



Degree Project in Urban and Regional Planning

Second Cycle 30 Credits

Guardians of the Ecology

Navigating Challenges in Municipal Urban Planning in
Stockholm County – Insights and Strategies from Ecologists

EBBA SIDH

Guardians of the Ecology

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Guardians of the Ecology: Navigating Challenges in Municipal Urban Planning
in Stockholm County – Insights and Strategies from Ecologists
Ekologins väktare: Att navigera utmaningar i kommunal stadsplanering i
Stockholms län – insikter och strategier från ekologer

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Abstract

Urban planning plays an essential role in preparing cities to handle and counteract the climate changes – and connected consequences – of today and the future. Municipal ecologists are specialists in environmental protection and therefore carry a crucial role when developing contemporary and future cities. However, the literature on municipal ecologists' partaking in contemporary urban planning in a Swedish local planning process has not been extensive. This study explores how municipal ecologists experience and view the main challenges when seeking to contribute with their expertise in local planning processes in Stockholm County, Sweden. The study also explores what kind of strategies municipal ecologists implement to handle these challenges.

This study uses an explorative qualitative methodology and a thematic analysis applied to empirical data from semi-structured interviews. To revisit the research field, a focus group discussion of the result was conducted. Key findings from this study are that the main challenges municipal ecologists face are i) the organisational difficulties and capacity for prioritising ecological issues in municipal planning, ii) lack of regulatory framework and political support, and iii) stress due to tensions in local planning processes. The ecologists handle this challenging context by implementing strategies such as speaking through others' legitimacy, creating authority, and articulating the values of ecology.

This study contributes to the understanding of how ecologists struggle to contribute with their expertise in local planning practice. This implies the challenge of including environmental perspectives in local planning practices. Therefore, this study points to important aspects of where it is necessary to focus future efforts to better integrate an ecological perspective in urban planning.

Keywords: municipal ecologists, value articulation, ventriloquism, municipal planning process

Sammanfattning

Stadsplanering spelar en viktig roll när det gäller att planera städer som kan hantera och motverka dagens och framtidens klimatförändringar – och konsekvenserna som följer dessa förändringar. Kommunekologer är specialister på miljöskydd och har därför en avgörande roll i utvecklingen av samtida och framtida städer. Litteraturen om kommunekologers deltagande i samtida stadsplanering och i en svensk lokal planprocess har dock inte varit omfattande. Denna studie undersöker hur kommunekologer upplever och ser på de största utmaningarna när de ämnar bidra med sin expertis i lokala planeringsprocesser i Stockholms län. Studien undersöker även vilka typer av strategier kommunekologer implementerar för att hantera dessa utmaningar.

Denna uppsats använder en utforskande kvalitativ metod och en tematisk analys tillämpad på empiriska data från semistrukturerade intervjuer. För att återbesöka forskningsfältet genomfördes en fokusgruppsdiskussion kring resultatet. Nyckelfynd i denna studie är att de främsta utmaningarna som kommunekologer står inför är i) de organisatoriska svårigheterna och förmågan att prioritera ekologiska frågor i kommunal planering, ii) bristande regelverk och politiskt stöd, och iii) stress på grund av spänningar i lokala planprocesser. Ekologerna hanterar denna utmanande kontext genom att implementera strategier såsom att tala genom andras legitimitet, skapa auktoritet och artikulera värden kopplat till ekologi.

Denna studie bidrar till förståelsen för hur ekologer kämpar för att bidra med sin expertis inom lokal planeringspraxis. Denna insikt antyder även att det finns utmaningar att inkludera ett miljöperspektiv i lokal planeringspraktik. Därmed pekar denna studie på viktiga aspekter av var det är nödvändigt att fokusera framtida insatser för att bättre integrera ett ekologiskt perspektiv i stadsplaneringen.

Nyckelord: kommunekologer, värdeartikulation, ventriloquism, kommunal planprocess

Acknowledgement

"Understanding is something that emerges in interaction".

- Dahlin-Ivanoff 2015, p. 83, translated from Swedish

This quote is the basis of the foundational assumption for this thesis project and my view on knowledge. In short, this thesis would not have been if it was not for others to interact with and learn from – together. Here, I want to take the chance and acknowledge them.

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1. Introduction

Cities today face challenges such as climate change and harmful ecological deterioration caused by human activities. These changes threaten the well-being of humans, non-humans, and planet Earth. Therefore, it is crucial to prevent and slow down these changes where possible (Gunnarsson-Östling and Svenfelt, 2017; IPCC, 2023). At the same time, cities have become both “engines of development” and “drivers of environmental change” (Verma et al., 2020, p. 4), where “planning is supposed to be both market-oriented and ecologically restrictive at the same time” (Strömgren, 2007, pp. 193–227 referenced in Persson, 2013, p. 308). Municipal ecologists in Sweden aim to investigate and report on the impact of building and construction projects on the environment (Statistics Sweden, 2012). Due to the environmental crisis, there is a great need to consider ecological perspectives when planning cities – a need that municipal ecologists can contribute to fulfilling.

Urban planning is both a technical and a political process, intending to improve the well-being of *present* and *future* individuals and communities by “providing environments that are healthy, appealing, equitable and useful” (Pineda Pinto, 2020, p. 2852). The challenge and complexity of urban planning occur – among other things – because of the conflicts caused by different values placed upon different resources by various groups and individuals (ibid.).

Municipal ecologists contribute to planning in Stockholm, Sweden and are crucial to include ecological perspectives in planning. Their role is to prevent damage to the environment by investigating, assessing, and reporting on the impact of construction projects on the environment (Statistics Sweden, 2012). As specialists in environmental protection, they carry an essential role when developing contemporary and future cities. However, due to the complexity and conflicts of urban planning (Khoshkar et al., 2020), ecologists’ struggle for both legitimacy and authority in a conflicting working sphere (Dovlén, 2002) which could lead to a limited possibility to include their expertise in the planning processes.

Hence, the involvement of municipal ecologists in contemporary planning processes in Sweden is an important question to study. Previous research has explored the involvement of municipal ecologists, and one example is the study by Dovlén (2002). However, since the 21st century, the changes in planning practice, urban development, and climate crisis have raised the issue's importance – again. This notion leaves us wondering to what extent municipal ecologists are included when planning for cities, what challenges they confront when trying to contribute with their expertise, and by what means they are contributing to planning. Here is where this study finds its purpose.

1.1 Problem Formulation

The experiences and perceptions of municipal ecologists in Sweden are a neglected area of research. As mentioned above, cities and societies are part of environmental change, so it is essential to consider environmental issues within all types of planning. Including municipal ecologists to a greater extent in urban planning issues could be a step toward ensuring that urban planning is less harmful to the environment.

1.2 Research Aim

The overall aim is to explore how ecologists' knowledge is included in the local planning processes, which will be studied by exploring how ecologists themselves experience the inclusion of their knowledge in planning processes, and how they go about to have an impact. More in specific, by exploring ecologists' perspectives of challenges they face within municipal planning processes and their strategies in their everyday practice to handle these challenges. In this study, this is done by answering the following questions:

1. According to ecologists, which are the main challenges they experience when contributing with their expertise in planning processes?
2. What kind of strategies do ecologists implement when meeting these challenges?

For this study, I have chosen to focus on the Stockholm region in Sweden. Municipalities of Sweden have a strong position in planning (Johnson, 2013), and the Stockholm region is an interesting study area as the housing policy requires land and sharpens land conflicts, for instance, between protection and development. As described by the Swedish government (2002, p. 2, translated from Swedish):

Experience shows that nature conservation, outdoor life and cultural environment conservation sometimes find it difficult to assert their interests when the pressure becomes too strong from other opposing interests, e.g. infrastructure, housing construction or other physical development. Green areas and green structures are often gnawed at the edge. The fragmentation of remaining green areas has continued within primarily the metropolitan regions.

Therefore, the region of Stockholm makes an interesting context to explore the experiences of municipal ecologists working in local planning practice. The aim of this thesis limits the project from exploring other experts' experiences, thus making it possible to go deeper within the research aim. I have also chosen not to include policies for the same reason. For the study, experts calling themselves municipal ecologists (henceforth *ecologists*) have been interviewed.

Finally, the step of departure for this study is sustainability, here meaning planning cities for both contemporary and future human and non-human residents. Hence, sustainability is not a question to investigate in itself (for critical research on ‘sustainability’, see e.g. (Gunnarsson-Östling and Svenfelt, 2017). Rather, it is seen as a prerequisite for human life and hence needs to be promoted.

This thesis is organised by first presenting a background situating urban planning and the context of ecologists as well as describing the conceptual framework for the thesis (2.1 and 2.2), followed by a description of the study area and Swedish planning context (2.3). Secondly, the methodology of the thesis is described, including the interviews, analysis, focus group (3.1 and 3.2) and reflecting upon some critique towards the methods chosen (3.3). Thereafter, interpretations from interviews and thematic analysis are presented and divided in line with the research questions (4.1 and 4.2). Lastly, a conclusion and potential for future studies are presented (chapter 5.).

2. Background

This chapter presents relevant earlier research and analytical concepts. These are fruitful for situating the research field in relation to the aim and research questions (2.1 and 2.2). The intention is not to cover the range of differing perspectives on these issues. Instead, I have chosen the references to create a framework for the research and analysis. Thereafter, the studied area and the profession of an ecologist are described (2.3).

2.1 Situating the Field of Ecology

This chapter will summarise previous research relevant to this study, situating the field of urban planning and ecologists. Thus, describing the conceptual framework for this study and the lens used for parts of the thematic analysis. The chapter starts with a section (2.1.1) touching upon a historical perspective on ecology in Sweden, before moving to a study of perceptions of Swedish ecologists. From an international point of view, an Argentinian study explores ecologists’ satisfaction level with their role and aspects connected to dissatisfaction. Lastly, a Swedish study focusing on environmentalists is presented. In the following section (2.1.2), summaries of studies from a broader planning profession perspective are presented, followed by a further step ‘away’ with a problematisation of planning as an arena for conflicting interests and power relations. The last section (2.1.3) presents studies reflecting on different challenges due to the idea of ecology as a bounded category and perceptions of the (dis)connectivity between nature and humans.

2.1.1 History and the Role of Ecologists

This section will present studies of the rise of ecology in Sweden during the 20th century and municipal ecologists working in the wake of this post-war boom in Sweden at the beginning of the 21st century, then moving from Swedish municipal ecologists' perception of their professional role to Argentinean ecologists' self-perception. In an Argentine context, obstacles such as time availability arise and a wish to act as a provider of alternatives for decision-makers. These studies are further explained below.

Söderqvist (1986) describes the rise of ecology in Sweden during the 20th century and what he calls the 'ecologization' of Sweden, interpreted as the emergence of a discursively aware ecology. The study is conducted by following the occurrence of the word ecology within research, society, and politics. The findings show a "post-war boom" for ecology and a spread of ecological perspectives to politics and physical, social, and economic planning during the 1970s (ibid.). According to the author (Söderqvist, 1986, p. 271), this rapid increase was not a consequence of the environmental crisis because the crisis in the 1960s was "nothing new". Rather, ecologists translated the concern for the environment and the environmental crisis into an ecological issue. Hence, according to the study, this concern for environmental degradation was creating the main background for the institutionalisation and national unification around ecology and social orders of ecology during the 1960s (Söderqvist, 1986, p. 235).

The breakthrough of ecological rhetoric as well as political notion within larger political circles occurred in 1971 with the release of a report of a governmental commission on natural resource management and physical planning (Söderqvist, 1986, p. 267). The Commission stated that the task of physical planning was to balance land exploitation and conservation demands, which should be based on "actions which appear rational from an ecological point of view and the long-term perspective" (SOU 1971:75, p. 51 referenced in Söderqvist, 1986, p. 267). Though, what is to be 'rational' is not something common-sense, rather the 'rational' choice is dependent on your perception of the world (see section 2.1.3. for further discussion).

Furthermore, the Commission stated that "it is pressing that future physical planning, and in addition all social planning, be founded on a more coherent ecological basis" (ibid.). The Commission's report became the foundation for a governmental bill, sanctioned by the *Riksdag* (Parliament) in 1972:

Application of an ecological viewpoint means... that national physical planning shall contribute to a development of society within the framework set by natural resources and the natural environment, and that the diversity of natural ecosystems is retained (Proposition 1972:111, referenced in Söderqvist, 1986, p. 267).

Söderqvist (1986, p. 268) argues that over time, physical planning on the local and county levels to a greater extent was defined in terms of ecology – an ‘ecologization’ of the nation. Municipal ecologists are one example of how the ecological perspective was to be integrated into municipalities. A newspaper advertisement from January 1984 describes the role of municipal ecologists as supposed to “administer environmental questions... and other natural and landscape planning issues in connection with physical planning” (cited in Söderqvist, 1986, p. 268).

While Söderqvist described the rising interest in ecology in Sweden and barely mentions municipal ecologists, Dövlén (2002) dives deeper into the perceptions of municipal ecologists working in the context of the ‘ecologization’. Her study explored Swedish municipal ecologists’ perspective of their professional role, their conception of sustainable development and possibilities and obstacles in bringing ecological knowledge into the planning process. The results of five in-depth interviews with municipal ecologists show a description from the ecologists of a challenging working situation with struggles and support from superiors and a range of actors (Dövlén, 2002). In line with the rise of interest in Söderqvist’s (1986) study, Dövlén’s (2002) participants experienced a shift, with, to a greater extent, consideration of environmental issues compared to 10-15 years ago (considering the study’s publication was in 2002).

Dövlén’s (2002) results also show the importance of legislation supporting the work of ecologists, as well as for the advancement of environmental issues. Some interviewees experienced being excluded from planning processes when arguing for environmental and ecological issues; hence, in some situations, they have been cautious of how and what they say to not be excluded (Dövlén, 2002). Further, ecologists experience the planning arena as an argumentative struggle, less defined by legislation and instead by common-sense assumptions (Dövlén, 2002, p. 224). According to the study, ecologists use strategies to bring ecological knowledge into the planning process. These strategies depend on the context, but one typical for all five interviewees is to try to broaden the dominant routines and norms for planning to make room for ecological knowledge. The strategies are performed by communicating face-to-face, articulating arguments and using different professional languages (Dövlén, 2002, p. 224). The author concludes that ecologists have difficulties bringing their knowledge into the planning process, manoeuvring an environment with other interpretations of concepts – in line with ecological sustainability – compared to ecologists’ interpretations. Thus, Dövlén (2002) identified a risk that ecologists adapt to common-sense norms shaped by older legislation to be accepted. Dövlén (2002, p. 226) concludes that “[e]cologists naturally participate in the professional struggle and, like everyone else, strive for legitimacy and status.”

From an international perspective, Weyland and von Below's (2021) study also focuses on the role of the ecologist, where they examined through a survey approach the self-perception of ecologists regarding their role concerning environmental public policies. The analysis was conducted by applying a conceptual model of four roles: Pure Scientist, Science Arbiter, Issue Advocate and Broker of Alternatives (Weyland and Von Below, 2021, p. 224). The authors investigated the satisfaction level of the role adopted by ecologists. According to the article, one of the main reasons for the interviewee's satisfaction level was the possibility of connecting their work to decision-making, time availability, attitudes from other actors towards the idea of collaboration and restrictions within the workplace (Weyland and Von Below, 2021, pp. 230–231). According to the article, the traditional view of the role of ecologists has been to be a provider of information. The results showed that the most common role the ecologists wished to "be" is the Broker of Alternatives (Weyland and Von Below, 2021, p. 230). According to the authors (Weyland and Von Below, 2021, p. 224), this role is characterised by providing alternatives for decision-makers, highlighting the consequences of alternatives, and acting in a sphere with diverse, often disputed, values. In a context with multiple stakeholders, characterised by power and conflict where it is difficult to reach a consensus about values, the authors argued that it is beneficial for the ecologist to take on a role where multiple choices are suggested (Weyland and Von Below, 2021, p. 224).

Being a Broker of Alternatives could also be seen as handling a knowledge issue, where suggesting multiple choices includes educating the decision-makers. Perceiving environmental issues as an educational issue is a result Johansson's (2008) doctoral thesis reach. The author has interviewed environmentalists about how they relate to environmental issues and their profession. The result identified among other things that environmental problems were interpreted as caused by a lack of knowledge and commitment, and hence can be framed as a knowledge issue possible to solve by spreading knowledge about environmental issues' causes and potential solutions (Johansson, 2008, pp. 97, 103). Further, the results identified five characteristics of the professional practice of environmentalists from their experiences about their profession: 1) The results are hard to make visible and evaluate, 2) the practice arouses resistance, discomfort and provokes, and 3) has to integrate and adjust to already existing practices, 4) which involves explaining and formulating solutions, 5) which involves administrating already made decided challenges (Johansson, 2008, p. 122).

The previous review of the literature shows that even though the occurrence of a historical "post-war boom" of interest in ecology, ecologists have experienced a challenging work environment in a context of disputed values. Being in an arena where they try to widen the common-sense norms while struggling with

exogenous factors such as time availability and obstacles to collaboration due to attitudes from others. The review also confirms that there is limited research on ecologists' perception of contemporary planning in Sweden, though with an opportunity to revisit the work by Dovlén (2002) to explore the role of municipal ecologists today. Also, the review shows that previous research has had a broad analysis approach towards the question, from quantitative surveys to qualitative interviews.

2.1.2 Professions, Power, and Knowledge in Planning

Spatial planning is an essential tool for achieving sustainable futures (Khoshkar et al., 2018). In Sweden, the decentralised responsibility for spatial planning and land use falls on the municipalities (Persson, 2013). Urban growth and consequently exploitation of land is pointed to as one of the main competing interests of land use towards green space (Schwartz 1997, Young and Jarvis 2001, Stenhouse 2004, Sandström et al. 2006 referenced in Borgström et al., 2006). Multiple studies focus on conflicts emerging within urban planning processes, where multiple interests intertwine (see e.g. Hagbert and Malmqvist, 2019; Hrelja et al., 2012; Witzell, 2019). This complexity is what planning furthestmost handles, but while planning professions act in this complex context, they also need to legitimate and create authority for themselves and the questions they work with to be able to succeed with contributing with their expertise (see e.g. Dovlén, 2002). The following studies refer to conflicts in urban planning from the perspective of different planning professions.

The study by Khoshkar et al. (2020) identifies barriers to support actions for ecosystem services in local planning practice. Some key points are the understanding of ecosystem services and local capacity building, improved regional support for enhancing local knowledge exchange and learning, and the need for developing legal support and regulations on national and EU policy levels concerning ecosystem services (Khoshkar et al., 2020, p. 7). In detail, challenges consisted of a lack of political support and political shifts influencing available resources; ecosystem services perceived more as an aesthetic question; blue/green space at risk in land use decision-making processes because of lack of regulations. The authors (Khoshkar et al., 2020, pp. 8–9) identified organisational capacity as challenging due to a frequent change of employees and, therefore, an unstable knowledge base of ecosystem services. Also, a differing range of knowledge about ecosystem services in general within the organisation. The study reveals the presence of obstacles when trying to implement green perspectives in municipal planning processes (Khoshkar et al., 2020), presenting a tentative picture of the context in which ecologists work.

Another study where the context of urban planning processes constitutes a challenging environment is presented by Hagbert and Malmqvist (2019). Conflicting logic and differing intra-organisational capacity regarding

competency and leadership are presented as challenges in this study of contemporary Swedish housing development (Hagbert and Malmqvist, 2019, pp. 706–708). The study revealed the conflict of short-term interests not considering long-term consequences on land use, exemplified by the goal conflict between the need to preserve farmlands, and the continued growth of urban areas. In short, a dominant economic logic creates conflicts where significant economic interests override other interests, such as social and ecological sustainability values. The study also implies that business interests are translated to business interests and vice versa. According to the study, due to economic pressure, politicians in small municipalities struggle to implement more ambitious environmental policies because it might scare away construction actors. Another critical point lifted by the study is the importance of education and competency regarding environmental issues and the differences between educational programs, where some programs do not include resource or equality issues (ibid.). This regards not only education for the ones directly involved in the planning but for the professionals with key decision-making roles, such as managers, economists, and lawyers (Hagbert and Malmqvist, 2019, p. 711). Thus, Hagbert & Malmqvist (2019) points to knowledge as a vital aspect, in line with Khoshkar et al. (2020).

With different professionals in urban planning processes comes different knowledge about ecological issues, as shown in the previous paragraphs. These differing competencies are also valued differently due to how the representatives for the expertise negotiate and push their arguments, especially in a complex setting with limited resources such as municipal planning processes (Brunsson, 2003; Adolfsson and Solli, 2009 referenced in Tamm Hallström, 2015). Tamm Hallström (2015) emphasises differing perspectives within planning processes and how this implies negotiations between experts trying to implement their perspectives. These conflicts and negotiations are influenced by power, in the sense that power is created relationally between actors – meaning both people and artefacts (Tamm Hallström, 2015, p. 2). The study identified that power is created through how issues, perspectives and expertise is organised: a categorisation of goals, expertise and measurability also created a hierarchisation between the categories and, therefore, the professionals working with specific categories. The study showed that problems and solutions were “ranked” due to the perceived measurability, where, for example, values connected to more abstract concepts such as “national interest” were more challenging to argue for the measurability compared with noise measurements with legally maximum levels (Tamm Hallström, 2015, pp. 23–24). Conflicting interests was another emerging obstacle, where – in line with Hagbert and Malmqvist’s (2019) findings – the short-term goal of constructing a certain amount of housing was perceived as more important than long-term activities, such as park management. The pressure from the short-term goal of developing housing also contributed to a perception of creating inertia when

including all other perspectives necessary in planning (Tamm Hallström, 2015, p. 23). Categorising and implied hierarchisation is part of the relational power play in planning processes (Tamm Hallström, 2015).

The previous studies illustrate planning processes as a complex arena affected by power, conflicting interests and contradictory goals, and struggle for legitimacy and authority. Professions in planning have to relate to this complexity in their everyday practice and, at the same time, need to legitimise and create authority for the issues they monitor. Planning practice is therefore permeated by power relations (see e.g. Tamm Hallström, 2015). This underlies the importance of studying strategies to build legitimacy for expertise and gain success in decision-making. The studies also mirror that other professions deal with similar challenges as ecologists, which is why this study could be interesting for a broader audience.

2.1.3 The Perception of Ecology as a Modernist Dualistic View of Nature and Culture

Planning attempts to handle wicked problems (Rittel and Webber, 1973) while ecology faces wicked problems. These problems confronting ecology are based on the assumptions about the separation of nature and culture, obstructing the “holistic understanding of human agency in the biosphere” (Hornborg, 2011a, p. 118), where ecology is assumed to be about solemn nature and other species, rather than humans and the socioecological systems (Hornborg, 2011b, p. 8). The following studies have in common that they all acknowledge that humans are dependent on nature but that there are conflicting views on this relationship between humans and nature. Also, how we define the world is not because of ‘reality’; rather, it is doing something with how we perceive the world and hence what we construct as a problem and, therefore, solution.

Sustainability is an example of a word sometimes defined vaguely or with contradictory meanings. It is also a concept which has gained importance at different levels of society, regarding decision-making (Gunnarsson-Östling and Svenfelt, 2017, p. 160). Different views on sustainability reflect different views on the relationship between humans and nature. The authors exemplify this by describing more anthropocentric discourses, which focus on nature by how to utilise it to make a profit and where human-made capital is exchangeable with natural capital. In contrast, some sustainability discourses see nature as something needing preservation and protection from humans. Different views of human relations to nature will lead to different views on what is regarded as a problem and what is seen as a solution (Gunnarsson-Östling and Svenfelt, 2017, p. 160).

The perspective of humans’ relation to nature is also influencing the perspectives of planners and planning processes. From an international

perspective, one study by Pineda Pinto (2020) explores the perception of urban planners and whether and how environmental ethics inform urban planning in four Australian councils. The author describes the more anthropocentric approach as ‘planning for people’ with human-centred ethics (Pineda Pinto, 2020, p. 2858). In line with Gunnarsson-Östling and Svenfelt (2017), Pineda Pinto (2020) describes this approach as valuing non-humans estimated by their benefits to humans. The anthropocentric approach has a dualistic understanding of humans and nature, contributing to the management of nature from an ‘objective’ pragmatic perspective (Pineda Pinto, 2020, pp. 2858, 2864). The results show that planners experienced urban planning as grounded in anthropocentric ethics, which reflected that nature values were dependent on the human gaze, regardless of the intrinsic value of nature. Also, concern for the environment and other species was overridden by other economic and social values while the situation of conflicting interests was intensified by power structures (Pineda Pinto, 2020, pp. 2858–2859). The author points to the importance of rethinking planning through Wilkinson’s emphasise that planning is part of uncertain and contingent ecological processes (2011, cited in Pineda Pinto, 2020), and Næss acknowledge that planning needs to engage in interdisciplinary processes (2001, cited in Pineda Pinto, 2020). The author (Pineda Pinto, 2020, p. 2864) proposes future research to explore if urban planners and other professions can by developing character traits promote environmental benefits. Here, findings from this study can be valuable.

Another author that problematises the dualistic notion of nature and culture in line with Pineda Pinto’s (2020) criticism of an anthropocentric approach in urban planning is Hornborg (2011b, p. 8). The author (Hornborg, 2011b, p. 8) problematises that the word ‘ecology’ is used in a positivistic way in the mainstream language of policy for sustainable development, which means in an unreflecting and matter-of-fact way that proposes a reality-bounded category which will not change and without critical analysis. The author builds upon this and describes ecology as a cultural category, exemplifying how ecology could be seen as solemnly the natural processes, excluded from human ideas and relations, or as both material and relational processes which is “enveloping and implicated in all human life” (ibid.). The concept of ecology is constructed and built upon the modernist dualistic view of nature/culture. According to the author (Hornborg, 2011a, p. 118), the notion of such a binary opposition continues to “obstruct holistic understanding s of human agency in the biosphere”. Hornborg (2011a, p. 12) problematises the neglect of our dependency on nature by giving the concept of ‘illusory emancipation from land’, which has made humanity ignorant about what human livelihoods *need* from the world around, for example how we affect the necessary biosphere by burning fossil. In line with Gunnarsson-Östling and Svenfelt (2017), Hornborg (2011a) argues that our worldview impacts what we think of as possibilities and best practices to place limits on the world. Hornborg’s idea of illusory

emancipation from land also connects to Pineda Pinto's (Pineda Pinto, 2020) discussion of an anthropocentric approach to urban planning.

As mentioned, urban planning aims towards enhancing the well-being of both present and future individuals and communities (Pineda Pinto, 2020, p. 2852). How this should be achieved is debated, but these studies point to the importance of integrating a holistic perspective due to the dependence we as humans have on natural resources to counteract a dualistic anthropocentric notion. The premise of this study is that the environment is a prerequisite for urban planning to create well-being (McMichael et al. 2005, referenced in Gunnarsson-Östling and Svenfelt, 2017, p. 164) and that social and ecological systems are interdependent and interlinked (Gunnarsson-Östling and Svenfelt, 2017, p. 164). Thus, the previous literature review motivates involving ecologists to a greater extent in urban planning and, therefore, the importance of studying how they participate in the planning process by exploring the challenges and strategies implemented in their everyday practice.

2.2 Analytical Concept

The former section provides an understanding of previous literature and creates a background to which the later stages of the thematic analysis revisit. In addition to the previous chapter – and hence the conceptual framework – are Ernstson's (2013) *value articulation* (2.2.1) and Cooren's (2010) concept of *ventriloquism* (2.2.2) which will be developed further below.

2.2.1 Value Articulation

In the previous chapter, Pineda Pinto (2020) speaks of the conflicts generated by diverse values placed on different resources by a range of groups and individuals. Another author concerned about the diversity of values is Ernstson (2013) and his co-author Sörlin (Ernstson and Sörlin, 2013). In specific, they acknowledge that value is not inherent in an object, rather, they emphasise the social practice of *articulating* value. Thus, they perceive value from a more constructionist approach (Ernstson, 2013, p. 12).

Value articulation is described as a social practice and process where “somebody or something is needed to explain and demonstrate how [objects and biophysical processes] are to be viewed as of value” (Ernstson, 2013, p. 8). This (struggle of) value articulation is possible to empirically study, to understand how power, discourse and institutional procedures intervene among groups and how this shapes land use composition over time. The practice of value articulation could be implemented by, for example, actors referring to artefacts such as maps, numeric values, hierarchic lists of species, and reports on red-listed species. This social practice is a relational enactment where value is articulated and negotiated (Ernstson, 2013).

The perspective of articulating value recognises the political and relational process of the seemingly objective and rational search for the right 'trade-offs'. Hence, acknowledging the actors with different and unequal abilities and resources that take part in the construction of values (Ernstson, 2013, p. 12). As Pineda Pinto (2020) states, different actors can put different values on the same objects, a source of the challenges and complexity of urban planning.

Ernstson and Sörlin (2013) highlight that the values of urban nature can be viewed as an articulation through social practice. The struggle over value articulation is especially interesting when exploring ecologists' practice (see e.g. Dowlén, 2002) because of how a focus on the concept "brings us close to place-based struggles and contested practices of city planning" (Ernstson, 2013, p. 8).

2.2.2 Ventriloquism

While Ernstson (2013) speaks of using artefacts in the struggle of articulating value, the communication scholar François Cooren (2010) suggests that speaking through figures and objects is a way to give authority and substance to the speech, referencing the analogy *ventriloquism*. Cooren (2010) emphasises the act of creating authority, while Ernstson (2013) focuses on the practice of articulating value.

Cooren's (2010, p. 136) idea of ventriloquism is suitable to study the effects of power and authority, through the act when people position themselves as speaking in the name of other beings and therefore lending weight to their speech. The author also exemplifies that lending weight means to "stage" two voices instead of one, supposedly increasing the potential objectivity or factuality of the assertion. Hence, instead of perceiving a conversation as two or more actors speaking to each other, the concept of ventriloquism allows me to acknowledge the figures and beings that are also 'talking' through the actors' implicit or explicit staging of mentioned figures and beings (Cooren, 2010, pp. 106–107).

The creation of authority is conducted by speaking through objects as well as other persons, and hence 'lending' or 'leaning onto' other figures', individuals' or institutions' authority. Cooren (2010, p. 136) gives examples from a study where they could see that people often position themselves as speaking in the name of i) people or collectives, ii) principles, values or ideals, iii) policies, contracts, norms and rules, and iv) facts (presented often as speaking for themselves). Overall, the activity of (often implicitly) positioning ourselves as speaking or acting for *others* could mean "collectives, conceptual, contractual, factual, or human" (ibid.). Cooren (ibid.) explains the meaning of the act as the following:

Lending weight to a given position or stance thus amounts to staging/ventriloquizing beings/figures that also appear to support what is put forward, whether they be facts, other people, documents, collectives, values, or principles. All these beings are supposed to add their own weight (importance, significance, worth) to the balance of power that can be at stake in any discussion.

One important aspect to recognise is that when the actors ventriloquize a figure/being, the weight given to the assertion might not be what the actor would expect. A figure/being's value/worth/weight has to be accepted among the actors who are present (Cooren, 2010, pp. 137–138). This is where the concept of value articulation (Ernstson, 2013) comes in handy.

2.2.3 Purpose of Analytical Concepts

Ernstson's practice of "picking up objects" for articulating value and Cooren's act of speaking through others – *ventriloquism* – for creating authority are relevant concepts for detecting patterns among the ecologists' strategies. The two concepts are fruitful as tools for pointing to overall themes throughout the strategies, which will be presented in section 4.2.

2.3 Study Area and Planning Context

This study limits to the Stockholm region in Sweden. A country with no organised national or regional planning level (Dovlén, 2002), where the Planning and Building Act (PBL) gives the 290 municipalities a 'planning monopoly'. While the municipalities control spatial planning within the administrative borders, there are steering documents and guidelines at the national level (Swedish National Board of Housing Building and Planning, 2013, referenced in Khoshkar et al., 2018). However, the interpretations and decisions of these steering tools mainly occur on a municipal level (Kalbro, 2013 referenced in Khoshkar et al., 2018). According to the Planning and Building Act (PBL), every municipality should provide an updated comprehensive plan for its geographical area. This plan should be developed in cooperation with residents and other concerned parties (Dovlén, 2002). The intention of the comprehensive plan is strategic and to guide future decisions about infrastructure development and land use in the municipality. However, as Persson (2013) acknowledges, the comprehensive plan is not legally binding, and neither has to be consistent with plans on higher levels. Though, it is the "only planning document that covers all land and water in Sweden, albeit in 290 separate versions" (Persson, 2013, p. 303). Spatial planning in Sweden is formally regulated in the already mentioned Planning and Building Act. There are other relevant laws with ramifications for spatial planning, the Environmental Code (EC) being the most important, according to Persson (2013).

According to Dovlén (2002), ecologists were included in the planning process to support with environmental and ecological knowledge. They were introduced to the planning process because of a concern about a need to include professional expertise in ecology and natural resources at the local government level. This concern arose because of the new legislation introduced in 1987 through the Natural Resource and Management Act (NRL) and Planning and Building ACT (PBL) (cf. Söderqvist, 1986). Since 1999, the Natural Resource and Management Act has been part of the Environmental Code (Dovlén, 2002). The role of an ecologist is described by Statistics Sweden in The Swedish Standard Classification of Occupations 2012 (Statistics Sweden, 2012, *my italics*) as the following:

Specialists in environmental protection and environmental technology, [who] [e]xamine the environment and develop plans and solutions to protect, preserve, restore, minimise, and prevent damage to the environment. Investigating, assessing, and reporting on the impact of building and construction projects on the environment. Examining industrial and public facilities and programs to evaluate operational efficiency and ensure compliance with environmental regulations.

In later years, the necessity of including expertise in ecology might be because of a growing urban population and urbanisation, which implies great pressure on the environment when land is exploited for development and buildings and roads. Here, the region of Stockholm is a relevant study area due to an increasingly fragmented green structure by urban expansion, with almost 50 % of the green structure having disappeared from the most centrally located green areas since the mid-1970s (Colding, 2013). The Stockholm region is an urbanizing city, and many municipalities within the region have rigid housing goals because of the city's estimated growth (ORPUT 2010 referenced in Khoshkar et al., 2018, p. 2161).

Stockholm County contains 26 municipalities, where 8 of these are included in this study. The studied municipalities in Stockholm County range between approximately 30 000 and 114 500 in population size; population density (inhabitants per square kilometre) varies between 84 to 4 434 inhabitants; the total land area in whole numbers differs between 19 to 524 square kilometres; the built-up land area covering the total land area range from 9 to 54 percent; the protected nature (including nature reserve, nature conservation area, forest biotope protection area and other biotope protection area) varies from 3 to 41 percent (Statistics Sweden, 2023a, 2023b, 2022a, 2022b). To protect the unrecognizability of the participants in this study, the municipalities will not be named. A full list of the interviews is found in chapter 6, presenting references.

3. Methodology

As explained in the chapter above, urban planning is a complex field with a range of so-called ‘wicked problems’ (Rittel and Webber, 1973). This complexity calls for methods which allow for multiple interpretations and explanations rather than one “truth”. Therefore, qualitative methods are suitable for this research, as one of the primary purposes is to explore the complexity of social life (MacCallum et al., 2019, p. 161). Because of the limited research field, this study used explorative research questions to explore ecologists’ experiences of their strategies in their everyday practice and handling of obstacles. Thus, a qualitative approach is suitable to describe their experience and perspective of their reality (Ahrne and Svensson, 2015). The research design resembles ethnographic research, almost as a funnel shape with a broad interest and then narrowing down along the search process (Davies, 2008, p. 234).

The study followed a qualitative, explorative, and abductive approach based primarily on practitioner interviews. The abductive approach meant for this study that the interview schedule was influenced – but not determined – by theory. As Alvesson and Sköldbberg (2017, p. 14) explain, abduction means that earlier research is an inspiration for discovering patterns that lead to comprehension, instead of acting as strict framing of categorisations. In short, the literature review – both the conceptual framework and previous research – influenced the interview questions and the coding process but allowed new unpredicted themes to emerge.

According to Cohen, Manion and Morrison (2018), it is not possible to completely avoid threats to reliability and validity, but their effects can be mitigated. More precisely, transparency and reporting the assumptions that underlie the study and affect analysis and results, as well as interpretative theories and personal experiences, which may be part of the researchers pre-understanding, is an integral part of reliability (Cohen et al., 2018; Larsson, 2005). This chapter will present the different sections of the research design, decisions made and why, and lastly, put light on some critiques towards the methodology.

3.1 Semi-structured Interviews with Ecologists

This section will present the major steps when conducting the semi-structured in-depth expert interviews with ecologists from Stockholm County. Firstly, the data collection through interviews is described and motivated, followed by a description of the sample process and interview schedule. After that, a reflection on the interview situation is presented, followed by the process of the analysis.

3.1.1 Interviewing as a Data Collection Method

At the centre of attention of this research were the ecologist's experiences and their narratives about their participation in the planning processes. Therefore, in-depth interviews – a commonly used method in planning research (MacCallum et al., 2019, p. 149) – were a suitable method as they allowed for experiences to be expressed and to produce the empirical data needed (Ahrne and Svensson, 2015, pp. 20–21). Interviews were a suitable method to gather opinions and perspectives from people with special knowledge about a subject (MacCallum et al., 2019, p. 149), in this case, ecologists' experience of planning processes.

Semi-structured in-depth expert interviews were a useful method because they allowed me as a researcher to focus on information determined beforehand and opened up for information I did not expect to occur. This type of interview allowed the interviewer and the interviewee to try paths other than the ones chosen for the interview schedule (MacCallum et al., 2019, p. 152). For this study, a semi-structured interview approach was especially important as the research area of ecologists' perceptions was limited; hence, I could use issues from earlier research and allow new issues to be explored (MacCallum et al., 2019, p. 153).

Davies (2008, p. 107) emphasised that the semi-structured interview is not an opportunity to withdraw uncontested information from the interviewees, who simply deliver knowledge about their social world. Neither is it a way of positioning the researcher as the director, guiding the interviewee to remember and organise the presentation of their knowledge. Instead, the method of interviews is, according to Davies, a process where both interviewer and interviewee are involved in developing understanding (in line with Dahlin-Ivanoff's description of focus groups, see section 3.3). In this study, both interviewer and the interviewee took an active part in the meaning-making work of the interview process.

One disadvantage of interviews is that people do not always do as they say. This is not here seen as too big of a problem, as the aim is to reach the ecologists' perceptions and interpretations of their social world, as these interpretations will affect the interviewees' actions in specific ways; rather than the "reality" or non-vocal "truth" – in line with the discussion in the paragraph above. Another challenge is that what I, as an author, interpreted does not necessarily need to mirror what the interviewee means (Ahrne and Eriksson-Zetterquist, 2015, p. 53). This is counteracted by the 'validation' through the focus group discussion (see section 4.3) and through Davies' (2008) perspective on interviewing as a joint production. Of importance is not the sentence in itself but rather what this sentence tells us about their social world – in this case, the everyday practice of ecologists in local planning processes.

3.1.2 Respondents

For this study, expert sampling was conducted, where the interviewees were chosen due to their expertise, thus having special knowledge of the research topic and acting as professionals with a particular role within the municipality (MacCallum et al., 2019, p. 153). As the interest is in the specific profession of *municipal ecologist*, this has limited the population to respondents calling themselves "municipal ecologist" or "ecologist" (in Swedish: "kommunekolog" or "ekolog"). The sampling criteria were designed to reach respondents with a longer and broader working experience. This way, respondents could reflect on differences and similarities over time, in-between municipalities, between different scales of planning (for example, the Swedish County Administrative Board and municipality), and between public and private workplaces.

From a first sample of all ecologists in the Stockholm region, a few criteria guided the sampling, which prioritised the ecologists with 1) work experience from other municipalities than the present one they work at, 2) work experience from the private sector or other governmental agencies, 3) work experience from other work roles within the same municipality. This first sample with broad work experience was then sorted by the ecologist's length of work experience. Lastly, the first sampling was complemented by a second sample prioritising the ecologists who only worked in one municipality regardless of how many years. This was done to obtain a variety of interpretations (Davies, 2008, p. 109). From this sample, one ecologist declined participation, and one never responded, but the sample's variation was not affected by this.

There is no accurate number of participants when conducting qualitative interviews. Instead, the process should include as many interviews as needed to reach saturation (Ahrne and Eriksson-Zetterquist, 2015). Saturation was reached when I could see the same patterns in answers and when realising that more interviews would probably not give new information. In total, seven interviews á one hour was conducted, increasing the security that the data is not dependent on a single individual's personal opinion (Ahrne and Eriksson-Zetterquist, 2015, p. 42).

The choice to interview multiple ecologists working in different municipalities was motivated by the potential insights into similarities and differences between the ecologists' experiences (Ahrne and Svensson, 2015, p. 22). Also, it could be a question of generalisability to interview ecologists of different municipalities (Ahrne and Svensson, 2015, p. 27).

3.1.3 Interview Schedule

A semi-structured 5-section interview schedule was formulated, involving sections 1) background, 2) mapping participation, 3) knowledge and expertise,

4) challenges and strategies, and 5) hopes for the future. The complete schedule can be found in Appendix, with formulated questions guided by the literature overview and as well as research questions. Including both primary questions and following up with secondary questions supporting the primary questions (MacCallum et al., 2019, p. 155). In line with how semi-structured interviews are conducted (Ahrne and Eriksson-Zetterquist, 2015, p. 45), the interview guide formed the base for the interview but not limiting the questions to the guide. Therefore, the interview guide was not sent to the interviewees in advance.

It was not possible to ask and expect the interviewees to answer my research question; thus, I could neither ask about how they ‘articulate value’ or other theoretical perspectives, nor use popular terms such as ‘sustainable development’ since these concepts can include different meanings depending on who is talking about it (Ahrne and Eriksson-Zetterquist, 2015, p. 45; Davies, 2008, p. 55). Formulating the questions also meant thinking about using ‘easy’ language, while not being too narrow or specific.

The benefits of qualitative semi-structured interviews were that the questions and order could be adjusted (Ahrne and Eriksson-Zetterquist, 2015, p. 38), which was of importance for this study because of how the subjects of interest were to be guided by the interviewees. What the interviewees chose to talk about was what they saw as significant, and therefore was of weight for the study.

To test the interview guide and formulated questions, a pilot interview was conducted. This made it possible to assess the questions of accessibility and suitability (MacCallum et al., 2019, p. 158). This interview was conducted with a participant from the sample. After this interview, the interview schedule was revised, and some questions were put together as one, while others were reformulated.

3.1.4 In Action, the Interview Situation

It is important to reflect on how the interview situation is a possible arena for identity creation. The interview can be both a product of experience, but also follow an “unspoken manuscript” about subjects such as ‘sustainability’. Also, it could be a form of “impression management” where the interviewee want to impress through the stories on the interviewer (Ahrne and Eriksson-Zetterquist, 2015, p. 54) or want to be helpful and tell me what they think I want to hear (MacCallum et al., 2019, p. 154). Hence, success stories involving ecological concern in planning projects might have been emphasised. To counteract this, I also asked for experiences of projects where the interviewees were least satisfied with the result. The focus group discussion could also counteract the emphasise on success stories (see section 3.2).

Informed consent is critical when conducting interviews which means that the interviewees must agree to participate after being informed about the purpose of the study and how the result will be used. This includes informing the *voluntary* aspect of participating and therefore can withdraw at any time (Ahrne and Svensson, 2015, p. 29; Swedish Research Council, 2017), which was emphasised at the beginning of each interview (MacCallum et al., 2019, p. 158).

The interview started with me describing my interest in the study. Explaining the subject meaningfully and clearly is essential (Davies, 2008, p. 54). Although, this was more difficult because of the study's explorative design, which was explained to the interviewees at the beginning of each interview. I was cautious not to steer too much of the focus of the interview by presenting the research questions and subject in detail beforehand, because of the risk of the interviewees wanting to give the "right" answer (Davies, 2008, p. 58). The participants were instead informed that their narratives would guide the subject of interest and that their experiences were essential. Then, I informed about the use of pseudonyms in the paper, followed by asking for consent to record video, both sound and picture. This question was also sent in advance over mail for the interviewee to take a stand beforehand (see e.g. MacCallum et al., 2019, p. 158). The benefits of recording through a web application are that the application also asked for permission when I pressed the recording button.

In line with various authors' suggestions (e.g. Ahrne and Eriksson-Zetterquist, 2015, p. 46; MacCallum et al., 2019, p. 155), the interview schedule was organised starting with more descriptive questions and straight-forward topics – "describe typical work assignments" – leading to more detailed and potentially sensitive subjects, using, for example, contrasting questions – "does [their view] contrast with your view of ecological perspectives?" (See Interview schedule, appendix 1.) The interview was concluded by asking if they wanted to add anything and that they were welcome to contact me if anything came up.

All interviews were conducted via video over the Internet because it was preferred by the interviewees. This probably affected the outcome, in line with how the setting for an interview may influence the interview situation (Ahrne and Eriksson-Zetterquist, 2015, pp. 39, 44). Having the interview over the Internet allowed the interviewees to choose the location of the interview, possibly creating a safer environment. Another benefit of conducting the interviews online rather than on-site is that it is less time-consuming both for me and the interviewee (Ahrne and Eriksson-Zetterquist, 2015, p. 44), which might have been a motivation to be part of the study.

Interviews by video could be more formal and demand more from the interviewer so that the 'conversation' continues more or less smoothly (Ahrne and Eriksson-Zetterquist, 2015, p. 44). To counteract this, I tried to open up

with general social questions to get the conversation flowing around more relaxed issues (MacCallum et al., 2019, p. 158). Another disadvantage is that it is more difficult for me as an interviewer to see the nuances within conceptions in the studied group of ecologists (Ahrne and Eriksson-Zetterquist, 2015, p. 44).

After the interviews were finished, I did a quick recap for myself, writing down reflections and keywords that caught my mind. The transcriptions were made as close as possible to the interviews, which was the first step in analysing the material (Ahrne and Eriksson-Zetterquist, 2015, p. 53).

3.1.5 Analysis: From speech to text

After I conducted the interviews, I transcribed the empirical material, followed by coding and thematic analysis. This process is discussed in more detail and explained in the following paragraphs.

Organising the sections in this chapter – the interview situation followed by analysis – might give the impression that the process followed the same pattern. Though, this was not the case. One advantage I saw with semi-structured in-depth expert interviews and an abductive approach was the possibility of going back and forth between interviewing and analysing, hence making it possible to adjust questions as other themes became visible (Ahrne and Eriksson-Zetterquist, 2015, p. 53). It has been helpful to shift between interviewing and analysing, as recommended by Ahrne and Eriksson-Zetterquist (2015, p. 42). This was especially important because the specific aspects of interest were not known until I started interviewing the ecologists.

The produced data from the interviews have been transcribed, and this empirical material has then been analysed. Transcribing the interviews is though not solemnly “transferring” speech to text but rather an active producing of transcripts where I, as a researcher, am processing and structuring the material as well as *producing* it (Ahrne and Svensson, 2015, p. 24), theoretical assumptions affecting the outcome (Davies, 2008, p. 127). Therefore, transparency regarding these assumptions and handling of the process of transcripts is important (Davies, 2008, p. 127).

The interviews were audiotaped and transcribed. A speech recognition software was used to create a draft of the transcripts. These were necessary to reformulate because of errors due to translating speech to text, which allowed me to use the transcription as a – important – first step of the analysis where I could revisit the interviews and start taking notes of re-occurring themes of challenges and strategies and thoughts of what to dig deeper into to investigate. As the analysis will be a thematic analysis, where the overarching themes are the most important, I excluded utterances such as “like” (Swedish: *liksom*), or repetitions of single words in the transcript – so that the outcome would not be

too complex and therefore difficult to interpret (Davies, 2008, p. 127; MacCallum et al., 2019, p. 160).

After transcribing all interviews and writing down interesting themes, followed the coding. This part is where the extensive material is divided into more manageable parts for the analysis and interpretive process. Coding is part of the systematic analysis, which is vital to justify the findings and not oversee parts (MacCallum et al., 2019, pp. 138, 145). There is nothing ‘mechanical’ about this process, as the word ‘coding’ might imply (MacCallum et al., 2019, p. 145). Instead, it has been driven by my choices, choices partly guided by previous literature and patterns of similarities and differences between the transcripts.

The thematic analysis is suitable for this study’s explorative approach because of the flexibility and possibility of using earlier research as a framework. When beginning the coding, the thematic analysis has already begun. The analysis started already before the data collection when formulating the research questions (Davies, 2008, p. 235). The analysis aims to discover patterns and phenomena that might not be visible “on the surface” and from a tentative overlook by only transcribing the material. The systematic procedure also counteracts the risk of missing anything and hence justifies the results (MacCallum et al., 2019, p. 138).

A three-step coding frame has been used (see e.g. Filion et al., 2015). The first step included a flexible coding of all references to events, actions and actors related to obstacles ecologists confront in their everyday practice, as well as strategies to counteract obstacles. This phase was grounded in the empirical data, which goes well in hand with the explorative research questions. The resulting citations were given a specific code, often manifest codes, meaning using the same word as the interviewee (MacCallum et al., 2019, p. 146). These codes have been recategorised and reviewed along the process. Also, with the purpose of not postponing the analysis until a rigorous coding process has been carried through, the references from the first three interviews act as ‘theoretically “innocent” index categories’ (Richards and Richards, 1991, p. 51, referenced in Davies, 2008, p. 248) which was used as a framework for the following four transcripts (Davies, 2008, p. 248) as well as the focus group discussion.

The next step consisted of sorting and aggregating all codes. This step meant exploring different themes and concepts by aggregating similar codes, which also made it possible to examine how many times each theme was raised by the interviewees. Considering the content of the interview guide, each theme represents either a challenge or a strategy experienced by ecologists in their everyday practice.

The last step meant translating the codes to themes, a translation guided by the theoretical framework. The themes were then refined through an iterative process concerning the interview series and focus group discussion. The final themes are presented in chapter 4. The citations from the interviews used to motivate each theme have been translated from Swedish to English.

3.2 Focus Group

In addition to the disadvantages and advantages of interviewees, it is beneficial to include other methods (Ahrne and Eriksson-Zetterquist, 2015, p. 54). Therefore, the study also included a focus group discussion. This added to the study the possibility of reconnecting with the research field, thus allowing the ecologists to take part in the identified result and relate to, recognise, debate, validate and contest, and, in short, give their views on the results. Where the interviews have been strongly focused on the individual perspective, the focus group can supplement this with its focus on the collective perspective (Kitzinger, 1994; Madriz, 2000 referenced in Dahlin-Ivanoff, 2015). The group dynamics allowed participants to relate to and contest each other's statements (MacCallum et al., 2019, p. 131)

The focus group was conducted at the Royal Institute of Technology. On the one hand, the choice of location might enhance the unequal power balance between the inviter and the invited. On the other hand, the location was a neutral place among the invited as the location was not in either of their offices. Hence, the chosen location was a relatively neutral site. The group consisted of 3 ecologists, two researchers and me. Themes from the result were presented, followed by a set of key discussion questions (see appendix). The key questions were formulated to stimulate discussion so that the conversations would be as independent of me as a group leader as possible. My task was primarily to promote interaction among the group, rather than to interview the group (Dahlin-Ivanoff, 2015). To be able to listen through the discussion again, the workshop was recorded. It was not transcribed due to difficulties in transcribing interviews in focus groups (see Davies, 2008, p. 128).

Focus groups can make it easier for the participants to express negative opinions when they are in a context with others who share experiences of the topic of discussion. Of importance to this method is a relaxed and warm environment during implementation, as knowledge is developed in a trusting and non-judgmental environment (Dahlin-Ivanoff, 2015, p. 83). For this reason, it was advantageous that I already had two out of three participants during previous interviews.

Conducting a so-called *respondent validation* is motivated by the potential to increase this study's credibility. This is by obtaining an indication of whether those studied could relate to and perhaps recognise the themes and patterns

from the analysis of the interview material. In addition, the focus group has led to new data that enriches and nuances the study's results (Svensson and Ahrne, 2015, p. 26). The nature of focus groups also made it possible to gain knowledge about and discuss the collective and shared experiences of the participants (Dahlin-Ivanoff, 2015, p. 81).

The discussions also led to the participants becoming aware of things they had not thought of before and that their experienced challenges are general rather than individual. Focus groups are a learning process for both participants and the researcher. As Dahlin-Ivanoff writes (2015, p. 83) – a quote constituting the foundational assumption for this entire study's methodology – that *"Understanding is something that emerges in interaction"*.

3.3 Critique Towards Methodology and Reflexive Considerations

As mentioned in the introduction, planners are intertwined in a social and political context, making it impossible to be objective in planning and decision-making. This is, of course, not only limited to professions such as planning. Rather it is affecting all kinds of professions, including research. To some part, all researchers are connected to the object of their research (Davies, 2008, p. 3). When conducting explorative and abductive research, as a researcher, I am an important tool as my decisions along the research process will essentially form the object of study (Ahrne and Svensson, 2015, p. 24).

It would have been interesting to interview other planning professionals about their perception of how ecological perspectives are included in the planning process and other professions' views of ecologists. For this study, the decision was to go deeper into the interviews with ecologists rather than including other professions, which would have limited the number of interviews with ecologists.

Important for this qualitative study was to allow for differences when coding and analysing the data. MacCallum et al. (2019, p. 161) states that a critical purpose of qualitative research is to “present the richness and complexity of social life”. Therefore, the thematic analysis has allowed for heterogeneity of themes and not excluded themes mentioned less frequently. The analysis has not discussed differences *between* experiences, which was a decision made not to risk discussing space-specific characteristics as a question of anonymity.

Being honest and open about the analysis is important. This is because qualitative research should “formulate explicitly the evidence and argument that enter into an interpretation, so that the interpretation can be tested by other readers”, as expressed by Kvale (1996, p. 211, referenced in MacCallum et al., 2019, p. 162). Being honest about the analysis also means reflecting on one's pre-understanding, not neglecting one's influence and bias. Therefore, it is essential to strive towards avoiding, for example, selective interpretation, which

means avoiding ignoring certain variations in favour of a central meaning when structuring the empirical evidence (Alvesson & Sköldbberg, 2017). Here, my lack of knowledge about ecology and biology might have led to less predetermined perceptions and more *tabula rasa*. But also more openness to perceptions from earlier research. Another advantage is that I found Dowlén's (2002) study after finishing the coding phase. Thus the resemblance is not a perception inherited from the mentioned study.

4. Ecologists at Work in a Challenging Context

This section contains the result of the thematic analysis of the interviews and the focus group discussion. The first part (4.1) is based on the first research questions: *According to ecologists, which are the main challenges ecologists experience when seeking to contribute with their perspectives in planning processes?* The second part (4.2) is based on the second research question: *What kind of strategies do ecologists implement when meeting these challenges?*

Conducting the thematic analysis from an explorative approach discovered various themes, which have been aggregated into some main challenges and strategies. The abductive approach meant an aggregation and reflection upon the themes based on the conceptual framework of analytical concepts and earlier research. The final themes are presented in this chapter, illustrated with quotes from the interviewees. These are marked with a number for each interviewee (see references). At the end of every theme is a summary and reflection about connections to earlier research presented.

4.1 Challenges

The main challenges that the participants shared are, without mutual order, presented in table 1, answering the first research questions: *According to ecologists, which are the main challenges ecologists experience when seeking to contribute with their perspectives in planning processes?*

Table 1. Summary of challenges emerging in the thematic analysis.

Themes	Challenges
Organisational difficulties and capacity for prioritising ecological issues in municipal planning	Different levels of knowledge of nature values in the municipal organisation Ecologists' knowledge viewed as opinions rather than facts Organisational silos
Regulatory framework and political support	Goal conflicts between urban development and preserving nature Lack of legislation and regulation Lack of political support
Stress due to tensions in local planning processes	Stress when ecological issues are not prioritised Tension between ecologists' understanding and other colleagues' levels of knowledge

4.1.1 Organisational Difficulties and Capacity for Prioritising Ecological Issues in Municipal Planning

Where the participants are within the organisational structure varied, which could be expected as municipal organisations vary. Some ecologists were part of the Urban Development Administration, while others were part of the Environment and Building Administration. Some belonged to the Environment- and Climate Unit, others to the Plan Unit or the Public Outdoor Environment Unit. Some were the only people working with “green” issues, while others had co-workers with similar educational backgrounds. A majority of the participants are the only ecologist within the municipal organisation. The work experience among the participants as an ecologist ranged between 0,5 to 33 years. Even though the participants worked in different spatial and organisational contexts, they all shared the same notion about a lack of knowledge of nature values in the organisation.

According to many participants in this study, the basic knowledge about nature and perceived values, as well as the need for taking ecological issues into account when planning, varied within the organisation. The interviewees explained that values they perceived in nature areas often were not obvious to other colleges and politicians due to the lack of knowledge. The participants also explained that they face conflicting perspectives on nature values, because of different knowledge. One participant said that historically the municipality worked mainly with forestry and that the perception of the forest as a resource to be used and for the purpose of production was still present among colleagues. This made them feel compelled to explain and translate the values so that colleagues and politicians would understand.

You notice that people don't know as much, so to speak. So that they, most of the time, undervalue – I think – things. But yes, so then I play an important role in explaining. (Interview 4)

The participants shared the experience that there was a difference across generations of planning architects in how they relate to ecology. More recent graduates, in the interviewees' view, to a bigger extent understood the importance of ecological issues.

What I see most as a difference is perhaps not between the municipalities but rather between different planning architects. Because even here, some planning architects are just saying: "No God, this has very high nature values. Here we can't exploit. We have to classify this as nature in the detailed development plan". While others might say: "But what then? It is just a few trees. It doesn't matter." So there is still a big difference between different planning architects when it comes to urban planning and how to do it. [...] It is extremely different and actually very personal, [...] how interested people are in nature and how much you understand what nature gives you. (Interviewee 6)

The differing levels of knowledge lead to a differing prioritisation of preserving green areas. The participants emphasise the importance of their role in informing colleagues about why nature should be preserved. One participant also problematises that the different knowledge about nature and the perceived values, from the ecologist's perspective, is an educational issue. This is exemplified when one participant explains that the colleagues do not understand why they should be concerned about nature within the municipality when there already is "so much nature in Sweden" (Interviewee 1). Another participant explains that the amount of nature reserves in the municipalities is sometimes pointed to as an argument as to why there is *not* a need to take ecological issues into account as much as the ecologist wishes (Interviewee 7). This mirrors a perspective restricted to the municipality's borders, with a lack of a holistic notion of ecology. Rather, the idea of 'enough amount' of nature elsewhere is used as an excuse to not consider ecological issues.

Connected to the challenge of differing levels of knowledge of nature values in the municipal organisation is also the frequent change of employees within municipalities. With new personnel, their experience and/or knowledge may or may not be the same as before. According to the participants, this leads to obstacles for them as they need to start over again with new colleagues in raising their knowledge. More specifically, one participant stated:

There is a quite high change of employees here [...] [This] means that new people are constantly coming in and people with whom you may have had a good collaboration leave, and so you have to start over from the beginning by initiating a new relationship with the new on the employment. (Interviewee 5)

Another challenge explained by the participants is how others perceive not only nature but also the participant's knowledge. One preconception mentioned by one of the participants is that ecologists only work with conservation and want to forbid and exclude land exploitation. The participant further explains:

That is probably what I think is the biggest obstacle, so to speak, to increased cooperation. It is like some kind of barrier you have to get past before you might understand that I am not as scary as you think. I will not chain myself to the tree, you can talk to me, I am not impossible. (Interviewee 5)

According to one of the participants, their dedication to nature issues also has a spillover effect which put their knowledge in the light of being solemnly opinions, rather than facts.

[T]oo often when you are an ecologist or work with nature or the environment, everyone who does not have the knowledge thinks it is just a bunch of opinions. You have to explain that this is not just a bunch of opinions, [...] that we have a lot of different things to deal with when we build society, that we cannot, you cannot do as you want, simply. (Interviewee 1)

The ecologists need to handle a perception of their knowledge as something else than facts. The participants explain that this is done by presenting documents, referencing laws and environmental goals. Some of the participants also see it as beneficial to not live in the same municipality or be part of nature organisations (see e.g. section 4.2.2).

A third aspect of the organisational capacity is the divide between different administrations and the organisational silos. According to the participants, this limits their possibility to affect decisions within planning as it creates barriers to communicating and educating others. The divide is both in space and organisation, which is explained by one of the participants:

We are in a different administration than what the urban environment or the urban planning department is, and that means that it will partly be physically and geographically separated, and then [they also belong to] different administrations, which means that we are a little far away from those who decide. (Interviewee 7)

Being the expert on environmental preservation also puts the ecologists in a box as the niched one, making them the ones adapting to dominant planning norms. As mentioned, the majority of the participants are the only ecologists in the organisation. As explained by one participant, they have to adapt their language for others to understand. This while other colleagues do not adapt to the same extent, in the interviewee's opinions.

I have to learn a very different language to understand what my colleagues are saying. Because they [executors, development engineers and alike] just assume you know what various abbreviations stand for, what a P-base and U-base are. I just, "what the hell". [...] So they adapt their language much less than I adapt mine. Since I am the weird niche one, I have to speak comprehensible Swedish while they can throw around their technical words. So, I need to learn, and I think it is very complicated. [...] There are very few who speak my language, but

*there are many exploitation engineers who all speak the same language.
(Interviewee 6)*

According to the participants and emphasised during the focus group discussion, there is also a divide between the group responsible for planning and the group responsible for implementation. The participants explain that they are not as involved in the implementation phase, which means that even if they have argued for preserving nature in the planning phase, this may not be consistent in the next stage with new participants in the working group.

In summary, the different levels of knowledge and contrasting perspectives on nature values make ecologists feel compelled to educate others. The general knowledge seems to have shifted due to education, whereas new graduates have another understanding. A prominent challenge when trying to educate others is the perception of ecologists' knowledge as opinions, which could be a question of knowledge level and educational background among the ones in need of education. The organisational silos are also a barrier to communication and therefore education between different administrations and professions. This shows that knowledge and education are crucial aspects of the organisational capacity as one of the challenges facing ecologists. At the same time, ecologists experience the need to adapt also mirrors an unbalanced power relation between different administrative bodies (see also Dowlén, 2002).

Pineda Pinto's (2020) study of ethics can here shed light on the crucial role ecologists take in educating and informing others to shift from a more anthropocentric resource-perspective grounded in forestry, to preserving nature because of its intrinsic value. Other studies have also pointed to the importance of education and the internal basic knowledge (Hagbert and Malmqvist, 2019) and the change of people in municipalities, which creates challenges for continuity and an unstable knowledge base (Khoshkar et al., 2020). How ecologists' knowledge is perceived and the struggles this leads to, degrading the knowledge to opinions, is also mentioned in Dowlén's study (2002) and also Johansson's dissertation (2008). The complexity with

4.1.2 Regulatory Framework and Political Support

You have to choose your battles, sometimes it is no use, knowing that there are too many other interests that weigh more heavily. And if it is not the highest nature values, then you have to compromise. (Interviewee 4)

One of the most prominent challenges is the challenge of *goal conflicts* and especially between urban development and preserving nature. This is often described by the ecologist as a tension between housing goals and environmental goals. One ecologist explains that the most challenging when working with other professions occurs within:

[...] the planning processes and where some are still a little bit stuck on this that 'yes, but we have our goals that we should build this number of homes' or 'we should work on this number of new business areas'. That people think that our goals are somehow 'you have your goals, we have our goals'. Yes, although our goals are not to somehow protect a lot of nature and grab a lot [of areas], but our goals are to preserve the natural environment for the municipality's residents, so it is on a completely, completely different overall level. (Interviewee 1)

In the light of “the clash with urban development and the preservation of the natural environment” (Interviewee 1), the participants explain that they experience an uncomfortable position. Preservation is inconvenient, from the participants' perspective.

I have found it difficult to sit alone with these questions because it is tough either way. Being the one who stops exploitation or who is the uncomfortable one, who can be seen as awkward. [...] When regarding exploitation and, I mean, we are going to [carry out a big project] that is going to run through several of our nature reserves [with] huge implications, and there are a lot of infrastructure projects, and there is a lot of exploitation, and there is a lot of money involved. So, then it is hard to be alone and have to defend this poor ragtag fungus against such financial interests. (Interviewee 7)

Many participants speak of the issue of handling these financial interests and the struggle to translate nature areas and perceived values to monetary values.

I would very much like for us to work more ecosystem service based. So that you could somehow compare the economic value of an ecosystem service against different solutions in a construction project. [They are saying:] "Yeah, but now we're making this much money by putting in an extra building". But how much money are we losing by removing this recreation area? (Interviewee 6)

The conflict between urban development and nature is exemplified in numerous times and ways during the interviews. One participant describes that from the participant's perspective, the municipal organisation does not want to deny developers the possibility to build within the municipality, which puts pressure on nature areas.

They want to say yes to all developers, everyone who wants to do something [here], and then nature issues are often seen as an obstacle. And they want to prioritise attracting more people working with constructing homes and so on. (Interviewee 4)

One interviewee describes the experience of differing prioritisation between goals from the municipality.

In [the municipality], it is very much the case that you have to build a lot, but that's how [the municipality] sees it, that 'we take our responsibility, there is a

lot of housing needed in the county, [the municipality] takes its responsibility'. The attitude is that you must not prevent the development. (Interviewee 2)

This conflict leads to participants in need to prioritise which issues they think are most important to fight for, because as one participant explains, “if you just say no, no, no, all the time then you are not allowed to participate, then they think you are too troublesome” (Interviewee 2). According to one of the participants, goal conflicts are intertwined with contemporary legislation.

Maybe I avoid our land and development unit a bit, I find them a little tricky to deal with. They probably feel the same way about me. [...] There is a lot of different legislation that does not really go together in different ways, to think based on said legislation that does not go together. The Land Code [Swedish: Jordabalk] and the Civil Laws [Swedish: Civilrättsliga lagarna] do not go very well with the Environmental Code [Swedish: Miljöbalken]. (Interviewee 6)

The goal conflicts imply a hierarchisation and prioritisation between the goals. One participant explains that it is continuously the green and blue issues that are down-prioritised.

It is a consistent problem; I feel that I always want more than what the other party wants, [...] it can be the developer who wants to get the maximum profit per area, and then we have the municipality who wants to perhaps sell their land and get a high profit, and then they want to meet the developer's needs. And you cannot have everything, you always have to make trade-offs. I certainly wished that the green in particular would be allowed to take up more space, that it would be allowed to cost. [...] I always feel that it is the green and the blue matters that get cut out and removed. They do not negotiate lowering other standards, but the green and the blue disappear, and I think that happens to a too great extent. And then there is the fact that the politicians might also, I would have liked them to want to invest more in protecting biological diversity and water quality by providing funds for us to work with. (Interviewee 5)

The last sentence brings us to the next challenge of a lack of political support. According to one participant, the shift of politicians leads to lost information or “that those who become the new board may not have been particularly involved before and have not received that education and comprehension. So, you have to start from the beginning, so a lot of information is lost over a longer period” (Interviewee 5). Some participants also describe that they experience a lack of communication with decision-makers. The different levels of knowledge of environmental and nature values are hard to counteract when the communication with politicians is not prominent. As explained by one of the participants:

It is quite controlled that it should go via the manager to the head of administration, to the head of the municipality. There should be no direct dialogue between politicians and civil servants, but everything should go through managers. And it is easy for some of the information to be lost along

the way. It is not forbidden to talk to politicians, it is not, but the right way to make decisions is to go through managers. [...] So it won't be this relaxed dialogue that you might have wished you had in order to gain a greater understanding. (Interviewee 5)

According to some participants, the lack of legislation when it comes to climate adaptation and the preservation of valuable nature is challenging. This is because referencing legislation is one strategy implemented by the ecologists (see strategy 4.2.1).

A big wish I have in my profession is to have more legal requirements for climate adaptation in urban planning. Because right now it is a bit "Yes, you have to take care of the stormwater within the property. Yes, but then, what about heat waves? What about erosion, storm protection?" When such legal requirements come, it will also be easier for me as an ecologist to explain why we should keep this tree [which creates protection from the sun]. (Interviewee 6)

The importance of legislation is also emphasised by how it affects which issues are prioritised in the municipality, dependent on existing legislation. As exemplified by one participant's experience, the EU Water Framework Directive contributed to the prioritisation of restoring wetlands within the municipality. One issue with regulation and legislation, regardless of who is defining it, is that it needs to be flexible enough to stand over time and include new knowledge. This is a challenge as it makes the regulations a bit fussy, according to the participants.

In summary, ecologists experience immense conflicts between different goals, and also legislation. Short-term goals such as building a certain number of homes and financial interests put pressure on nature areas. The hierarchisation between different goals is a challenge facing ecologists. Here, ecologists experience a lack of regulation and political support, which could counteract these conflicts. This contrast between short-term goals and long-term perspectives mirrors a perception of contrasting views between developers' more micro-level focus on the municipal and economic needs and ecologists' macro-level perspective of the environment and consequences on national and global levels.

As discussed in the earlier research section, planning is a complex matter implemented in a political and technical context. This implies a context with different perspectives and conceptions of how we define values, problems and therefore solutions (Gunnarsson-Östling and Svenfelt, 2017). This discussed result from the previous paragraph can illuminate, with the help of Hornborg's (2011b) concept of illusionary emancipation from land, how ecological issues are handled as a bounded category. Nature and culture are seen as separate; hence ecology is separate from housing and nature preservation is seen as an obstacle. Ecologists find themselves in need of prioritising what to fight for because being

too troublesome might have the effect of exclusion, in the ecologists' experience. This also adds to the experience of ecologists in Dowlén's study from 2002.

As described by Söderqvist (1986) in section 2.1.1, physical planning was described to balance land exploitation and conservation demands. This study shows that there is a bigger emphasis on land exploitation, a conflict experienced by ecologists in the planning process. This finding adds to earlier research, with findings showing that short-term economic interests put pressure on long-term consequences on land use (see e.g. Hagbert and Malmqvist, 2019). At the same time, power in urban planning implies a categorisation and hierarchisation of goals and expertise (Tamm Hallström, 2015) where dominant planning norms adhere to economic logic (see e.g. Dowlén, 2002; Hagbert and Malmqvist, 2019) which makes it difficult for the ecologists to for example defend the ragtag fungus against bigger financial interests. Other studies add to the importance of EU legislation to intergrade and prioritise ecosystem services (Khoshkar et al., 2020), as well as the importance of political support on a municipal level and the possibility to communicate with local decision-makers (Dowlén, 2002; Khoshkar et al., 2020).

4.1.3 Stress Due to Tensions in Local Planning Processes

The problem when you work with nature is that you work with nature because you care about nature, and then you put a lot of emotion into it. Which is tricky when those trees then get smoked. (Interviewee 6)

Many of the participants came to work as ecologists due to their interest in nature. The dedication they describe makes "failures" personal according to one participant: "Both environmentalists and nature people are very committed and can feel it as a personal failure if it is a large exploitation of very valuable nature." (Interviewee 3)

The participants explained that their role often is to inform and translate values for other colleagues and politicians to acknowledge the necessity to preserve nature areas. Facing challenges such as the different levels of knowledge, conflicting goals and perspectives, and tension with the ecologists' perspective of nature and perceived values, seems to create stress because of the participants' understanding of the loss of nature when decisions are made against their reasoning.

Another source to stress is the tension between the ecologists' perception of nature values and how to compensate for said value. The 290 municipalities in Sweden differ in size, land use and population and therefore have different possibilities to "compensate in the immediate area with the same nature type that [was] removed" (Interviewee 5). According to many of the participants, one challenging issue is the question of compensating for the loss of nature. One

participant explains that one aspect regarding the question is that other professions might not understand what constitutes the loss they want to compensate for.

There are many nature values that depend on the long continuity of a certain management or a certain type of nature [...] I work a lot to preserve old trees, for example. [...] Still, trees get smoked, old, and valuable trees. And then, I don't know, the planning architect probably doesn't have as good insight into what is being destroyed, so to speak. Because then [they say], "but then we'll compensate!" and that's great. It is better than not doing it, but at the same time, it is hard to compensate for that kind of value. (Interviewee 2)

The ecologists' understanding of ecology, and the ecological processes' need for continuity when working with nature also conflicts with short-term goals.

Compensation is complex. Because it works differently well for different types of biotopes. And often it turns out to be some kind of greenwash. And I mean, there are irreplaceable biotopes. Taking down a 200-year-old oak cannot be compensated with 200 one-year-old oaks. No matter how much you want it, it is an irreplaceable biotope. (Interviewee 5)

In summary, the thematic analysis has shown that ecologists experience stress when ecological issues are not prioritised in local planning processes. The tension between ecologists' understanding and other colleagues' levels of knowledge makes the ecologists feel compelled to inform, translate values and educate other parties. They also experience the loss of nature and the environment as a personal failure.

In line with earlier research, short-term goals put pressure on land use and long-term consequences where measurable values are prioritised (Hagbert and Malmqvist, 2019; Tamm Hallström, 2015). The idea of compensating for nature loss could be seen as an attempt to measure nature values. This study shows tentative findings of the complexity and difficulties that come with trying to measure abstract values of nature from a dominant economic logic which seems to not cohere with ecologists' perspective of values (see also Tamm Hallström, 2015).

Ecologists' struggle could again be illuminated by the illusionary emancipation from land (Hornborg, 2011b). While our dependency on nature is holistic and concerns us all, the knowledge of and planning for ecology is not. This results in ecologists' struggle to inform, explain, and present the value of ecological issues through various strategies described in the following section.

4.2 Strategies

All of the participants are highly committed to ecological issues in urban planning, but aware of the barriers – some more insurmountable than others –

that they need to handle in different ways. This handling, or even struggling, could be explained as different strategies they implement. In short, drawing on the experiences that the participants shared, multiple strategies to communicate the value of ecological issues have been identified through a thematic analysis revisiting the theoretical framework. These strategies are, without mutual order, presented in table 2, answering the second research question: *What kind of strategies do ecologists implement when meeting these challenges?*

Table 2. Strategies emerging from the thematic analysis.

Themes	Strategies
Lending legitimacy	Relational connections through time and space Regulatory and political mandate
Creating authority	Informal distancing creating 'objectivity' Formally broadening and increasing mandate
Value articulation	Documents Anthropocentric values Place visits Adapting to dominant planning norms

4.2.1 Lending Legitimacy

Differing perceptions of ecologists' knowledge, and various levels of knowledge of the environment, implies a hierarchisation where ecological issues are de-prioritised. To point to the broader necessity of considering ecological perspectives, ecologists inform about legislation, environmental goals, and political mandate. Using the concept of ventriloquism (Cooren, 2010), this strategy could be described as speaking through objects – such as legislation – and people to lean on their legitimacy, and therefore lending legitimacy to ecological perspectives.

Lending legitimacy is acted by pointing to the relational connectivity through scale and time, by speaking through environmental goals and legislation on bigger scales, as well as the history of nature. Hence, placing nature areas as well as perceived values in a bigger context. The participants explained that they often refer to global and local environmental goals, as well as EU- and national legislation.

You have to explain that this is not a bunch of opinions, this is about global environmental goals. And it is about environmental goals on many different levels, and also that it is about Swedish legislation. And EU legislation. That we have a lot of different things to deal with when we build society, that you can't do as you want, quite simply. You must have some kind of explanatory model. (Interviewee 1)

Another action was to lend legitimacy by referring to internationally protected species inheriting the area. Thus, showing that the importance of the area and its inherited species is not only a question for the municipality.

It goes easier if you really explain that this species is found in 10 places in Sweden. It is internationally red-listed, and it is highly threatened, for example. The reason [that it is red-listed] is that we haven't had a [protection]. [...] There have been trees there since the Ice Age... like this, you have to try to explain (Interviewee 7)

The participant also described how they point to certain trees, explaining to colleagues that the trees have been there since the Ice Age. Relating nature to their history is also a way to lean on the legitimacy of the tree itself – and also create this legitimacy by communicating it. This is also implemented by another ecologist:

It is often best to take people out on a site visit. [And say:] “Yes but look at these trees. They are very, very old. They have been here since your mother's, mother's, mother. Are we really going to cut these down?” (Interviewee 6)

Another action to lend legitimacy to the ecological issues is by ecologists speaking through the mandate given by political support and documents.

We can always sit back and say, “No, but now we have decided that we will work on this issue, and this has been adopted in [the municipality]. [...] The politicians have decided that we should work on this.” This is great because it makes things much easier when you have this type of documentation behind you. (Interviewee 1)

The importance of politically approved documents is highlighted by the participants. “It is important with these governing documents, I have noticed. It is really that you [say:] ‘Guidelines! Politically decided! [...] Now we do as we say!’” (Interviewee 7) Speaking through political mandate is one strategy, and pointing to legislation is another strategy where the ecologists lend legitimacy from the regulatory institutions.

Some things you have legal requirements to fulfil. So it is like, “Yeah, but we have to do this by law. Come on, you cannot say no. Yes, it is expensive sorry, but it is not my fault. We have to figure this out. There are protected species in this area, we have to find them, we have to apply for exemption, sorry.” (Interviewee 6)

In summary, the strategies implemented by ecologists could be interpreted as lending someone or something else's legitimacy. Interpretating ecologists' strategies as above, ecologists lend legitimacy from legislation, and environmental goals on different scales and times and political legitimacy. These strategies exemplify how lending legitimacy is about emphasising the localities' connectivity and necessity to other scales and intra- and

intergenerational. For example, how global environmental goals motivate the importance of local ecological preservation, hence the local importance for the global.

4.2.2 Creating Authority

Strategies do not solely regard *what* the ecologists speak through to lend legitimacy, but also *how* this is said to counteract that knowledge is degraded to opinions and by whom in which role. The strategies presented in this section could be interpreted as ways of i) informally creating authority by viewing ecologists' actions as a distancing to what other colleagues could perceive as 'subjective' and ii) formally creating authority through broadening their mandate.

Firstly, one strategy could be seen as a distancing to the participants' interest and dedication to the ecological issues. One participant describes the importance of *how* they speak, to "be a little enthusiastic and describe the values that exist [...] that is not just whiny and boring" (interviewee 3). Different ways of distancing themselves are described by one participant:

I think you have to be quite impartial [Swedish: saklig] when working with these issues [...]. I [have] never lived in [the municipality] either, I think that has been an advantage. [...] Even if you have a great interest in nature, if you start to become an agitator, then I think you are in a bad place [Swedish: ligger illa till]. [...] I am not part of any political party or organisation. [...] I have stayed away. [...] I haven't even done it in any other municipality, I've tried to not run the risk of being corrupt [Swedish: jäv]. (Interviewee 3)

Secondly, a strategy to create authority has been to formally broaden and increase mandate by taking on roles with more mandate. One participant has taken on the role as responsible for writing statements concerning the detailed development plan, from the committee they belong to. Another strategy described by a participant has been to talk about the purpose of their role as "environmental monitoring" instead of presenting themselves as municipal ecologist.

Concluding, the actions described by participants are here interpreted as ways of creating authority in a municipal context of conflicting perspectives and goals. The actions could be described as *informally* creating authority by proving the participants' objectivity through distancing themselves from their personal interest in nature, by not being part of non-profit organisations, and to sound enthusiastic but 'objective' when speaking. And an action to create *formal* authority is by taking on roles with a broader mandate. The experienced need to restrict their own 'eagerness' to not be excluded from important decisions is also a theme occurring in Dovlén's study (2002, p. 221).

4.2.3 Value Articulation

With different perspectives of values, one prominent theme emerging among the interviewees is the strive to describe and inform colleagues and politicians of the ecologists' view of environmental values. The *social* practice of values is here underlined by Ernstson's perspective on value articulation (2013). How the participants describe these acts, which could be interpreted as strategies of value articulation, is described in this section.

One strategy described by the ecologist is to point to – and create – strategic documents. This seems to be more neutral than their verbal communication of knowledge. Documents also have the purpose of pointing to the relation one area has with others. This connectivity is highlighted in for example dispersion analyses. This way, the value is articulated.

We have produced a number of dispersions analyses. [...] Then we had those as documentation, and as soon as you have documentation, it becomes a little easier because then you can point out that "this is the best distribution area here, this area has an important function in the network". If you remove [the area], then it may sort of crack, so to speak. (Interviewee 2)

One way to bridge the different levels of knowledge is to speak of the values of preserving nature and ecological perspectives from an anthropocentric viewpoint. One participant explains that the values from the ecologist's perspective need to be translated for others to comprehend.

I think that it is often the fact that you don't have the knowledge and then it is not enough that I stand here yelling about the [bird] nutcracker, instead I need to explain the whole thing, that it is important for people too that [the nutcracker] remains. (Interviewee 1)

The anthropocentric perspective is common among the participants. One participant describes the act of motivating ecological perspectives to translate environmental values to visual values, financial profit, public health, and climate adaption.

I have always talked about the importance of including the green, not forgetting the green in the planning, and that it has added value – so to speak – and a meaning, and also pointed out the consequences of not including the green and blue, what could the consequences be? And also then, I spoke about the consequences of previous planning and how it can be connected with what we have to work with today. (Interviewee 5)

This is contrasted by the same participant who says that “the natural thing for me then maybe [is] to preserve the green infrastructure so that we can preserve the biological diversity”, but this seems not to be enough as an explanation when communicating the values to others. Here, ecosystem services are a recognised concept used and mentioned by a few participants.

When not only speaking of the values is enough, one ecologist used the *experience* of the values. When visiting sites for a plan program, the participant took the group and entered the planning area instead of walking around it on organised trails.

When it comes to different ecosystem services, how people behave in nature, then if we are going to exploit this forest, [I] take them out in the said forest and [they] realise that oh, how calm and nice everyone became. Everyone who was so stressed in the office is much, much happier now. [...] Yes! This is what nature provides, should we cut it down? Or should we try to do it well? I feel that site visits are very important. [...] If the planning architect organises a site visit, then they often go around the planning area on existing roads. Whereas if I am there, I make sure that we go into the planning area, even if there happens to be dense forest there right now, just so that we can look at the planning area. And if it is a sunny day, it is a great opportunity to say: "Now we're going out into the sun. Look how hot it is. Now we're going into the shade and the trees, look how cool and nice it was here. It is because of this tree." [It has a] good educational purpose. (Interviewee 6)

Articulating the values so that other colleagues and politicians understand is done in line with dominant planning norms, as a way to counteract the challenge of goal conflicts. As described by one participant, one way to communicate the value of ecological issues to other professions is by using words that the other colleagues recognise, in this case, “multi-functional areas”.

Always keep in mind that a green area is not just an area that you lay a dead hand over, a reserve, which you constitute, and then it gets to live its own life and it should not be touched. Instead, I work with, well, multi-functional areas. I want to find solutions where everyone finds value in the green area. [...] I [have] seen an opportunity in my communication with other professions to work with multifunctional areas, because they have had a prejudice that if "you are a municipal ecologist, you are an environmental muppet [Swedish: miljömupp], you only talk about preserving forests and fields and meadows, that's what you want". But I try to highlight that, "no, I am not just talking [about] forests, meadows and fields, I want to bring the green into the city. And then "the green" does not have to be an untouched natural area. (Interviewee 5)

Even though the participants see why species and non-humans should be able to live for their own sake, this is not how they present it to other professions. Instead, ecologists articulate the value in line with dominant planning norms. This is exemplified in the following citation, where an ecologist explains that environmental values need to be explained in monetary value.

To get those who work with the expansion and transformation of areas in a municipality to understand this, you sometimes need to speak another language. Perhaps you need to talk more about economics, what will it cost the municipality if we do not try to strengthen biodiversity? What is the cost of not

having green areas? Because there are clear connections between people's health and access to green environments and not just one kind of green environment – a green lawn – but we are talking about different types of green environments at a certain distance from homes and so on. So, then you kind of have to make sure that you have all these parts with you so that you talk in a comprehensible way. (Interviewee 1)

It is in the participants' interest that others understand what they mean, “no nature will be protected if no one understands what I am saying” (Interviewee 6). The value articulation is conducted by adapting to dominant planning norms. At the same time, ecologists seem to need to adapt by not being “too troublesome”. As described by the participants, being solution-focused is one strategy to not be perceived as inconvenient.

If you just say no, no, no, all the time, then you're not going to be invited, and then they think you're being too troublesome. So, I think I am quite solution focused. When I attend these meetings then I try to find solutions, not just inventing problems like this but... and if I see a problem, I try to come up with some proposal for a solution if it is not already obvious. (Interviewee 2)

In summary, ecologists implement different strategies to be able to inform and translate environmental values. The actions regard producing and pointing to strategic documents, speaking in line with an anthropocentric rationale, and adapting to dominant planning norms. The discussed result in this section can illuminate the hierarchisation and dominant logic mentioned in earlier research, such as Tamm Hallström (2015) and Hagbert and Malmqvist (2019). This also adds to the findings in Pineda Pinto's (2020, p. 2863) study, concluding there is a dominant 'planning for people'-perspective in planning practice. The adaption to other professional languages is also a strategy mentioned in the study by Dovlén (2002, p. 221). Translating nature to economic benefits is pointed out as a key success factor for getting decision-makers on board (Khoshkar et al., 2020, p. 8), in other words speaking from a more anthropocentric and economic rationale.

5. Concluding Discussion

The overall aim of this study was to contribute to understanding how ecologists' knowledge is part of planning processes, by studying their experience and presenting perceived challenges and strategies in their everyday practice. A few of the challenges discussed in this study were similar to findings from previous literature. Previously identified challenges, and the ones highlighted in this study, reflect the complex context for ecologists' everyday practice in urban planning processes. This study adds to these findings by describing how ecologists handle these challenges through different strategies: lending legitimacy, creating authority, and articulating values. This shows that

ecologists struggle for legitimacy and authority in a planning process with conflicting perspectives and logic.

Planning is situated in both a political and technical process. As presented in the beginning: The challenge and complexity of urban planning occur – among other things – because of the conflicts caused by different values placed upon different resources by various groups and individuals (Pineda Pinto, 2020, p. 2852). This is made clear in the ecologists' everyday practice. They are met with different interpretations of their knowledge and hence legitimacy and – to a differing extent – need to argue for their legitimacy and authority by lending others' legitimacy.

Planning is indeed a wicked problem (Rittel and Webber, 1973). Different perceptions and conflicting value articulations of how to plan for the well-being of both present and future inhabitants prove the contradictions within planning. This is illustrated in this study partly by how ecologists experience different challenges depending on persons' pre-understanding. The issue with value articulation that confront ecologists also mirrors this complexity. One strategy that ecologists implement is adapting to speaking of the environment and ecosystem services in monetary terms, therefore adapting to developers' and plan architects' language and terms.

The stress described by interviewees is due to the conflicts between short-term goals putting pressure on long-term consequences. The experiences told by the participants also mirror the difficulty of comparing and negotiating trade-offs between short-term economic values and more hard-to-measure values such as irreplicable biotopes – especially when the dominating planning norms are favourable to the former rather than the latter. In one way, this shows the conflict between different value articulations. Here, ecologists' practice of articulating the value could be perceived as a struggle to create a *common* understanding around an object, where multidisciplinary actors could share and agree upon the same understanding.

The local capacity of municipalities is an essential aspect in a decentralised planning system as the Swedish one, because of the role of interpreting and implementing planning guidelines in a space-specific context (Kalbro, 2013 referenced in Khoshkar et al., 2018). Drawing from the former chapter, a more stable knowledge base is crucial to improve the organisational capacity (see e.g. Khoshkar et al., 2020). This implies that the barriers facing ecologists are an *educational issue*, and the important educational role ecologists carry.

The struggle for ecological issues within urban planning processes makes ecologists adapt to broad expertise. They are not only experts in ecology but have also widened their expertise to include rhetoric, problem solutions, and

pedagogy. The read thread following all discussed strategies is the necessity of the actor *communicating* them in different ways, for example, articulating the value through papers and documents, educational actions towards politicians and colleagues, or speaking through environmental legislation and goals.

The findings presented above are crucial, because to what extent ecologists are part of the planning process also implies how ecological perspectives, in general, are considered in urban planning processes. Hence, this study points to important areas to focus efforts to better integrate an ecological perspective in urban planning in the future. As the literature review has shown, barriers are experienced when implementing environmental perspectives by more than ecologists (see e.g. Hagbert and Malmqvist, 2019; Johansson, 2008; Khoshkar et al., 2020, 2018; Tamm Hallström, 2015). Thus, this study can contribute to insights and recognition for others working with these questions and other professions who want ecological perspectives to play a more prominent role in urban development.

In conclusion, this study shows the main challenges confronting ecologists, who respond with strategies to broaden the knowledge of ecological perspectives. Bringing forth the perceptions and values underlying the decisions made in planning processes is one step towards discussing the challenges confronting ecologists in integrating ecological perspectives in planning. How ecologists' knowledge is included in local planning practice also implies to what extent ecological perspectives are included.

Hornborg (2011b, p. 26) asks, "what might truly sustainable socio-ecological relations look like?" and concludes that transforming the idea and institution of money itself is the only way to achieve sustainability. Instead, I conclude that the first step is to acknowledge humans' dependence on nature. The goal conflicts could be less of a conflict if the (ack)nowledge of nature values were broader among planning professions. Due to the importance of our survival and the intertwining of social and ecological systems, more guardians of the ecology are needed. Dedication to the environment should not be trivialised as limited to a personal interest. The environment is personal, because of the dependency we have on nature. More planning professions *should* make it personal.

5.1 Future Research

This study has presented, aligning with earlier research, a contemporary picture of the struggles, conflicts, and complexity of urban planning (see e.g. Dowlén, 2002; Hagbert and Malmqvist, 2019; Johansson, 2008; Khoshkar et al., 2020). Departing from the assumptions made at the beginning of this thesis, the presented picture of struggling ecologists is not a desirable development. Therefore, the next step for future research would be to ask, what *ought* to be

done to transform this contemporary picture of local planning processes? (See e.g. Flyvbjerg, 2002).

As earlier research has shown, and in line with the result of this study, local urban planning processes are a complex societal challenge intertwined in a social, technical, and political context. As Hagbert and Malmqvist (2019, p. 713) explain, the aim is maybe not to strive for consensus on a single concept or decide upon a particular type of actor to take the lead (e.g. ecologists). Instead, in line with the authors' proposal for future research, multiple perspectives should be acknowledged and enable multiple actors to take part in pursuing goals towards a more sustainable future. Departing from this study, this would mean that how local planning policies negotiate the use of land and articulate value needs to be researched. This would shed light on how to involve actors in the discussion of a desired future society and how to get there. Future research should concern how local urban planning processes could reconnect the 'emancipation' from land and interlink the social with the ecological perspective.

6. References

Semi-structured Interviews

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Municipal ecologist (2). Interview 22nd of February 2023.
Municipal ecologist (3). Interview 24th of February 2023.
Municipal ecologist (4). Interview 28th of February 2023.
Municipal ecologist (5). Interview 1st of March 2023.
Municipal ecologist (6). Interview 2nd of March 2023.
Municipal ecologist (7). Interview 7th of March 2023.

Focus Group Interviews

- Municipal ecologist (A). Interview 4th of May 2023.
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Municipal ecologist (C). Interview 4th of May 2023.

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1. Appendix: Interview Schedule

Background

- What is your job title?
- Can you briefly describe your role here at the municipality?
 - How long have you worked here?
- What is your background: Earlier studies and interest areas?
 - Previous workplaces?
- What are the primary reasons why you studied to/applied for work as a municipal ecologist?

Mapping participation

- Describe the most common tasks.
- Are there other similar roles in your municipality?
- What other professional roles/expertise do you usually work with?
 - Where are they in the organisation at the municipality?
 - Is there a role/person you miss working with?
 - Based on experience from previous workplaces)?
 - Are there others who you feel have similar goals as you in terms of what you want to achieve with the planning/in projects?

Knowledge and expertise

- When in the process are you usually invited to participate?
 - When would you like to participate in the process?
- Which policies/governance documents do you use the most?
 - What are the possibilities to follow policies?
 - Some policies you want to use more? That others use more?
- What knowledge is required of you when you participate in projects?
 - What are your expertise areas [in Swedish: sakfrågor]?
 - Are there other roles that can contribute with the same knowledge, or do you have a "veto" in these matters?
- How do you feel that others value your knowledge?
 - How do you notice that?
 - How do you handle that?
- How do you feel that other actors take ecological perspectives into account in planning?
 - How do you notice it?
 - How do you handle it?
- How are ecological perspectives valued by other actors?
 - How does it differ between different actors?
 - How do you notice it? How does it feel when..?
 - Does it contrast with your view of ecological perspectives?
 - How do you deal with it?

- Have you experienced that it differs between your different workplaces, and evaluation of your knowledge (as an ecologist)?
 - How do you notice it? How did you handle it?

Challenges and strategies

- Are you in contact with other ecologists?
 - What motivates that contact?
- When you collaborate with other professions, is there anything more challenging?
 - How do you handle it?
 - Do you turn more often to any special ones for collaborations/to participate?
 - Is anyone outside the municipal organisation?
- Are there other ways you engage with these issues?

The desire for the future

- How satisfied are you with the role you have today and the extent to which you participate in projects?
 - In which type of outcome/project are you most satisfied with your participation?
 - What makes you feel that way?
 - When are you least satisfied with your participation?
 - What makes you feel that way?
- If you could change anything, what would it be?
 - In what ways would you need to be strengthened in doing your work better?
 - What advice would you like to give to other ecologists?

Exit

- Are there networks for ecologists?
- Something I forgot to ask? Anything you want to add?

2. Appendix: Focus Group Questions

Key discussion questions

- Is there a challenge you relate to particularly strongly?
- Is there any strategy that surprises you?
- Any strategy you relate to particularly strongly?
- What opportunities are there in the environment for you to feel satisfied with your work?
- What obstacles exist in the environment for you to feel satisfied with your work?

