attended have not had any clear agenda, thus making them ineffective. I think that the RBDA should clarify the role of the WCs and bring in actors that can guide us more and give us advice in order to work more efficiently with water issues (SLB 4).

> Even if the dialog in the WCs is rather exciting, it does not give rise to any decisions or provide help in making decisions. I have asked myself: are the WCs effective arenas for deliberation on issues related to water quality? I do not think so, because the councils have no formal mandate and, even if this were the case, possess no recourses to enforce the decisions (SLB 20).

[Table 2]

Table 2 summarizes the information on implementation resources and, like in Table 1, the answers from the implementers are listed in the first column and the answers from the non-implementer are presented in the second column.

Discussion

In this section, the empirical data will be discussed, and the similarities and differences between the two groups of implementers and non-implementers is analyzed in order to answer the research questions of the study. Let us start, however, by highlighting the common themes that emerge when the responses from the whole group of interviewed bureaucrats are considered.

Nearly all bureaucrats that have participated in this study describe the policy system as complex and the program of measures as unclear with vague implications for local decision-making. Half of them, or seven out of twelve, perceive the policy system as incoherent and as a governance system encompassing many conflicting goals and competing strategies for action. Thus, in the view of the municipal street-level bureaucrat, the program of measures is ambiguous and, according to most of them, inconsistent with other policies concerning the quality of waters. A majority of the interviewed bureaucrats (nine out of twelve) intentionally seek assistance from others in cases in which they do not know how to interpret the program of measures, how to adapt the measures to the local context, or how to make use of them in their daily work. Four of them turn to either internal or external actors, while the rest make use of guidance from both internal and external actors. The RBDA is the most prevalent utilized resource while none of the interviewed bureaucrats consult the WCs for advice. Thus, the absence of confidence in the WCs, and the questioning of their ability to fulfill a

supporting role in the process of implementation, is a common denominator for all municipal bureaucrats in this study.

Common themes as well as significant divergences between the two groups of implementers and non-implementers are exposed in the empirical data. The first research question of this study asked if bureaucrats' policy understandings – in terms of *clearness* and *coherency* – affect how the program of measures is considered in decision-making. When analyzing the interviewed bureaucrats' understandings of policy clearness, a mixture of answers within the group of implementers can be noted while all non-implementing actors describe policy as vague. A more distinct difference between the two groups is found with regard to policy coherence, however (Table 1). All non-implementers recognize the policy system as incoherent while only one of the implementing actors shares this view. This leads to the conclusion that the group of implementers considers policy to be more coherent than the group of non-implementers do. Thus, the answer to the first research question is partly affirmative, as the street-level bureaucrats' notion of policy coherence, rather than clearness, seemingly matters for their inclination to consider the program of measures in decision-making. This result confirms that policy implementation is complicated by the fact that policy goals usually are made up by the different sub-goals that are in conflict with each other; i.e. client-centered goals versus organizational goals (c.f., Lipsky 1980).

The second research question posed in this study concerned whether or not the bureaucrats' implementation resources – with regards to the *usage* of implementation resources and what *type* of organization these represent – affect how the program of measures is considered in decision-making. The empirical results confirm this query. The two groups of implementers and non-implementers evidently deal with the perceived uncertainty in different ways. The actors who claim to consider the program of measures when making decisions consult with both internal and external actors when they experience difficulties in understanding policy and its implications. Nearly all of these actors (five out of six) have been in direct contact with the RBDA on this matter. This way of working can be contrasted to the group of non-implementing bureaucrats, since only half of these actors deliberatively look for advice, and only two of them have consulted the RBDA (see Table 2). Thus, a comparison between the two groups of implementers and non-implementers shows a difference both in regards to the preference to consult others and with regard to the types of actors that are consulted. This

result verifies and refines the findings of previous research (Hill 2006; Sandström 2011; Sevä 2013).

Apart from the results presented above, this study reveals some important implications for higher-level policy makers and public managers who struggle with the task to design well-functioning governance system and improved policy instruments to enhance the realization of water policy objectives. Only one third of the interviewed actors in this study consider the program of measures when making decisions. This rather discouraging result supports previous studies (River Basin District Authority 2013) and underlines the fact that the WDF has not yet become a fully integrated part of water management in Swedish municipalities. The result furthermore accentuates the significant role that the bureaucrats at the street level play in the implementation of environmental policy. Even though the municipal bureaucrats are embedded within the same formal institutional arrangement of regulations, policies, and strategies, the way they relate to the program of measures evidently diverges.

The empirical findings further suggest that the implementing behavior of street-level bureaucrats is related to their comprehension of policy coherence and the characteristics of their networks for advice (i.e. the implementation resources). This result implies that central efforts to improve the realization of the WFD would benefit considerably by addressing and clarifying the experienced policy incoherence and by improving existing, and organizing new, resources for advice and guidance. For example, the connection between the new institutional frameworks that stems from the WDF and the old institutional structure for water management at the municipal level needs to be disentangled and possible goal conflicts appropriately addressed. The introduction of the WDF in the Swedish system has resulted in old and new institutions working in parallel (Keskitalo and Pettersson 2012) and in a situation in which the individual bureaucrat can choose to rationalize his or her behavior based on different (yet from above-sanctioned and official) policies. Forces towards path dependency (cf. Peters 2005; Thelen 1999) likely increase the probability that street-level bureaucrats work in line with old routines and well-established practices rather than with new policies. The stories told by the respondents in this study verify this description.

The empirical results emphasized the particular function of the RBDA in giving advice and assistance in the critical implementation phase, which is why the work to address policy incoherence conveniently could be channeled through this organization. The empirical findings of this study, finally, also point at the need to examine and possibly refine the role of

the WCs. These councils were introduced as collaborative arenas for knowledge exchange and deliberation among different stakeholders. According to this study, however, the councils do not fulfill this purpose and are seriously questioned by the decision-making bureaucrats.

Some limitations of the study must be acknowledged. Obviously, the restricted empirical material and limited number of investigated factors needs to be kept in mind when assessing the validity of the results. The reader should also be reminded of the fact that no causal relationships can be established based on this study and that both implementation and non-implementation have been assessed through the perspective of the interviewed street-level bureaucrats only and thereby encompass no evaluation of the actual fulfillment of the program of measures.

Conclusion

This study has been concerned with the role of street-level bureaucrats in the context of water policy. The results underline the central part of these bureaucrats in the public policy process and imply a relationship between their understanding of policy coherence and the usage and type of implementation resources on the one hand and their implementing behavior on the other. Influencing these two factors could thus further the policy implementation.

A number of issues of importance for future research emerge based on these findings. First and foremost, much more can be done in order to disentangle the interactions and causalities between the explanatory factors investigated within the frame of this study and to put to the test the tentative assumptions that emerge from the findings. Large n studies are encouraged for this purpose.

Moreover, further explanatory factors could be added to the analytical framework guiding this study. Institutional contexts (Lynn, Henrich and Hill, 2000, May and Winter, 2007; Meyer and Vorsanger, 2003) and signals from superiors (Brewer 2005; Riccucci 2005; Winter and May 2007; Stensöta 2012) are two possible factors of interest, while the bureaucrats' policy beliefs, i.e. their notions about the policy problem at hand and the policy instruments designed to solve the problem (c.f. Sabatier and Jenkins-Smith, 1999), are another. Focusing on the latter, the bureaucrats' policy beliefs might affect implementation directly but also indirectly

by influencing how policy is understood and how the bureaucrat relates to different implementation resources and the advice that is received from these actors. On a related topic, the processes of learning, in the meaning of changes in beliefs and practice due to new information and knowledge, on the street-level are of particular interest to research; the specific conditions under which learning takes place need to be further explored. These are merely some of the many questions that need to be dismantled to further explore the decisive bureaucrat at the street-level.

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Tables

The implementers' policy understandings		The non-implementers' policy understandings	
SLB 3	Unclear and coherent	**SLB 13**	Unclear and incoherent
SLB 4	Unclear and coherent	**SLB 14**	Unclear and incoherent
SLB 5	Unclear and coherent	**SLB 16**	Unclear and incoherent
SLB 6	Clear and incoherent	**SLB 18**	Unclear and incoherent
SLB 8	Unclear and coherent	**SLB 19**	Unclear and incoherent
SLB 15	Clear and coherent	**SLB 20**	Unclear and incoherent

Note: SLB stands for street-level bureaucrat, and the numbers indicate the number of the respondents

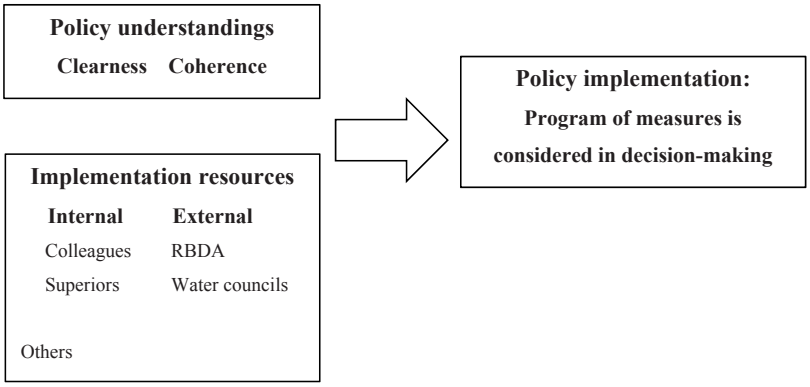
Table 1. Policy understandings of the interviewed street-level bureaucrats

The implementers' implementation resources		The non-implementers' implementation resources	
SLB 3	Internal: co-workers & water coordinator	**SLB 13**	
SLB 4	External: RBDA	**SLB 14**	Internal: co-workers
SLB 5	External: RBDA	**SLB 16**	
SLB 6	Internal: co-workers External: RBDA	**SLB 18**	External: RBDA
SLB 8	Internal: co-workers External: RBDA	**SLB 19**	
SLB 15	Internal: co-workers External: RBDA	**SLB 20**	External: RBDA

Note: SLB stands for street-level bureaucrat, and the numbers indicate the number of the respondent

Table 2. Implementation resources consulted by the interviewed street-level bureaucrats

Figure 1

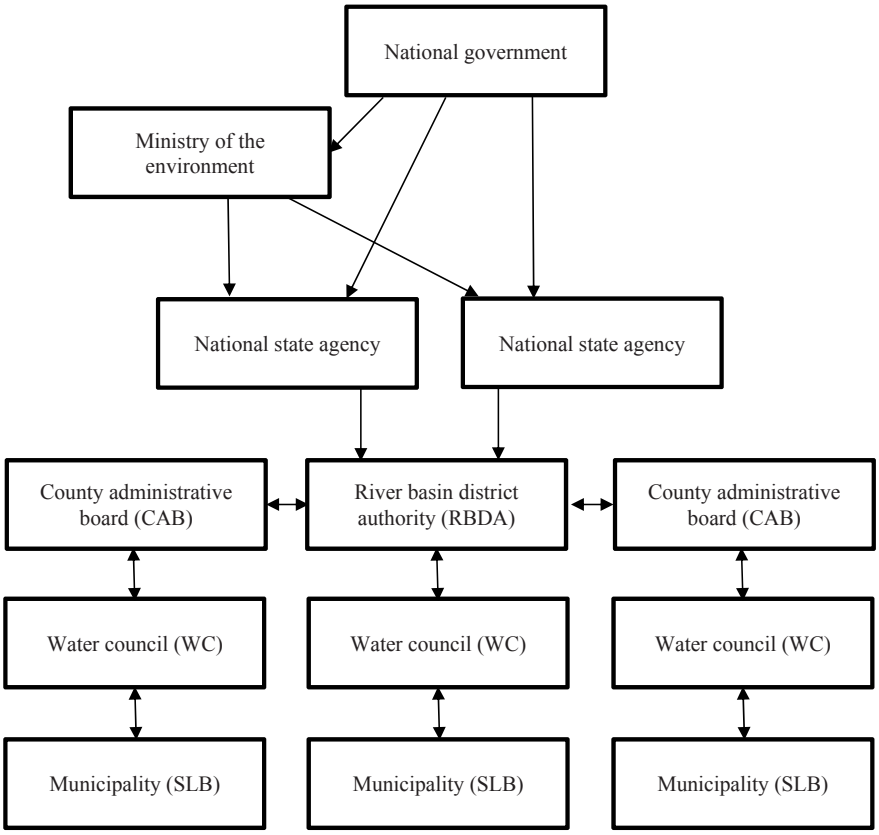

Policy understandings
Clearness Coherence
Implementation resources
Internal External
Colleagues RBDA
Superiors Water councils
Others
Policy implementation:
Program of measures is
considered in decision-making

Appendix 1: Evaluation of how the programs of measures are implemented in Swedish municipalities 2010-2013

Measures	32) Assessment of water catchments	33) Wastewater management protection	34) Decisions regarding water protection areas	35) Chemical status in water catchments	36) Decisions regarding water quality standards	37) Wastewater management plan	Average of implementing units considering all measures (32-37)
2010 N=290	Yes: 60 (21%) No: 140 (48%) No resp.: 90 (31%)	Yes: 97 (33%) No: 103 (36%) No resp.: 90 (31%)	Yes: 79 (27%) No: 121 (42%) No resp.: 90 (31%)	Yes: 89 (31%) No: 101 (35%) No resp.: 90 (31%)	Yes: 59 (20%) No: 137 (47%) No resp.: 94 (32%)	Yes: 57 (20%) No: 145 (50%) No resp.: 88 (30%)	25%
2011 N=291	Yes: 118 (40%) No: 126 (43%) No resp.: 47 (16%)	Yes: 87 (30%) No: 157 (54%) No resp.: 47 (16%)	Yes: 91 (31%) No: 150 (51%) No resp.: 47 (16%)	Yes: 20 (6%) No: 199 (68%) No resp.: 47 (16%)	Yes: 90 (30%) No: 153 (52%) No resp.: 47 (16%)	Yes: 70 (24%) No: 174 (60%) No resp.: 47(16%)	27%
2012 N=290	Yes: 144 (50%) No: 8 (30%) No resp.: 58 (20%)	Yes: 133 (45%) No: 99 (34%) No resp.: 58 (20%)	Yes: 96 (33%) No: 136 (47%) No resp.: 58 (20%)	Yes: 26 (9%) No: 206 (73%) No resp.: 58 (20%)	Yes: 88 (30%) No: 143 (49%) No resp.: 58 (20%)	Yes: 75 (26%) No: 146 (50%) No resp.: 58 (20%)	32%
2013 N=290	Yes: 177(61%) No: - No resp.: -	Yes: 160 (55%) No: 96 (33%) No resp.: 34 (12%)	Yes: 97 (33%) No: 153 (53%) No resp.: 40 (14%)	Yes: 16 (6%) No: 234 (80%) No resp.: 40 (14%)	Yes: 114 (39%) No: 142 (49%) No resp.: 34 (12%)	Yes: 112 (38%) No: 137 (47%) No ans.: 41 (14%)	39%

Note: *Yes* indicates that the particular measure (see the head row) is implemented, *No* indicates that the measure is not implemented, and *No resp.* illustrates missing data. The average (see the last column) provides an average of implementing municipalities considering all measures. The information is presented both in numbers and in percentages. The reason for the missing data in the table is that these figures was not present in the annual rapport for this year. Source: The Annual Rapports of the Implementation of The Program of Measures, 2010, 2011, 2012, and 2013. The River Basin District Authority.

Appendix 2: A schematic illustration of the water governance system in Sweden



(Sevä and Jagers, 2013)

Appendix 3: Summary of interview responses

Street-level bureaucrat (SLB)	Policy understanding: clearness and coherence	Implementation recourses: internal and/or external	Implementation
SLB 1	Unclear policy	Internal: co-workers	Partly implementer
	Coherent	-	
SLB 2	Unclear policy	Internal: co-workers	Partly implementer
	Incoherent	External: RBDA	
SLB 3	Unclear policy	Internal: co-workers, water coordinator	Implementer
	Coherent	-	
SLB 4	Unclear policy	-	Implementer
	Coherent	External: RBDA	
SLB 5	Unclear policy		Implementer
	Coherent	External: RBDA	
SLB 6	Clear Policy	Internal: co-workers	Implementer
	Incoherent	External: CAB	
SLB 7	Unclear policy	-	Partly implementer
	Coherent	External: RBDA	
SLB 8	Unclear policy	Internal: co-workers	Implementer
	Coherent	External: RBDA	
SLB 9	Unclear policy	-	Partly implementer
	Coherent	External: CAB	
SLB 10	Unclear policy	Internal: co-workers	Partly implementer
	Incoherent	External: RBDA	
SLB 11	Unclear policy	-	Partly implementer
	Coherent	External: RBDA	
SLB 12	Unclear policy	Internal: co-workers	Partly implementer
	Coherent	External: CAB	
SLB 13	Unclear policy	-	Non implementer
	Incoherent	-	
SLB 14	Unclear policy	Internal	Non implementer
	Incoherent	-	
SLB 15	Clear policy	Internal: co-workers	Implementer
	Coherent	External: RBDA	
SLB 16	Unclear policy	-	Non implementer

	Incoherent	-	
SLB 17	Unclear policy	-	Partly implementer
	Incoherent	External: RBDA	
SLB 18	Unclear policy	-	Non implementer
	Incoherent	External: CAB	
SLB 19	Unclear policy	-	Non implementer
	Incoherent	-	
SLB 20	Unclear policy	-	Non implementer
	Incoherent	External: RBDA	

IV

Do policy core beliefs influence street-level bureaucrats' action?

The implementation of the water framework directive in Sweden

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Abstract

Ten years have passed since the European Water Frame Work Directive (WFD) was incorporated in the Swedish legislation. The aim of the directive is to serve as an instrument to improve the water quality in the EU, yet evaluations, made by the River Basin District Authority (RBDA), of the implementation of the WFD at the municipal level in Sweden reveal that less than fifty percent of the municipals state that they make decisions and take actions based on the program of measures (PoM). This paper set out to explain this inadequate implementation. The unit of analysis in this paper is a neglected component in the implementation of environmental policies, namely the street-level bureaucrat. Furthermore, I argue that street-level bureaucrats' policy core beliefs regarding official policy can explain the implementation of the WFD. This is a novel theoretical approach in street-level research, and the results imply that the street-level bureaucrats' empirical policy core beliefs, i.e. their notions about the management system and the policy instruments, influence their willingness to implement the WFD, whereas the normative policy core beliefs, i.e. their notion about the importance of the conservation of water as a natural resource, have less influence. The paper contributes to the field of environmental policy and management and makes a theoretical contribution by combining the concept of policy core beliefs with street-level research.

Keywords: implementation, street-level bureaucrats, policy core beliefs, environmental policies

Introduction

The River basin district authorities (RBDA) in Sweden are responsible for implementing the European Water Frame Work Directive (WFD) that was incorporated into the Swedish environmental legislation in 2004. The main task for the RBDA is to establish *environmental quality standards* (EQS) and to decide on the *program of measures* (PoM) that identify which actions and decisions state agencies and municipals must perform in order to fulfill the EQS

for targeted waters. Ten years have passed since the legislation was put in place, but less than fifty percent of the municipals state that, in the yearly evaluation from the RBDA, they make decisions and take actions based on the program of measures (see Appendix 1). Thus, this paper will address the question of why this implementation deficit has arisen.

The lack of implementation associated with the WFD has been addressed in previous research. For example, scholars have argued that the design of the governance system makes it hard to fulfill the aim of the WFD (Lundquist, 2004), that water management deals with problems that are difficult to deal with due to the involvement of many different actors and conflicting interests (Duit et al., 2009), that the legal system demonstrates deficits that hamper the implementation of its objectives (Entson and Gippert, 2010), and finally that the impact of the WFD on local-level water management is limited due to difficulties in integrating it into the planning process (Adersson et al., 2012; Bratt, 2011). All of these studies offer explanations as to why the WFD has not been fully implemented at the municipal level. In this paper, however, I argue that one important explanation has been neglected by previous research, namely the street-level bureaucrats and the crucial role that they play in the implementation of public policy (c.f. Sevä and Jagers, 2013). Furthermore, the focus is on the bureaucrats' own beliefs about the policy area and how these beliefs affect their actions and decisions. For this purpose, I utilize the concept of policy core beliefs, i.e. actors' views about the policy problem and necessary solutions (Sabatier and Jenkins-Smith, 1999). Thus, the paper builds on the assumption that the WFD has not been fully implemented at the municipal level partly because of the policy core beliefs that street-level bureaucrats have regarding water management in general and more specifically about the WFD. In order to explain this proposition in a more detailed manner, research questions will be developed in the theoretical section. Thus, the aim of this study is to investigate if and how the policy core beliefs among the studied street-level bureaucrats influence their decisions in regard to the implementation of the WDF.

In order to fulfill this aim, I have conducted interviews with 20 street-level bureaucrats, from different municipals in Sweden, whose work tasks are to implement the program of measures. Half of the studied bureaucrats work within the environmental sector and half within the technical sector. The reason for this sample is that the majority of the specific measures in the PoM are directed towards the environmental and technical sectors at the municipal level.

The study contributes to various scholarly fields. Empirically, it speaks to the environmental policy and management field as it introduces a crucial analytical unit that can explain various environmental policy failures or successes, i.e. the street-level bureaucrat. It also contributes to the mystery of why the WFD has not been successfully implemented. Theoretically, it contributes to the research on street-level bureaucrats as it introduces the concept of policy core beliefs, thus providing a comprehensive take on the concept of beliefs in street-level research. The paper amalgamates the concepts of policy core beliefs from the Advocacy Coalition Framework (ACF), with the scholarly tradition of street-level bureaucracy and, according to these, develops a framework to explain decision-making and action at the street level.

The paper is organised as follows. In the next section I outline the theoretical framework in which the relation between policy core beliefs and street-level bureaucrats' action and decisions are explored. Then, I introduce the case and discuss different methodological issues. Thereafter follows the empirical section, in which the street-level bureaucrats' various policy beliefs and their decisions and actions will be presented. Finally, the link between beliefs and decisions is discussed, and the paper ends with some concluding remarks concerning future research venues and policy implications.

Theory

The concept of street-level bureaucrats

A classical theme in political science involves determining who has power over policy. The traditional view is that politicians formulate polices and bureaucrats implement them; in other words, bureaucrats are considered a neutral instrument for implementation that follow the intention of policy principals (Weber, 2007). Scholars have elaborated upon and questioned this view, implying overlapping roles between politicians and bureaucrats (for an overview, see Svara, 2006). Lipsky (1980) suggested that street-level bureaucrats shape policy to a greater extent than higher officials and politicians do:

> Street-level bureaucrats make policy in two related respects. They exercise wide discretion in decisions about citizens with whom they interact. Then, when taken in concert, their individual actions add up to agency behaviour. (…) The policy-making roles of street-level bureaucrats are built upon two interrelated facets of their positions: relatively high degrees of discretion and relative autonomy from organizational authority (p. 13).

Scholars have elaborated on various external factors that can control street-level bureaucrats' behaviour and thereby decrease their role in policy-making (c.f. May and Winter, 2007). For example, studies have examined the impact of signals from political superiors (Ewalt and Jennings, 2004; Riccucci et al., 2004; Keiser and Soss, 1998; Langbien, 2000; Stensöta 2011), organizational settings and arrangements (Hill, 2006), the capacity of the staff (Winter, 2003), and higher-level managers' role in influencing street-level workers (Riccucci, 2005; Brewer, 2005; Brehm and Gates, 1997). Previous research has also suggested that street-level bureaucrats' beliefs, such as their policy preferences, norms, and values (henceforth referred to as the belief factor) influence their actions and decisions (Meyers and Vorsanger, 2003; Maynard and Musheno, 2003) and this line of research has inspired the aim of this paper.

Street-level bureaucrats and the belief factor

Scholars on street-level bureaucrats have used various concepts to capture the belief factor. In a study of employment policy reforms in Denmark, May and Winter (2007) found that the influence of politicians and managers on implementation was relatively limited in comparison to the impact from the bureaucrats' policy predisposition, i.e. views about policy goals. This result confirmed the results of Winter (2002) and Brehm and Gates (1997), stressing individually held (policy) objectives and shared values.

Other studies have elaborated on the influence of beliefs that go deeper and beyond street-level bureaucrats' view of a specific policy. Maynard and Mosheno (2003) suggested that street-level bureaucrats' view on what is fair and morally right, on a more abstract level, affect their decisions. Similarly, Sandfort (2000) has suggested that street-level bureaucrats develop, when interacting within their organisational boundaries, collective beliefs concerning the moral justifications for action and decisions. In a study of discretion in decision making, Trusty and Cerveny (2012) showed that street-level bureaucrats' values, which were not related to policy, affected their decisions (c.f. Keiser, 2010).

This short review asserts that scholars have used different concepts to capture the belief factor in street-level research. Moreover, it shows how it has been used as a source for explaining policy outcome. In this paper I adopt the concept of policy core beliefs, which has been operationalized and tested in several studies and has proven to capture actors' view on policy problems to be important for individual action (see Sabatier and Jenkins, 1999, for an overview). Even so, it is a novel concept for the field of street-level research.

Introducing policy core beliefs

Sabatier (1987, 1988) introduced the concept of policy core beliefs, as part of the Advocacy Coalition Framework (ACF), in an attempt to explain policy change by the interplay between different advocacy coalitions, i.e. alliances of actors with shared belief systems. The belief system of the individual in the ACF is threefold. Sabatier and Jenkins-Smith (1999) distinguish among deep core beliefs, policy core beliefs, and secondary aspects. These beliefs diverge in regard to their scope and robustness to change.

Deep core beliefs range across different policy areas and capture fundamental normative and ontological axioms of the constitution of human nature, evil versus socially redeemable, etc. (Sabatier & Jenkins-Smith 1999; c.f Steern, 2000). Furthermore, these deep core beliefs are not easily changed (Sabatier & Jenkins-Smith, 1999). The secondary aspects of the belief system refer to notions regarding more instrumental decisions necessary for implementing policy core beliefs, such as specific policy measures and budget allocations (Sabatier & Jenkins-Smith, 1999). Furthermore, these beliefs are relatively easy to change and are not subsystem wide (Sabatier and Jenkins-Smith, 1999).

Policy core beliefs are defined as fundamental policy positions concerning strategies and coordinating activities for achieving core values within a policy subsystem. Policy core beliefs can be further divided into two different categories: fundamental normative precepts and substantial empirical components (Sabatier and Jenkins-Smith, 1999; Weible, 2005; Matti & Sandström, 2011, 2013). Normative policy core beliefs comprise basic values and welfare priorities related to the policy subsystem, in this case the Swedish water management system, such as an actor's relative priority for the conservation of water versus the use for economic development (c.f. Weible & Sabatier, 2009). Thus, in this study, normative policy core beliefs, i.e. fundamental value priorities, will be defined by the bureaucrats' position on the conservation vs. use scale, and measured to what extent they stand by the policy goal that all classified water catchments shall have reached an adequate water quality before 2015, thus prioritizing conservation to improve water quality (SFS, 2004: 660).

The empirical policy core beliefs, on the other hand, address actors' beliefs concerning the nature (its seriousness, causes, and solutions) of the problem of water quality in Sweden. Thus, the empirical policy core beliefs address also the possible solutions for water quality

problems, i.e. views on the management system and the policy instruments at hand (c.f. Matti & Sandström, 2011). Actors' policy core beliefs are relatively persistent; yet, recent research suggests that empirical policy core beliefs are so to a lesser extent than the normative policy core beliefs (Weible & Sabatier, 2009). The empirical policy core beliefs are defined in this paper by three different types of beliefs. Firstly, the bureaucrats' notions regarding the existence and severity of contemporary water quality problems measure the *seriousness of the problem*. Scholars have argued that, if individuals believe that there is a problem, they will be more prone to work in accordance with policy (c.f. Weible & Sabatier, 2009). Moreover, the bureaucrats' positions regarding the *proper distribution of authority among levels of* government is measured by their views on the current management system and to what extent the current management system, given its vertical and horizontal division of power and authority, is effective to solve the policy problem. Finally, the *priority accorded various policy instruments* is empirically measured by the existing beliefs on the efficiency of different policy instruments to solve problems with water quality, such as the bureaucrats' views on the program of measures and environmental quality standards.

This paper builds upon the assumption that these policy core beliefs can explain street-level bureaucrats' actions and decisions. The exclusive focus on policy core beliefs is justified by the primary role these types of belies are ascribed by previous research as well as by their proven influence on individual action (c.f. Matti & Sandström, 2011; Matti & Sandström, 2013). The focus on policy core beliefs, empirical and normative, gives a comprehensive picture of street-level bureaucrats' beliefs within the studied policy area and provides us with explicit definitions and empirical measurements needed to elaborate upon how different policy core beliefs influence street-level bureaucrats' decisions.

Introducing a framework to explain street-level decision making

Based on the theoretical discussion above, an analytical framework for how to understand and explain the implementation of the program of measures from the RBDA is presented. The framework explicates the theoretical perspective on which this paper is founded: that street level bureaucrats' policy belief – normative and empirical – influences the decisions and actions they take.

Model 1: Analytical framework for analysis

The model shall be interpreted in the following way: According to ACF, as discussed above, policy core beliefs are the foundation for coalition building, i.e. actors with similar policy beliefs in concert with their action (in advocacy coalitions), and they drive policy change. The model assumes that street-level bureaucrats policy core beliefs is a driver for the implementation of public policy. Based on the model, two theoretically derived research questions and one empirical can be formulated:

1) Does a relationship exist between bureaucrats' policy core beliefs and the implementation of PoM?

2) Separating between normative and empirical policy core beliefs, could any differences in the relationship between beliefs and implementation be detected?

3) Studying street-level bureaucrats' in different policy sectors, could any differences in beliefs and implementation be detected?

In order to answer these research questions, I need to tap into the street-level bureaucrats' beliefs. First I need to investigate whether there are street-level bureaucrats that state that they implement the program of measures. The next step will be to establish if there exists a relationship between those who implement, or not, the program of measures and their policy core beliefs and which type of policy core beliefs, normative or empirical, explains the outcome. Finally, I need to find out if there is a difference in the willingness to implement the program of measures dependent upon which policy sector the bureaucrats work in; if so, can it be explained by their different policy core beliefs and whether there is a difference regarding normative and empirical policy core beliefs. This will be addressed in the results section below. However, before the results are accounted for, the case and the method shall be discussed.

Case and method

The European Water Framework Directive (WFD) was incorporated into the Swedish environmental legislation in the year 2004. The Swedish water management is currently

organized into five different river basin districts that are governed by river basin district authorities (RBDAs, *Vattenmyndigheterna*) who are responsible for implementing the WFD. However, the RBDAs are not the sole policy actors and cannot implement the WFD on their own. The regional County Administrate Boards (CABs) provide the RBDA with policy information and the RBDA is dependent upon other state and municipal actors in order to put the WFD into action (Figure 1).

Figure 1: The water management system

Comments: The street-level bureaucrats studied in this paper reside in the box deemed Municipal. The arrows point out the direction of governing.

The RBDA is responsible for developing policy to contribute to the implementation of the WFD through the formulation of various policy documents. Some of these policy documents, e.g. the PoM, are directed towards other state and municipal actors and describe what kind of measures that need to be taken to reach the targeted EQS for the concerned waters. The PoM and the EQS are, according to the Swedish environmental code, legally binding (Ekelund-Entson and Gippert, 2010).

In the PoM, there are six measures that are directed towards the municipals. Three of them are pointed at the technical sector, two towards the environmental sector, and one pointed at the sector that is responsible for planning and building (RBDA, Programme of Measures). In this paper, street-level bureaucrats working in the technical and environmental sectors were chosen as the unit of analyses. There are two reasons for this sample: first, the bulk of the measures are pointed towards these two sectors; second, the technical and environmental can be viewed as a similar case; and the former is conceded with the use and exploitation of the water, whereas the latter is focused on water as an important natural element.

Every year since 2010, the RBDA has evaluated if and how the municipals in Sweden implement the PoM. Even if the implementation of the PoM has risen over the years, only 39 percent of the municipals state that they implement the PoM during year 2013 (see Appendix 1 for further information). The results from these evaluations provide the fundamental argument for studying the implementation deficit (as was stated in the introduction).

Data was collected by means of structured interviews, with twenty bureaucrats in ten different municipals from each of the five river basin districts in Sweden. In each of the municipalities, one bureaucrat each from the environmental and technical sectors was interviewed. The respondents were asked questions about their actions and decisions and to what extent these are based on the program of measurers and indented to fulfil the purpose of the environmental quality standards. Furthermore, a broad set of questions was asked to capture their normative and empirical policy core beliefs (see Appendix 2). The interviews were transcribed and qualitatively analysed, and the answers were divided into categories based on the theoretical understanding on policy core beliefs (see Appendix 3).

Results

The studied bureaucrats were characterized as implementers or non-implementers based on to what extent they "had changed their work due to the program of measures" and if they "used the measures when making decisions". A group of the studied street-level bureaucrats' states that they were partly influenced by the program of measures; however, to enhance clarity, this category will be left out of the forthcoming analysis.

The normative policy core belief, or the orientation on basic value priorities, is categorized as pro/moderate/anti water conservation, and the following question was asked to capture this feature: "How important is it for the public sector to allocate resources and distribute power in order to conserve water in order to uphold or increase water quality, or should the water be used as a resource?"

The overall seriousness of the policy problem is defined as the street-level bureaucrats' beliefs on the water quality and examined through the following question: "Do you think that we have a problem with our water quality?" The answers was categorised as "problem/partly/no problem".

The bureaucrats' beliefs in regard to the proper distribution among levels of government and their notions about the current management system is examined by means of the following question: "How would you design the water management system in order to uphold or improve the water quality"? The answers were categorised as "pro/partly/anti current water management system".

Finally, the priority accorded various policy instruments are categorized as "pro/moderate/anti policy instruments" and were examined by asking the following question: Which policy instrument would you prefer in order to improve or uphold the water quality?"

Street-level bureaucrats as implementers of the program of measures

A minority of the SLBs state that they consider the program of measures when they make decisions or take action regarding water issues. These actors, i.e. the implementers, have changed their work and incorporated the program of measures in their daily work to improve the water quality (Interviews 3, 4, 5, 8, and 15). When asked if the PoM has affected their work, one of the SLB stated: "Yes it has, as an example, right now we are working with a waste water management plan in our municipal, which is one of the measures that we are supposed to work with according to the PoM. Furthermore, the PoM has also made us sharpen our work with the audit of individual sewer systems, which also is a measure that is in the PoM" (Interview 8). The rest of the SLBs can be divided in two groups; those who state that they do not consider the program of measures and those who state that they partly do. The latter group will not be further discussed here.

A common answer from the non-implementers is that they work in accordance with routines and polices that are formulated at the municipal level or that they follow other national policies rather than the program of measures (Interviews 13, 14, 16, 18, 19, and 20). Furthermore, they express that the PoM has not changed their work, as one the SLBs stated: "The PoM has not affected my work, it has not changed our daily routines nor is it part of the policies that guide our action and decisions" (Interview 14).

To summarise, a minority of the SLBs express that they implement the program of measures. Next, the policy core beliefs of the implementers and non-implementers will be presented and analysed (presented in Appendix 3).

The normative policy core beliefs

The SLBs that state that they do consider the program of measures, when making decisions and/or taking action, all have pro-conservation normative policy core beliefs (see Appendix 2). The common denominator is that they think of water as a natural resource that has been neglected for a long time and that it is very important for the state to promote polices to increase or uphold the quality of waters (Interviews 3, 4, 5, 8, and 15). According to one of

the respondents: "It is very important for the state to work with conservation of water as a resource, especially when it comes to secure drinkable fresh water of high quality (---) Moreover, state regulations are required when it comes to managing water as a natural recourse; without them, the municipals would not follow government policy" (Interview 8). Another SLB argues that it would be problematic if those at the municipal level were the only actors responsible for managing the water in Sweden. "It would be utterly wrong if the municipal level was solely responsible for water management, then we would have a system of 290 municipals with their own agenda regarding how the water should be managed. The state needs to be responsible for the water management in order to direct and concert policies regarding water quality".

The normative policy core beliefs of the non-implementers are divided between SLBs that hold pro- and partly pro-conservation beliefs. As one of the pro-conservation SLBs expressed: "It is very important for the state to advocate policies that conserve the waters, because this is a policy area that the municipals cannot be responsible for on its own, it is matter of national interest" (Interview 14). Those actors with partly pro-conservation beliefs are more reluctant towards prioritizing waters issues over other environmental problems, and they also have more averse beliefs towards the role of the state in water management. According to the SLBs, there are a lot of symbolic gestures in the present water management system and less effective policy instruments (Interviews 16, 18, and 19). As one of the respondents expressed, "After the WFD was incorporated in the Swedish environmental legislation the government has reorganised the Swedish water management system and created new state agencies – but has anything really happened in reality?" (Interview 16).

To conclude, the implementers have normative policy core beliefs that fall within the category of pro-conservation and that align with the WFD, while the non-implementers express more diversified beliefs.

The empirical core policy beliefs

All implementers agree that there is a problem with the water quality in their own municipality and in the country as a whole. As one of SLBs explained, "We have a problem with our water quality; first of all, we have the pollution from toxic waste, and then we have the impact of the ongoing climate change that negatively affects our water" (Interview 4). Nearly all implementers expressed beliefs that were partly in support of the existing

management system. On the negative side, the SLBs found the current water management system to be ineffective, because of the complexity and the inability of the RBDA to successfully coordinate the concerned actors. Yet, the implementing SLBs thought that this problem could be solved with a more effective RBDA (Interviews 3, 4, 5, 8, and 15). Furthermore, the implementers also share beliefs that are at least partly in favour of the policy instruments PoM and EQS and believe that these tools have helped them in their decision making (Interviews 3, 4, and 5). Still, some areas of improvements were identified: a need for greater precision, better implementation guidance, etc. (Interviews 3, 4, 5, 8, and 15).

The empirical policy core beliefs of the non-implementers are more diverged. Upon analysing their understanding of the problem and its seriousness, the respondents can be divided into three groups. One SLB clearly stated that there is a problem with the water quality (Interview 13), while another expressed that there is no problem (Interview 18). The rest of the SLBs within this group positioned themselves in the middle (Interviews 14, 16, 19, and 20). Analysing their notions about the existing management system and the policy instruments, however, they all express the same beliefs. All non-implementers criticise the management system. Some of them expressed the view that the municipality can work with water quality without a specific state agency (RBDA) governing them and that the Swedish environmental code is sufficient for this purpose. Others shared the views that there are too many state agencies involved in issues pertinent to water management. As one of the SLBs expressed, "I think that the regional authority (RBDA) should be incorporated into the Swedish Agency for Marine and Water Management. I think it is strange to have two separate authorities, one on the regional level and one at the central level. Hence, the management system of today does not provide oversight and coordination" (Interview 18). Moreover, all non-implementers criticize the policy instruments – the PoM for being too abstract and for providing no guidance, the EQS for being hard to interpret and not legally binding (Interviews 13, 14, 15, 18, and 20). As expressed by one of the SLBs, "The EQS are up to 90 percent a product made behind the bureaucrats' desk at the RBDA, because they lack data for most of the water catchment that they have classified, instead they have made data simulations. These are hard for us to use, and they lack guidance, so EQS are not helpful when we make decisions" (Interview 13).

To conclude, the implementers believe that the problem with water quality in Sweden is severe and expresses rather positive attitudes towards the current management system and

existing policy instruments, whereas the non-implementers diverge in regard to the seriousness of the problems and criticise the management system's ability to address these in an efficient way.

The policy core beliefs of implementers and non-implementers in different policy sectors

Is there any difference between SLBs in the two different policy sectors, environmental and technical, when it comes to implementing the PoM? Almost half of the SLBs that work within the environmental sector express that they implement the PoM, whereas more than half of the SLBs that work in the technical sectors said that they do not implement the program of measures (see Appendix 2).

What kind of normative policy core beliefs do the implementers in the environmental sector and non-implementers in the technical sector have? All of the implementing SLBs that work within the environmental sector have pro-conservation beliefs, and, surprisingly, also all the non-implementing SLBs in the technical sector have positive beliefs (pro and partly pro) regarding the conservation of water.

So are there any noticeable differences in the empirical policy core beliefs between the implementing environmental SLBs and their non-implementing counterpart in the technical sector? The implementing SLBs in the environmental sector share the belief that we have a problem with water quality. Moreover, they all have more or less positive beliefs regarding both the management system and policy instruments. The non-implementing SLBs in the technical sector do not think that we have bad quality in our waters in general, and moreover, they all have negative beliefs (anti) towards both the management system and the policy instruments.

To summarise, SLBs in the environmental sector implement the PoM to a higher degree than their counterparts in the technical sector. Surprisingly, there are no specific differences between the implementers in the environmental sector and the non-implementers in the technical sector regarding the normative policy core beliefs. However, there is a significant difference between the empirical policy core beliefs in the environmental and technical sectors. The implementers in the environmental sector all have more or less positive beliefs regarding the management system and the policy instruments, whereas their non-implementing counterparts in the technical sector all have negative beliefs regarding the management system and policy instruments.

Discussion

The overall puzzle that this paper addresses is why the program of measures decided upon by the RBDA have *not* been thoroughly implemented in the municipals in Sweden as intended. Hence, this paper builds on the assumption that the reason the WFD has not been fully implemented at the municipal level is partly because of the policy core beliefs that street-level bureaucrats have regarding water management in general and more specifically about the WFD. Thus, the aim of this study is to investigate if and how the policy core beliefs of the studied street-level bureaucrats influence their decisions in regard to the implementation of the WDF. To fulfill this aim, two theoretical research questions and one empirical were asked: 1) Does a relationship exist between bureaucrats' policy core beliefs and the implementation of PoM? 2) Separating between normative and empirical policy core beliefs, could any differences in the relationship between beliefs and implementation be detected? 3) Studying street-level bureaucrats' in different policy sectors, could any differences in beliefs and implementation be detected? I will start by discussing the two theoretical questions and then end with the empirical one.

The empirical result suggests that there is a relationship between the policy core beliefs that street-level bureaucrats have and the implementation of the program of measures. Among the street-level bureaucrats who express that they implement the program of measures, accordingly, all turn out to have more positive policy core beliefs than those who state that they do not implement the program of measures. In that sense, the framework can offer an explanation of why street-level bureaucrats implement the program of measures.

Do the different normative and empirical policy core beliefs explain why street-level bureaucrats implement the program of measures or not? Surprisingly, both the street-level bureaucrats expressing that they implement the program of measures, and those who do not, have pro-conservation beliefs. However, when examining the street-level bureaucrats' empirical policy core beliefs, there is a significant difference. All of the street-level bureaucrats that implement the program of measures have more or less pro-empirical policy beliefs; i.e. they all express that there are problems with the water quality and that they are more or less in favor of both the management system and the policy instruments, whereas all of the street-level bureaucrats who express that they do not implement the program of

measures have negative (anti) beliefs against both the management system and the policy instruments. In this case, the theoretical framework gives us tentative explanations regarding why some of the street-level bureaucrats implement the program of measures. The empirical results can be summarized in the following model:

[Model 2]

The model suggests that it is not sufficient to have normative policy core beliefs in order to implement a specific policy. Rather, it seems that, in order for the normative policy core beliefs to have an impact on decision and action, they have to be complemented by positive (pro) empirical policy core beliefs, i.e. the street-level bureaucrats also need to have positive beliefs regarding the management system and the policy instruments. One might only speculate why this is the case. First, this finding might point toward the obvious, i.e. that empirical policy core beliefs have more explanatory power than normative policy core beliefs when it comes to explain street-level decisions making and action (which should be further examined). Finally, street-level bureaucrats might express positive normative policy beliefs as long as they feel that they are not forced to make decisions and take action based on them. One plausible explanation for this is that it is hard for street-level bureaucrats to change their behavior, due to both organizational and cultural aspects of their work conditions (c.f. Hill, 2006).

Finally, let us discuss the last empirical question. Are there any differences between street-level bureaucrats that work within the two policy sectors, environment and technical, when it comes to implementing the PoM, and if so, can it be explained by different policy core beliefs? As the empirical section shows, street-level bureaucrats working in the environmental sector implement the program of measures to a higher degree than those who work in the technical sector. This result is explained by the fact that SLBs in the environmental sector have more positive (partly pro) beliefs regarding the empirical policy core beliefs, whereas the non-implementing SLBS in the technical sectors have negative (anti) beliefs when it comes to the empirical policy core beliefs, especially when it comes to their beliefs regarding the management system and the policy instruments.

In this study, one tentative explanation is that those street-level bureaucrats that work within the environmental sector are green political activists and therefore implement the program of measures to a higher degree than their counterparts in the technical sector. Thus, the street-

level bureaucrats, so-called green political activists, have more positive policy core beliefs than the street-level bureaucrats working within the technical sector (c.f. Hysing, 2013; Hysing and Olsson, 2011; Olsson and Hysing, 2012). One might speculate regarding why those who work in the technical sector have less positive policy core beliefs. First, it might partly be explained by their education. Second, it can also depend on the organisational setting that they work within; those in the technical sector are more concerned with the use and exploitation of water as a resource than with conservational aspects.

This study is based on a rather small sample. Thus, no empirical generalization can be made. However, some analytical generalization can still be addressed. First, it has been fruitful to incorporate the concepts of policy core beliefs in the scholarly tradition of street-level bureaucrats, because policy core beliefs are theoretical tools that were specifically created to address questions regarding drivers for policy change. Second, even if it is a novel concept in order to explain and discuss street-level bureaucrat decision making and action, it has in this study offered some tentative explanations concerning the implementation and non-implementation of public policy.

Conclusions

This study set out to provide an explanation of why the program of measures from the RBDA has not been fully implemented at the municipal level in Sweden. Furthermore, the results can offer explanations regarding why public policies are successful or not in other policy sectors as well. The argument is that, in order to understand the implementation deficit, a crucial competent in environmental policy implementation was neglected, namely street-level bureaucrats. These bureaucrats have both autonomy and discretion and are therefore an important unit of analyses to consider when explaining success and failure of public policy implementation. Moreover, autonomy and discretion among the street-level bureaucrats have given rise to the potential that their own beliefs have an impact on their decision making and action. This study, therefore, introduced policy core beliefs, both normative and empirical, as a theoretical tool in order to explain why street-level bureaucrats implement, or not, the program of measures from the RBDA. This study also suggested that different policy sectors within the municipal, environmental, and technical sector have an impact on the beliefs that street-level bureaucrats herald. First, the results show that there is a relationship between

policy core beliefs and the implementation of the program of measures. Second, that empirical policy core belief explains more why street-level bureaucrats implement the program of measures than the normative policy core beliefs. Finally, street-level bureaucrats that work within the environmental sector are more prone to implement the program of measures than their counterparts within the technical sector. The reason for this is that they have policy core beliefs that are more positive than their counterparts in the technical sector, especially when it comes to empirical policy core beliefs.

There are several venues for future research in this area. There is a need for large-scale studies in order to explain the explanatory strength in policy core beliefs as a driver for policy implementation in comparison with other factors. Scholars should also investigate further the explanatory strength between the empirical and normative policy core beliefs as a predictor of street-level decision-making and action.

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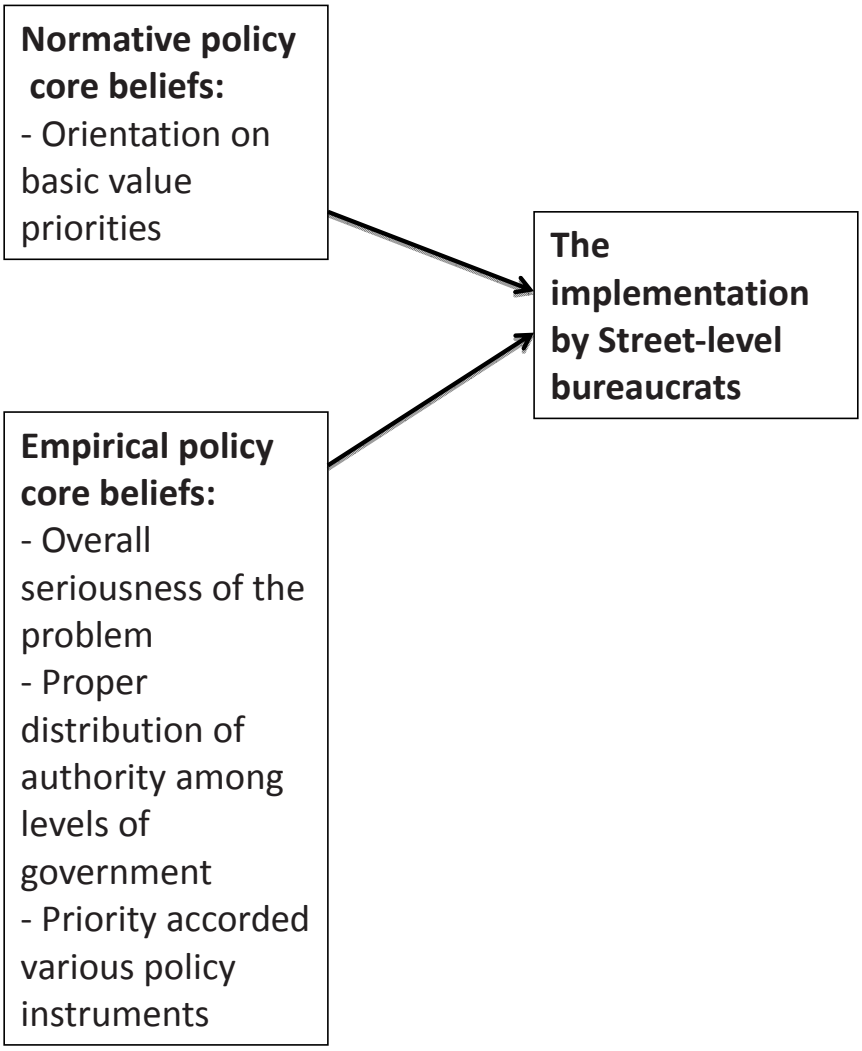
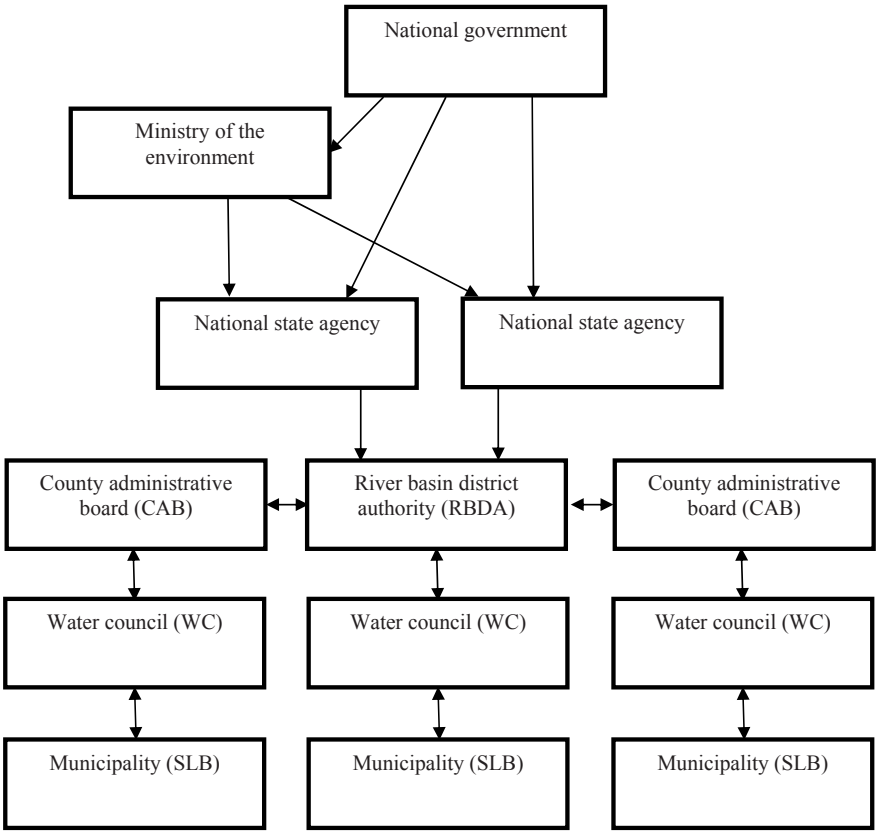
Model 1


Normative policy core beliefs:
- Orientation on basic value priorities
Empirical policy core beliefs:
- Overall seriousness of the problem
- Proper distribution of authority among levels of government
- Priority accorded various policy instruments
The implementation by Street-level bureaucrats

Model 2. Street-level bureaucrats policy core beliefs and implementation

Normative policy core beliefs	Empirical policy core beliefs Pro management system and policy instrument	 Anti-management system and policy instruments
Pro conservation	*Implementers (SLB)*	Non implementers (SLB)
Anti-conservation	Non implementers (SLB)	Non implementers (SLB)

Figure 1: A schematic illustration of the water governance system in Sweden



(Sevä and Jagers, 2013)

Appendix 1: Evaluation of how the programs of measures are implemented in Swedish municipalities 2010-2013

Measures	32) Assessment of water catchments	33) Wastewater management protection	34) Decisions regarding water protection areas	35) Chemical status in water catchments	36) Decisions regarding water quality standards	37) Wastewater management plan	Average of implementing units considering all measures (32-37)
2010	Yes: 60 (21%)	Yes: 97 (33%)	Yes: 79 (27%)	Yes: 89 (31%)	Yes: 59 (20%)	Yes: 57 (20%)	25%
N=290	No: 140 (48%)	No: 103 (36%)	No: 121 (42%)	No: 101 (35%)	No: 137 (47%)	No: 145 (50%)	
	No resp.: 90 (31%)	No resp.: 90 (31%)	No resp.: 90 (31%)	No resp.: 90 (31%)	No resp.: 94 (32%)	No resp.: 88 (30%)	
2011	Yes: 118 (40%)	Yes: 87 (30%)	Yes: 91 (31%)	Yes: 20 (6%)	Yes: 90 (30%)	Yes: 70 (24%)	27%
N=291	No: 126 (43%)	No: 157 (54%)	No: 150 (51%)	No: 199 (68%)	No: 153 (52%)	No: 174 (60%)	
	No resp.: 47 (16%)	No resp.: 47 (16%)	No resp.: 47 (16%)	No resp.: 47 (16%)	No resp.: 47 (16%)	No resp.: 47(16%)	
2012	Yes: 144 (50%)	Yes: 133 (45%)	Yes: 96 (33%)	Yes: 26 (9%)	Yes: 88 (30%)	Yes: 75 (26%)	32%
N=290	No: 8 (30%)	No: 99 (34%)	No: 136 (47%)	No: 206 (73%)	No: 143 (49%)	No: 146 (50%)	
	No resp.: 58 (20%)	No resp.: 58 (20%)	No resp.: 58 (20%)	No resp.: 58 (20%)	No resp.: 58 (20%)	No resp.: 58 (20%)	
2013	Yes: 177(61%)	Yes: 160 (55%)	Yes: 97 (33%)	Yes: 16 (6%)	Yes: 114 (39%)	Yes: 112 (38%)	39%
N=290	No: -	No: 96 (33%)	No: 153 (53%)	No: 234 (80%)	No: 142 (49%)	No: 137 (47%)	
	No resp.: -	No resp.: 34 (12%)	No resp.: 40 (14%)	No resp.: 40 (14%)	No resp.: 34 (12%)	No ans.: 41 (14%)	

Note: *Yes* indicates that the particular measure (see the head row) is implemented, *No* indicates that the measure is not implemented, and *No resp.* illustrates missing data. The average (see the last column) provides an average of implementing municipalities considering all measures. The information is presented both in numbers and in percentages. The reason for the missing data in the table is that these figures was not present in the annual rapport for this year. Source: The Annual Rapports of the Implementation of The Program of Measures, 2010, 2011, 2012, and 2013. The River Basin District Authority.

Appendix 2: Policy core beliefs, normative and empirical precepts (scheme for analyses)

Theory	***Interview guide questions***	***Operationalization of theoretical definitions***
Orientation on basic value priorities (normative precept) Def. Street-level bureaucrats (SLB) beliefs: on the importance to conserve or use the water as a resource.	How important is it for the public sector to allocate resources and distribute power in order to conserve water in order to uphold or increase water quality or should the water be used as resource?	Pro/partly for/anti water conservation
Overall seriousness of the problem (empirical precept) Def. SLBs beliefs: do we have problem with our water quality	Do you think that we have problem with our water quality?	Problem/partly/no problem with water quality
Proper distribution of authority among levels of government and stakeholders (empirical precept) Def. SLBs beliefs: how should the management system be designed in order to improve water quality	How would you design the water management system in order to uphold or improve the water quality?	Pro/partly for/anti water current management system
Priority accorded various policy instruments (empirical precept) Def. SLBs beliefs: which policy instruments should be used in order to uphold or improve water quality	Which policy instrument would you prefer in order to improve or uphold the water quality?	Pro/partly for/anti current policy instruments.

Appendix 3: Empirical results

Street-level bureaucrats (SLB)	Normative policy core beliefs	Empirical policy core beliefs	Decision making/action
Environmental sector SLB 1	Pro conservation	Problem with water quality/ Pro management system/Partly for policy instruments	Partly implementer
SLB 2	Pro conservation	Partly problem with water quality/No beliefs/No beliefs	Partly implementer
SLB 3	Pro conservation	Problem with water quality/Pro management system/Partly for policy instruments	Implementer
SLB 4	Pro conservation	Problem with water quality/Partly for management system/Partly for policy instrument	Implementer
SLB 5	Pro conservation	Problem with water quality/Partly for management system/Partly for policy instruments	Implementer
SLB 6	Pro conservation	Partly problem with water quality/Partly for management system/Pro policy instrument	Implementer
SLB 7	Pro conservation	Partly problem with water quality/Partly for management system/Partly for policy instrument	Partly implementer
SLB 8	Pro conservation	Problem with water quality/Partly for management system/Partly for management system	Implementer
SLB 9	Pro conservation	Partly with water quality/Partly for management system/Partly for policy instrument	Partly implementer
SLB 10	Pro conservation	Partly problem with water quality/Partly for management system/Partly for policy instrument	Partly implementer
Technical sector SLB 11	Pro conservation	Partly problem with water quality/No comment/Partly for policy instrument	Partly implementer
SLB 12	Partly for conservation	Partly problem with water quality/Partly for management system/Partly for policy instrument	Partly implementer
SLB 13	Pro conservation	Problem with water quality/Anti	Non implementer

		management system/Anti policy instrument	
SLB 14	Pro conservation	Partly problem with water quality/Anti management system/Anti policy instrument	Non implementer
SLB 15	Pro conservation	Problem with water quality/Partly for management system/Partly for policy instrument	Implementer
SLB 16	Partly for conservation	Partly problem with water quality/Anti management system/Anti policy instrument	Non implementer
SLB 17	Pro conservation	Problem with water quality/Partly for management system/Partly for policy instrument	Partly implementer
SLB 18	Partly for conservation	No problem with water quality/anti management system/Anti policy instrument	Non implementer
SLB 19	Partly for conservation	Partly problem with water quality/Anti management system/ Anti policy instrument	Non implementer
SLB 20	Pro conservation	Partly problem with water quality/Anti management system/Anti policy instrument	Non implementer