Using a practice lens to explore the social dimensions of biodiversity conservation

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This thesis results entirely from my own work and has not been offered previously for any other degree or diploma.

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In the end,

we will conserve only what we care for;

we will care for only what we connect to;

we will connect to only what we experience.

(Thomas, 2010)

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Abstract

Consideration of the 'social dimensions' is increasingly gaining currency within the conservation community. A growing body of literature indicates the importance and influence people and societal practices have on the effectiveness of biodiversity conservation. As such, conservationists and their organisations are being urged to embed more social components within their projects and programmes. However, there is self-reported lack of understanding, skills and confidence by many conservationists about the scope and nature of this social dimension within the biodiversity conservation context.

This thesis aims to recast the social dimensions of conservation. Specifically, to explore its boundaries and how current understanding can be supplemented using a social practice theoretical lens. It aims to strengthen conceptual understanding and develop pathways of practical application within conservation organisations.

This research was undertaken within the context of my own institution, the Zoological Society of London which is a UK zoo-based conservation organisation. The research was exploratory in nature due to the complexity and relatively undefined status of the social dimensions within biodiversity conservation. A mixed method approach was employed using key informant interviews and an online survey instrument to depict and describe practices within the social dimensions of conservation, and to gather perceptions about these practices.

The thematic results offer both a recasting of the definition of the social dimensions of conservation and a conceptual model of the 'ecologies of practices' at the Zoological Society of London. These new knowledge resources provide a basis to foster further

understanding of how people and their practices fit into the conservation landscape. They also offer recommendations for both the Zoological Society of London and the wider biodiversity conservation community, to build individual and organisational capacity towards the social dimensions through future research, training and organisational development.

Chapter One: Introduction

1.1 Introduction

The era of the Anthropocene has brought significant losses of biodiversity in the last few decades (WWF, 2016, Hughes et al., 2017, Ceballos et al., 2017). Conservation is being urged to change their practices to further integrate the 'social dimensions' to address this largely anthropogenically driven crisis. (Adams, 2007, Bennett et al., 2017a, Mascia et al., 2003). Yet most people active in conservation are trained as biologists (Adams, 2007) and thus 'mainstreaming' the social dimensions into conservation is often problematic and affords further investigation in this thesis (Bennett et al., 2017a). This context provides a novel opportunity to use a practice-based approach to explore, conceptualise and locate practice themes within the social dimensions of conservation.

1.2 Background to the study

My interest in the social dimensions of conservation grew from several directions. Firstly, being employed at the Zoological Society of London, a UK zoo-based conservation organisation gave me exposure to the range of conservation projects where I noticed and was intrigued by the numerous social factors contained within their remits. Coming from a zoology background, and having crossed into a career of conservation education, I was personally interested in how people and societal actions influenced the ways biodiversity can be conserved. Secondly, through conversations with colleagues, it become quickly apparent that despite the inclusion of these social components, many felt underprepared to sufficiently engage with these social aspects given their current levels of knowledge, skills and confidence in this area. It struck me how there was a disconnect between the social

requirements of projects and the capacity of colleagues who undertook this work, and how this dissonance influenced both the practices within, and the success of these projects. Lastly, a review of the literature highlighted a similar narrative that acknowledged the importance of the social dimensions in the conservation arena (Mascia et al., 2003, Adams, 2007), but also a lack of understanding and practical capacity to integrate it into recurrent conservation practices (Fox et al., 2006, Bennett et al., 2017b).

Exploring these gaps in understanding and capacity towards the practices within the social dimensions of conservation thus became the focus for this study. When I discussed this theme with colleagues as a potential research topic, it was met with widespread enthusiasm and support. All were clearly enthused to gain a better understanding of the social dimensions and how they could embed them to enhance their current conservation practices. Having both personal interest and peer support was a strong catalyst for this research to be undertaken. Additionally, I decided to base the research within my own organization. This gave the advantage of situating the research aligned to my own job remit. As an insider researcher, I understood the organisation and thus the research context (Brannick and Coghlan, 2007) and would have recurrent had access to a wide range of colleagues, projects and potential data. Most importantly, exploring the social dimensions within my own organisation would allow the research findings to be readily disseminated with colleagues and enable any recommendations for change to be more likely implemented within the organisation. Being able to navigate the space between research-implementation gap in conservation (Toomey et al., 2016 , Knight et al., 2006a, Cook et al., 2013) would bring an additional perspective and benefit to this research.

1.3 Research problem

From a global perspective, the research issue lies with the planet being in the midst of 'biological annihilation' (Ceballos et al., 2017) as the sixth mass extinction has caused significant losses to biodiversity (WWF, 2016). Conservation has been called a 'crisis discipline' (Cousteau and Irwin, 2007, Czech, 2006, Redford and Sanjayan, 2003) and despite intensive attention since the 1960s, the biodiversity crisis is still deepening (Brewer, 2006). More recently, there is growing realisation that the majority of threats this crisis are anthropogenic driven (Wilson, 1989) and that conservation is as much about people and societal practices as it is about species and ecosystems (Barongi et al., 2015, Kareiva and Marvier, 2012, Mascia et al., 2003, Sandbrook, 2015). To this end, conservationists find themselves increasingly having to occupy a 'social dimensions' space within their work practice (Moon and Blackman, 2014, Newing, 2010, Newing, 2011, Russell and Harshbarger, 2003, Sandbrook et al., 2013), which can be problematic as most are ecological trained, and barriers to cross disciplinary boundaries can be personal, professional or political in nature (Campbell, 2005b, Fox et al., 2006, Pooley et al., 2014). Therefore, how conservationists and their organisations further understand and embed the necessary aspects of the social dimensions within future practices to conserve biodiversity is a relevant and urgent problem that requires addressing (Bennett et al., 2017a, Margles et al., 2010).

To explore this further, I decided to undertake a practice-based study that explored the perceptions of the social dimensions of conservation within my own organisation. Horizon scanning took place to help inform decisions around this research approach. It drew from internal sources which included conversations with colleagues and examined the ZSL

database of existing and past conservation projects to establish a sense of both the context and issues associated with the social dimensions of their work. It also drew on external sources such as conversations with conservationists from other zoos and conservation NGOs, and examined the recent selection of conservation focused horizon scan publications (Sutherland et al., 2017, Gusset et al., 2014, Rands et al., 2010). Collectively they indicated that the human and social factors are 'hot topics' in conservation, with much of issues identified being anthropogenically driven. They also highlighted that little existing research was focused on exploring and improving practices in this area of conservation.

1.4 Research questions

This research explores the social dimensions of conservation at the Zoological Society of London, a UK zoo-based conservation organisation using a practice-based approach.

It did this this by addressing the following research questions:

1. What are the boundaries of the social dimensions within biodiversity conservation?

2. What practice themes can be identified within the social dimensions of conservation?

3. What are the perceptions towards the social dimensions of conservation at the Zoological Society of London?

4. How does using a practice lens provide a novel way to explore the social dimensions of conservation?

5. To what extent can new knowledge about the social dimensions of conservation be embedded within the Zoological Society of London and the wider conservation community?

To create appropriate research questions to explore the social dimensions, the following stepwise approach was employed. Firstly, from the horizon scanning, there appeared to be little consistency, clarity or a widely used definition for the social dimensions of conservation. Therefore, the first question originated in the need to establish clear boundaries around this concept and aimed to recast the definition. Once a definition is established, the next question focused on around applying the social practice theoretical lens to produce a typology of practice themes from the data. This question came from an interest applying a social practice theoretical framework to depict and describe what conservationists actually 'do' in the name of the social dimensions when working in biodiversity conservation. The next logical step was to investigate how these themes were perceived by the research participants at ZSL. From there, the fourth question originated in a subsequent desire to assertation to what extent applying a social practice theoretical lens was both a novel and useful approach to explore this phenomenon. Lastly, I wanted to include a step that moved the lens from a theoretical perspective to focus on possible practical applications. This last question aimed to explore to what extent the findings could be applied into firstly ZSL's strategic and operational processes and practices, and secondly inform how the wider conservation community viewed, and acted within the social dimensions. The questions flowed naturally from being broad, emergent and largely conceptual in nature to those where tangible applications to the organisations were intended to be drawn out. Applying this progressive focusing to the suite of research questions

allowed the research to move from a conceptual to operational focus which enabled a better understanding of the social dimensions from different layers and perspectives.

1.5 Exploring the concept of the social dimensions of conservation

Interestingly, conventional approaches to situate the research within the literature presented an immediate challenge as there appeared to be ambiguity in being able to define the concept and boundaries of the social dimensions of conservation. Hence here I advocate for a clearer lexicon map of the social dimensions, and a unified understanding of the different components. Like other areas of conservation who have adopted similar standardisation (Salafsky et al., 2008) this will aid conceptual and practical progress, and support a unified classification of the social dimensions.

This potential conceptual gap gave an early indication of the use and usability further research in this area could provide. It also leaves situating the thesis prone to including potentially thousands of relevant pieces of literature if the frame around the definition was too broad. It was important for the scope of this research and the review of the literature, to firstly be clear on what the social dimensions of conservation includes and excludes. This will give the reader an opportunity to join in the exploration of how the social dimensions can be framed and conceptualised in a new way.

There has been an ongoing interest in where people 'fit' in the conservation space (Mace, 2014, Sandbrook, 2015). Attempts to situate people and social actions in conservation have focus on different aspects such as human dimensions of wildlife (Decker et al., 2012, Manfredo, 2008), conservation psychology (Clayton and Brook, 2005, Saunders et al., 2006) and conservation social sciences (Bennett et al., 2017b, Bennett et al., 2017a, Bennett

and Roth, 2015). However, there appears to be much less attention given to a discussion that defines and identifies its key characteristics from a wider social perspective.

The word 'social' is defined by the Oxford dictionary of English as *"relating to society or its organization"* (Stevenson, 2010) and 'dimensions' can be defined as the *"an aspect or feature of a situation"*. From these definitions, the social dimensions of conservation can be broadly thought of as '*the societal aspects or features associated with biodiversity conservation*'. However, this seems a tautological explanation, so to unpack it further, the main aspects and features will now be explored further. Here I argue that there are two main strands to the social dimensions of the conservation concept. Firstly, there is the **social focus** of tasks undertaken in conservation and secondly there are the **social processes** involves in these tasks.

A social focus is a reference to means the subject matter of the research, intervention or policy which has a collective emphasis on people and societies. Examples of a social focus in conservation can include broad topics such as poverty alleviation through to the perceptions of community members at an individual level. This strand has received the majority of attention in the conservation literature as many have sought to understand what people think, feel and act towards the natural world (Wilson, 1984, Clayton and Brook, 2005).

On the other hand, social processes are the ways in which people and groups recurrently interact. These interactions result in the formation of social connections and patterns in the behaviours of those involved in the processes. For example, if the social focus is the perceptions of community members, the social processes could involve the conservationist

gathering that information by interacting with community members. This could manifest in different ways depending on the social processes that are adopted by all actors in this interaction. Social processes are dependent on, and influences by prior personal, social, cultural experiences and spatial contexts (Maitlis, 2005, Brookes et al., 2006, Wenger, 2000). To enact this, the approach taken by a conservationist could range from dictatorial to equitable depending on their values and situated factors.

Importantly to note here is the use of the word social rather than human in this concept. The term 'human dimensions' was defined by Jacobson and McDuff (1998) as '*a variety of people-oriented management considerations and a cross-disciplinary range of inquiry'*. Both this term and the body of work associated with the human dimensions of wildlife has grown traction over the last few decades. 'Human dimensions' is often seen but usually ambiguously defined in the literature (Bath, 1998, Knight et al., 2010, Manfredo, 1989, Marchini, 2014). However, I posit that the word 'human' is indicative of a singular entity and creates an individualistic stance in both focus and process. It therefore falls short in its ability to describe fully the dimensions where people and societal actions connect to, and act within the conservation space. Therefore, using the word 'social' signifies a more interactive and broader interpersonal perspective to this dimension. It is for these reasons I deem the concept 'social dimensions' more appropriate to be used in this research.

Combining the focus and process in an operational definition of the social dimensions provides the potential for a dual approach to situating people and societies within the conservation landscape. This approach allows the social practices associated with both aspects to be examined in this thesis. This research employs a novel methodology which

grounds the different manifestations of the social dimensions of conservation in clusters of practices rather than in just an essentialist or abstract set of categories.

Chapter Two: Research Context

"*Conservation is not rocket science; it is far more complex*" (Game et al., 2014). This statement sets the tone for this chapter as it aims to situate the research within what has been widely acknowledged as a broad and complex discipline (Zimmermann et al., 2007, Leader-Williams et al., 2011, Woodroffe et al., 2005, Sodhi and Ehrlich, 2010). Gaining an insight into previous studies, current debates and gaps in the literature can help the researcher make key decisions about the design, methodology and goals of the project. The four sections in this chapter will give an evocative account of the main areas of consideration used for positioning this research in the literature. The first section details the theoretical drivers and assumptions that shaped the thinking behind this research. Next an indicative review of the research literature will be discussed. Lastly, the general policy environment and the situational context of the research will be described.

2.1 Situating the theory

This section will consider the theoretical drivers and assumptions that help frame the way I understand the social dimensions of conservation, connect this project to existing knowledge, and inform what decisions need to be made within this thesis. Specifically, this research is interested in what people do in the name of the social dimensions of conservation according to the boundaries given for this concept. To provide a theoretical framework that will support this focus, there are three areas of consideration that will now be discussed. Firstly, as conservation is increasingly being perceived as a social and pragmatic phenomenon (Newing, 2011, Adams, 2007, Sandbrook, 2015) a practice based theoretical frame would appear to be a useful lens to this research. Secondly, this research uses a social constructivist stance, with the assumption that social knowledge and meaning

is constructed through interaction with others. Thirdly, conservation can be understood as systemic, incorporating both biological and social systems. It occupies many layers from micro to macro and is complex, multifaceted and perpetually evolving and adapting. This system can be organised using an Ecological Model approach to understand the different layers and the nexus of practices that manifest within the social dimension.

2.1.1 Taking a social practice perspective

There have been various attempts in the conservation literature to understand people and their behaviours (St John et al., 2013, Schultz, 2011). However, there is little to suggest that the social practice theories have been used previously to make sense of this phenomena. Many of the cited approaches in the environmental disciplines to understanding people's actions and behaviour have taken the unit of analysis as the individual, with Ajzen's (1991) 'theory of planned behaviour', a widely used model. This model looks at individual's beliefs, attitudes and values as predictors of behaviour and takes a linear and rational approach to understand what people do. However, models like this do not predict human behaviour well in complex contexts with many variables (Bamberg, 2003). There is increased recognition that people do not exist in a social vacuum. The surrounding context influences, and in some cases override individuals factors that are often included in these models (Stern, 2000). With sociologically informed practice theories, the unit of analysis is social practices, instead of individualist agency or cognition or social structures (Saunders, 2011). For these reasons, the theories of social practice can offer a broader and more holistic conceptualisation (Hargreaves, 2011) when exploring the people and societal actions within the conservation landscape.

While an operational definition of social practices is needed, this proves somewhat problematic as there is no unified practice theory (Nicolini et al., 2003, Schatzki, 2012, Schatzki et al., 2001). Instead, it can be viewed as a plurality of theories because several 'practice theories' exist. These can be thought of as a broad family of theoretical approaches, with differences in precise definition (Hargreaves, 2011) and what elements of social practices to focus on (Reckwitz, 2002, Schatzki, 2012, Shove et al., 2012). Against the backdrop of philosophical work of Wittgenstein and Heidegger, diverse conceptual schemes and frameworks have evolved in the last few decades that position 'practice' as central to social life (Reckwitz, 2002, Schatzki et al., 2001). In Hiu et al (2016) they describe Bourdieu (1988), Giddens (1976) and Lave (Lave and Wenger, 1991) as the 'first generation' practice theorists with the second generation including Schatzki (2002), Gherardi (2000), Reckwitz (2002), Shove et al (2012), and Kemmis (2010). These theories were drawn on collectively to inform the understanding and shape the theoretical frame around this research.

Practice theories connect through several commonalities. Firstly, they all agree on the notion that a practice is an organised constellation of individuals activities (Schatzki, 2012). They foreground the importance of activity, performance and work in the construction and continuation of all aspects of social life (Nicolini et al., 2003). They also broadly agree that both social phenomena and key psychological features of human life are tied to practices (Schatzki, 2012). They bring to the fore the fundamental role of the body and material things in all social activities. "*Practices with no things and no bodies involved are thus simply inconceivable*" (Nicolini et al., 2003). The final agreement within this group of theories is that human activity rests on something that is very difficult to articulate.

Examples of these nonpropositional bodily abilities includes Ryle's (1949) *know how* (Brown and Duguid 1991) and Giddens (1976) *practical consciousness* (Schatzki, 2012). Practice theories all highlight the significance of collective structures of knowledge to grasp both human action and social order (Reckwitz, 2002). Despite these commonalities, there are ongoing disagreements on defining social practices, which provide nuanced perspectives to draw on as a researcher.

Schatzki (2012) posited that a practice is defined as "*an open ended, spatially temporal dispersed nexus of doings and sayings*" suggesting that both practical activity and its representations are within the boundary of social practices. The Schatzki definition also indicates a time and space dimension to practices. Many practice theories acknowledge the ever-evolving world and that experiences and thoughts are drawn on to inform practices in specific contexts. According to Schatzki (2012) human activity cannot be controlled. Rather, contexts can be created that make certain activities and social practices more likely (Schatzki, 2012).

Within this theoretical frame, there is an emphasis on the way individuals engage in practices, and in so doing, they come to understand the world around them (Warde, 2005). How people act is sensitive and responsive to and reflective of these situations (Schatzki, 2012) and as they act, they are already immersed in constellations of doings and saying. Reckwitz (2002) argues that not only do individuals carry patterns of bodily practices, but they are carriers of routinized ways of understanding, knowing how and desiring.

Reckwitz (2002) helpfully laid out the clear distinction between practice and practices:

> *"'Practice' (Praxis) in the singular represents merely an emphatic term to describe the whole of human action (in contrast to 'theory' and mere thinking). 'Practices' in the sense of the theory of social practices, however, is something else. A 'practice' (Praktik) is a routinized type of behaviour which consists of several elements, interconnected to one other: forms of bodily activities, forms of mental activities, 'things' and their use, a background knowledge in the form of understanding, know-how, states of emotion and motivational knowledge.*

The body, mind, knowledge, things, discourse/language, structure/process and the agent /individual are all factors of consideration within the theories of social practice (Reckwitz, 2002). Additionally, Shove and Pantzar (2005) understand practices as assemblages of images (meaning, symbols), skills (forms of competence) and stuff (material, technology). They are integrated by practitioners through regular and recurrent performance (Hargreaves, 2011). Saunders (2011) complements this and other viewpoints by stating practices can be conceptualised as:

> *"sets or clusters of behaviours forming ways of 'thinking and doing' associated with undertaking activities…… and "by social practices we mean the recurrent, usually unconsidered sets of practices or 'constellations' that together constitute daily life "*

Practices represent the dialectical relationship between human action and social order, between structure and agency, all bound in an active system. This thesis is informed by the practice perspective that concerns:

> *"with activities, with behaviour, with what people do, what they value and what mean they ascribe either singly, in groups, in institutions through their systems, or through nationally or internationally managed structures"* (Saunders, 2011)

Using social practice theory is a particularly appropriate lens for thinking about the social dimension of conservation for the following reasons. The field of conservation as it is an active discipline. Invariably people "do" conservation (McShane, 2003), and the interest for this thesis is how to make sense of that "doing" and how that helps describe the social dimensions. Taking a holistic and multi-hued approach with specific reference to what people do and how this is perceived and represented will give a novel and useful insight into the constellations, bundles and communities of practices, but also highlight where there are potential gaps or disconnects at the different levels within the social dimensions.

2.1.2 A social constructivist perspective on practices

This thesis is interested in the people who work in conservation and their practices. Adopting a practice-based approach fundamentally transforms the view of knowledge, meaning and discourse. Knowledge is essentially seen as a form of mastery that is expressed in the ability to carry out social and material activities (Hui et al., 2016, Shove et al., 2012). In terms of knowledge, practices involve: learning how to act, how to speak (and what to say), how to feel, what to expect and what things mean (Nicolini et al., 2003). These knowledge resources (Giddens, 1976) are what people draw on to perform practices. Knowledge can be thought of as not something that people possess in their heads, but rather, something that people do together (Gergen, 1985, Edley, 2001). Therefore, the second theoretical area for consideration concerns how people learn, acquire new knowledge and practical skills and how this informs how they perform the practices of their jobs.

A key assumption for this thesis is how knowledge is acquired and how this influences the way individuals view the world. In social constructivism, knowledge and meaning are socially situated and constructed through social interactions with others (Vygotsky, 1978, Young and Collin, 2004, Berger and Luckmann, 1991). Taking this social constructivist epistemological position ties into using a social practice lens to explore the social dimensions of conservation. The thesis emphasises the way in which people in conservation engage in the constellation of practices carried out under this broad banner, with a focus on the social dimensions. Many of these practices are tacit and are not 'trained' but are absorbed through social induction and interaction within the organisation. It is these practices, categorised broadly as the social dimensions of conservation, which are the focus of this thesis.

What individuals think, feel and act is constructed from drawing on knowledge resources. (Giddens, 1979). These knowledge resources can take multiple forms from formal education and training to lived experiences and tacit observations (Attfield et al., 2010, Berard, 2005). All these forms are situated in a social context and interactions with others. In their daily work, individuals will draw on this knowledge and apply to different contexts and situations within their professional lives. Therefore, conservationist draw of what they have learnt through training and their lived experience and apply this to each situation concerning their day to day conservation work.

Importantly, individuals do not just learn about, they also learn to be. Bruner (1996) argues that individuals don not just learn about facts, but they also learn how to act in the world in a socially recognised way. Learning is also about identities (Brown and Duguid, 2001) that individuals acquire identities that reflect how they see the world, and also how the world

see them. How conservationists see themselves and are seen by other in relation to the social dimensions is also of interest to this thesis. This notion of "*man is an animal suspended in webs of significance he himself has spun"* (Geertz, 1993) indicates an interpretive element to combining knowledge and social practices to make meaning about how individual perceive themselves within the conservation space.

Learning to be a conservationist involves understanding and making sense of the complex and large amount of knowledge to perform the practices involve in conservation. Within professionals, this knowledge can be seen to be initially learnt and developed further throughout professional life (Hager et al., 2012). Due to the socially situated nature of learning, the context of an individual within their working teams, within their institution and within the wider conservation community is of interest. Particularly, how they influence the social practices performed, how individuals learn informally at work (Eraut, 1994, Eraut, 2000), to what extent their institutions see themselves as learning organisations (Senge, 1999) and how the social capital within these networks (Ostrom and Ahn, 2003) effects the practices that take place as part of the social dimensions of conservation.

2.1.3 An ecological system view of biodiversity conservation

What of the wider view of the social dimensions of conservation? Berkes (2004) identified three conceptual shifts in recent conservation efforts. These are towards a system view of thinking, towards the inclusion of humans in the ecosystem, and towards participatory approaches to ecosystem management. It is the first of these shifts that is of interest at this stage of the review of the literature. Thinking about conservation from a systemic perspective helps position and understand the nature of this research issue. Systems theory draws on principles from biology, physics and engineering (Von Bertalanffy, 1972) with

its early foundations based on Aristotle's statement "*the whole is more than the sum of the parts*". Systems theory or systems science takes an interdisciplinary 'whole view' of a phenomenon. It foregrounds the connectivity and relationship between its parts in the subsystem, and how external factors influence the system. Moving away from a reductionist to a systemic world view can help join up the usually separated ecological and social worlds in conservation, and to further understand the connected constellations of social practices (Bronfenbrenner, 1992, Attfield et al., 2010, Brookes et al., 2006, Wenger, 2000).

A way of understanding this further is provided by the ecological system theory developed by Urie Bronfenbrenner (Bronfenbrenner, 1986, Bronfenbrenner, 1992, Bronfenbrenner, 1979). He believed that a person's development was affected by everything in their surrounding environment. He divided the environment into five different, but interconnected levels: microsystem, mesosystem, exosystem, macrosystem and chronosystem. Using these levels articulated by Bronfenbrenner's model is a useful way to segment and position the themes of practices as they emerge from the data. It can also be a way to show the nexus of practices within the social dimension of conservation.

Taking these elements of ecological system theory and integrating them with the theories social practice acknowledges that practices are not only shaped by the actions and the practice knowledge of individuals, but also by external circumstances and conditions. Hager et al (2012) discusses the following view that:

> *"practices exist as orchestrated arrangements–in particular, cultural-discursive, material-economic and social-political arrangements"*

These circumstances and conditions give the practices an architecture with which the complex bundles of practices can use to hang together (Kemmis et al., 2012) further illustrate this by posited the notion that practices are relationships of interdependency and that practices can be are ecologically connected in what they call *'ecologies of practices'*. Using the levels articulated by Bronfenbrenner's (1979) ecological model is a useful way to segment and position practices as they emerge from the data. It can also be a way to show the nexus of practices within the social dimension of conservation. Also woven into the thinking around taking a holistic and systemic approach to this research is drawing on the previous work done on socio-ecological systems (Guerrero and Wilson, 2017, Miller et al., 2012, Berkes et al., 2000) There have been attempts to conceptualise the 'whole' via the development of a socio-ecological system framework. These are designed to help to view issues holistically and incorporate both social and ecological attributes within a system specifically when examining conservation or environmental issues (Berkes et al., 2008). The increase urgency in biodiversity loss and associated environmental issues has urged academics to find new ways to understand the relationships between nature and humanity. Researchers have called for a dialogue on human /nature relations between the social and the natural sciences (Glaser et al., 2008, Collins et al., 2011), to take a more holistic view of the conservation landscape.

The idea of socio-ecological systems with reference to biodiversity conservation is useful to frame this research. The socio-ecological system framework (Ostrom, 2009) draws system thinking , but also highlight the complex nature of these systems, which aligns to the complexity observed in many of the conservation issues which are perpetually adapting. The complexity of conservation challenges and are often called 'wicked problems' (Game

et al., 2014). Game argues that despite this recognition of this complexity, organisations and practices within the conservation community have a legacy, which are better suited to simpler systems. This eludes to a disconnect between theory and practice in relation to conservation organisations being able to take a more multidisciplinary, holistic and systemic approach to tackle conservation issues rather than the current siloed, unidisciplinary traditions. Several authors have highlighted and support the notion of this theory – practice gap in conservation (Arlettaz et al., 2010, Pooley et al., 2014).

In conclusion, these theoretical assumptions help to shape and underpin the research design of this enquiry. They also act as a lens though which this phenomenon can be investigated, and they can also bring new knowledge and understanding about the social dimensions of conservation. Situating the research within these theoretical considerations has framed the social dimensions in a social practice perspective, given light to foregrounding the ecological system thinking frame that will enable to position the practices that emerge from the data. This thesis is specifically interested in the practices that help define and understand the social dimensions of conservation, and the systemic view helps to further that thinking. The way individuals learn and make sense about the world around them are reliant on the practices they perform and the social context in which they learn it. Ontologically, the research here is interested in the what the social dimensions in conservation as a whole looks like. Drawing theoretical strands from social constructivism, social practice theory and an ecological systemic view of the world, inform how the research methodologies can be designed and the research questions can be answered (Byrne, 2011).

2.2 Situating the study in the research literature

In this next section, the aim is to give an indicative view of the current research connected to social dimensions of conservation. As discussed in the Chapter One, the boundaries of the social dimensions within the conservation landscape are currently ambiguous. However, this overview of the literature offers an opportunity to explore current themes, debates, gaps to further support the positioning of this research project.

Conservation has been described as a 'crisis discipline' (Redford and Sanjayan, 2003, Czech, 2006, Cousteau and Irwin, 2007) , a 'mission driven discipline' (Meine et al., 2006) and as a 'discipline with a deadline' (Wilson, 2002) which reflects its emergence in response to the increasing environmental crisis. It is a relative young field, with the term biodiversity was only coined in the 1980s and conservation biology was described as a 'new discipline' by Soule (1985). This comparative brevity, means that conservation as a discipline is still evolving, trying to make sense of the increasing direct and indirect pressures on biodiversity, and the research and practice expertise required to mitigate these complex issues. A growing number of authors recognise the connection between people and biodiversity loss (Cardinale et al., 2012, Mace, 2014, Adams, 2007, Adams, 2004), mainly due to an increasing realisation that both the threats and solutions to biodiversity loss are mainly anthropocentrically dependant (Ceballos et al., 2017, Sandbrook, 2015, Bennett et al., 2017a).

One clear topic under debate that has repeatedly drawn out profoundly opposing positions in the literature is the around the question: What is conservation? (Doak et al., 2014, Kareiva and Marvier, 2012, Sandbrook, 2015). Tensions persist between those that support the more traditional biological diversity based model of conservation (Soulé, 2013, Soulé,

1985, Rolston III, 1994)versus the economic growth or humanitarian based 'new conservation' (Kareiva and Marvier, 2012). The latter view encompasses one of the central recent intellectual developments in conservation, that the ecological and the social dynamics are intrinsically bound together and cannot be separated in a conservation context (Liu et al., 2007, Folke et al., 2011). This conceptual shift acknowledges a move towards a holistic view in which the social dimensions is incorporated (Berkes,2004). In terms of practices, Sandbrook (2015) sees this debate is a *"sideshow alongside the daily business of getting conservation work done".* Primarily, this ongoing discord centres on people, their social actions and where they should be positioned within the conservation landscape. Both sides essentially agree that the aim of conservation is to mitigate biodiversity loss, but they differ on the balance between ecological and social goals, and to what extent people fit into, and take priority in the conservation landscape.

It is argued here, that in terms of transforming the conservation movement, the debates in the literature need to move to an integrated yet realistic approach to support biodiversity, ecosystems and the global society. Chan et al (2007) attempts to frame this holistic stance on what conservation should be:

> '*Conservation should benefit ecosystems, nonhuman organisms and current and future human beings'* (Chan et al., 2007)

This is ideologically easy, but problematic in practice as individuals and organisations have differing opinions and values placed on people and societal practices in conservation (Kareiva and Marvier, 2012, Soulé, 2013). Regardless of definition, conservation explored from a social practice perspective can be thought of complex constellations of human

activities, requiring people with different values, beliefs, norms and statuses to work together towards a common goal (Russell and Harshbarger, 2003)

Leading on from the debate concerning the definition and scope of conservation, is the notion that conservation as a social phenomenon is dependent on understanding human behaviour (St John et al., 2013, Schultz, 2011). Despite being framed as a biological discipline, there is now a wide spread recognition that people, their behaviour, their actions and thus their social practices are inherently responsible for the majority of the threats and drivers behind biodiversity loss. Fox et al., (2006) comment:

> "*Conservation actions are ultimately human behaviours, and it is vital to understand how social factors (e.g., markets, cultural beliefs and values, laws and policies, demographic change) shape human interactions with the environment and choices to exploit or conserve biodiversity*"

However, a disconnect is apparent in the literature between the extensive interest in, and importance placed on, human behaviour and conservation; and the practical advancement of socially focused strategies and solutions (Moon et al., 2014, Pooley et al., 2014, Bennett et al., 2017a, Mascia et al., 2003, Bennett and Roth, 2015, Toomey et al., 2016).This disconnect is at the core of this thesis, as is evident in difference areas within the scope of conservation. The conservation discipline has social, spatial, temporal, political and economic considerations, but they can be framed and understood through the social practices involved.

2.2.1 Conservation and the social sciences

One of the more evident routes into the literature regarding the social dimensions of conservation is through the social sciences (Bennett et al., 2017a, Mascia et al., 2003, Bennett and Roth, 2015, Bennett et al., 2017b, Chan et al., 2007). Even in the early emergence of conservation as a discipline, social sciences were included as an important spoke in this discipline's wheel (Soulé, 1985). Articles agreed with the stance that social sciences are important to the global conservation agenda. Again, beyond a universal agreement that they are 'important', they are still relatively misunderstood and underutilised (Bennett et al., 2017a). Mascia et al's widely cited paper in 2003, contended that:

> "*the real question for debate, of course, is not whether to integrate the social sciences into conservation but how to do so*." (Mascia et al., 2003)

This was an early indication of a movement motivated to further understand the social sciences and explore the mechanisms of embedding them in the conservation space. The last decade has seen a rapid increase in publications which focus on elements of the social sciences within the conservation landscape (Manfredo, 2008, Newing, 2011, Decker et al., 2012, Bennett and Roth, 2015).

All shared a now routine view within conservation community that:

> *"the natural science methods of conservation biology are insufficient to find solutions to complex conservation problems that have social dimensions"*. (Sandbrook et al., 2013)

Despite this interest and broad acknowledgement of their importance, there is still a lack of 'mainstreaming' the social sciences into conservation (Bennett et al., 2017a). It was observed that many researchers perceive the term 'social sciences', and indeed 'social scientists' as homogenous. This appears in the literature as calls for more social scientists or to include the social sciences in conservation practices. This indicates a failure to comprehend the range of disciplines that make up the social sciences and the nuances in the approaches they provide. Few papers make attempts to unpack the social sciences within the conservation space further (Bennett et al., 2017b), and this notable gap could potentially impact on how conservationists can gain a deeper and finer detail into the social sciences.

Bennett et al (2017a) recently attempted to identify barrier to integrating social sciences into conservation; they identified four barriers: ideological, institutional, knowledge and capacity which hinder the social sciences being embedded in conservation practices. Figure 1, taken from Bennett et al., (2017a) shows a visual representation of these four elements,

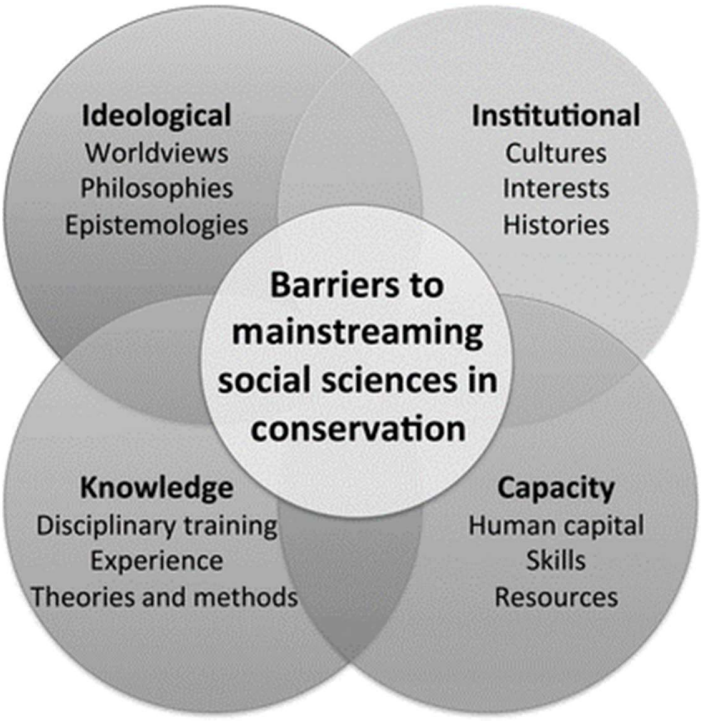

Figure 1: Diagram of the barriers to mainstreaming the social sciences in conservation (Bennett et al., 2017a)

The barriers listed encompass both individuals and groups within conservation. Interestingly to this study, many of the barriers have a practice dimension. This is also apparent in the practical guidance given in the article to overcome these barriers which includes fostering knowledge, building capacity, promoting interdisciplinary research and crossing disciplinary boundaries. In addition, they strongly advocate that social science research insights are incorporated in conservation planning and implementation. This paper is welcomed as a useful introduction to integrating in the social sciences into conservation.

With Bennett et al., (2017a) recommendations for overcoming these barriers, there is little explicit explanation of the practices involve enacting these changes. 'Crossing disciplinary boundaries' is cited in several papers as an action help integrate the social with the ecological disciplines (Pooley et al., 2014, Campbell, 2005a). However, most do not give

practice-based guidance on how to perform this activity. This oversight connects to the social practice theories, as they collective foreground that social practices go beyond an information bias "*know that*", but importantly need "*know how*" which encompasses processes, manner and techniques to perform the practices (Brown and Duguid 1991). Therefore, I argue that the "know how" is not adequately supported in this and other articles connected to the social dimensions. This flaw is observed in many conservation efforts connected to the social dimensions. Calls to "*engage with the community*" (Russell and Harshbarger, 2003),"*alleviate poverty*"(Adams et al., 2004) and "*measure impact"*(Mascia et al., 2014) are used frequently the literature, but little evidence was found that offers support with the processional and interactional practices that are required to enact these tasks.

To conclude in this section, I argue that despite the social sciences being an evident route into the literature concerning the social dimensions, I contend that the social dimensions of conservation extend far wider and deeper than the social sciences alone. It has practice and processional elements, which are not explicit in the academically framed social sciences. As many conservationists are trained natural scientists (Adams, 2007) so it makes sense that they would frame the social from an academic disciplinary stance and reach out to their colleagues in the social sciences. However, it is nearly 15 years since Mascia et al., (2003) asked 'how' to integrate the social sciences into conservation, with a little progress. My contention is that they asked the wrong question, as it is not the social sciences alone that need to be integrated. Conservation also needs to understand and embed social practices and processes which are the constellations that foreground the 'know how' (Brown and Duguid, 1991) and this will further support the social and ecological world merging.

2.2.2 Conservation practices and the social dimensions

Conservation practices occur in complex contexts involving intricate interactions of social, political, economic, cultural, and environmental factors (Brechin et al., 2002, Margules and Pressey, 2000) and the scope of the social dimensions can range from understanding priorities of different stakeholders to crafting international policy (Russell and Harshbarger, 2003). To aid this divergent practice, a systematic approach towards planning, implementation and monitoring initiatives would be beneficial (Conservation Measures Partnership, 2013). This will enable to explore and map what works and what does not work and why. Such an approach was developed by the Conservation Measures Partnership (CMP) and called "Open Standards for the Practice of Conservation"

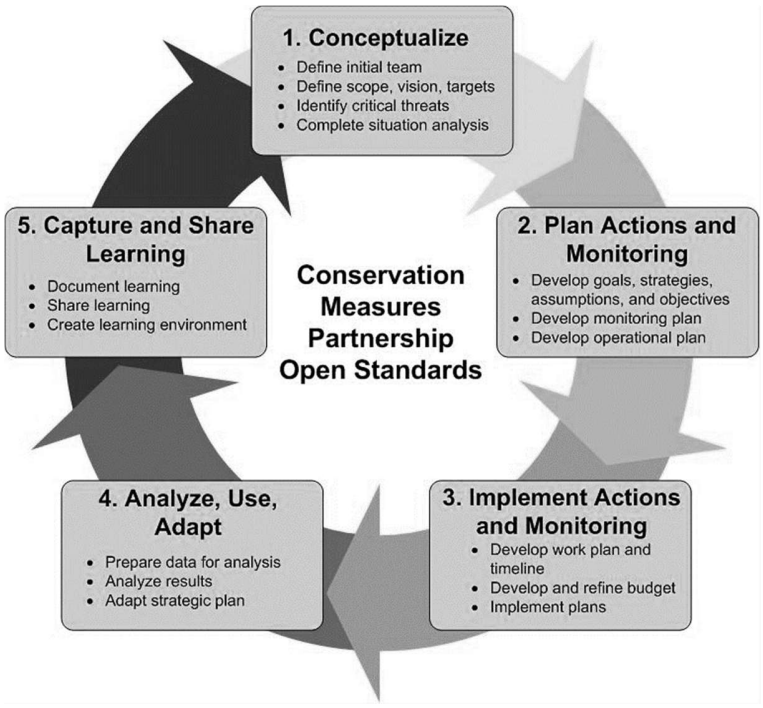

Figure 2: Diagram of the Conservation Measures Partnership Open Standards cycle (CMP 2013)

All these phases are enacted and influenced by the individuals and their social practices who operate in each phase. How aims and objectives are agreed, what knowledge resources are drawn upon to make decisions, interactions with others and governance structures are standard project-based practices (Reckwitz, 2002). Tools around adaptive management (Williams and Brown, 2014) can help set goals, enable the most effect action to be taken (Kapos et al., 2009) and learn to do conservation better (Salafsky et al., 2002).

Conservation needs strategies for managing whole landscapes but there have been criticisms of conservation planning practices for being non-systematic (Margules and Pressey, 2000, Russell and Harshbarger, 2003) and excluding social consideration (Ban et al., 2013). This supports a need for both a broader context to situate the planning process (Knight et al., 2006a, Knight et al., 2006b) and to tackle the difficulties of planning practices in a 'real world context'. The difficulties in effective planning are cited as the dynamic and unpredictability of biodiversity and the environment context, and the speed and scope that people and their actions are altering the planet (Pressey et al., 2007, Cowling et al., 2008).

There have been calls for more systematic and integrated planning approaches (Byers et al., 2013), proactive dialogue between conservation scientists and practitioners when devising research priorities (Laurance et al., 2012), inclusion of research findings in the planning models (Knight et al., 2008), participatory decision making (Mascia et al., 2003), performing social situational assessments (Ghimire and Pimbert, 2013, Cowling and Wilhelm-Rechmann, 2007) and stakeholder analysis (Reed et al., 2009) that feed into decision making in the planning process (Knight et al., 2008) and inclusion of social (Guerrero and Wilson, 2017). Despite this plethora of research calling for improvement in

and support for the social dimensions of planning, they have received limited attention and continue to be poorly understood (Knight et al., 2010, Whitehead et al., 2014).

Another broader solution is to develop knowledge and skills for using a 'theory of change' approach as a planning tool. A theory of change can be defined as:

> *"a rigorous yet participatory process whereby groups and stakeholders in a planning process articulate their long-term goals and identify the conditions they believe have to unfold for those goals to be met."* (Taplin and Clark, 2012)

Using this approach has help discovered solution pathways to complex conservation challenges such as illegal wildlife trade (Biggs et al., 2017). Conservation planning practices are highly social in nature, and they need to further incorporate knowledge of the social systems in which actions are to be implemented. Effective planning, prioritisation and decision making in the social dimensions at this early stage of a project is one of the key determinants of success in biodiversity conservation (Taplin and Clark, 2012).

The next stages connecting conservation practices to the social dimensions are around research and interventions. Firstly, to frame some of the literature concerned with social research practices in conservation, Sandbrook et al., (2013) demarcate between two modes of research enquiry, which they term research *for* conservation and research *on* conservation. The full range of purposes behind conducting social research practice is beyond the scope of this review, but a broad classification can be understood as:

- *Contextual – describing the form or nature of what exists*
- *Explanatory – examining the reasons for, or associations between, what exists*

- *Evaluative – appraising the effectiveness of what exists*
- *Generative – aiding the develop of theories, strategies or actions (*Ritchie et al., 2013)

Social research methods include a wide range of approaches, and one of the key practices is matching the right kind of method to the answer the research question posed (Newing, 2011, Robson, 2011). This research intends to uncover some of these methods used by ZSL colleagues in their work. Bennett and Roth (2015) gave an explanative list of social science methods applicable to conservation issues. These range from quantitative approaches such as surveys and questionnaires to qualitative ethnography and participant observation. This comprehensive guidance added to Helen Newing's book entitled 'Conducting research in conservation: a social science perspective' (2011) which was the first textbook focused on social science research methods in conservation. This indicates the relative novelty of producing guidance specifically for the conservation community on this aspect of the social dimensions. In the last decade , interest in social science research guidance (Moon and Blackman, 2014, Nuno and John, 2015), and calls for more integration appear in the literature (Viseu, 2015, Russell and Harshbarger, 2003, Sandbrook et al., 2013).

One of the main issues located within the conservation research arena is the tension between the validity and reliability of quantitative and qualitative modes of enquiry (Ritchie et al., 2013, Pooley et al., 2014, Scott, 2007). Conservation biology is rooted in quantitative science (Drury et al., 2011). If a researcher expands their scope to include a social dimensions, there is a tendency to favour quantitative approaches (Newing, 2011), with large representative samples using standardized questions, allowing statistical analysis and broad generalizability (Manfredo, 2008). Recently, it has become more apparent that this

is not always an appropriate choice given the complexity of the conservation context (Rust et al., 2017). Russell and Harshbarger (2003) claim that the failure of conservation initiative is on the over reliance in research for conservation on *"rapid appraisals, superficial surveys, and pseudo participatory group interviews*". The focus they say, has been focus on gathering data for quick results rather than as reflections on social realities.

With social sciences, both quantitative and qualitative methods are included (Robson, 2011). However, qualitative methods have repeatedly been criticised in the conservation literature for compromising data quality and validity (Drury et al., 2011). Additional tensions between appropriate methodological frameworks, differences in epistemology, language and publication style (Sandbrook et al., 2013) are examples the complexity of the social research practice in conservation. It can be argued that qualitative research is important to gain a richer understanding of complex conservation problems and poorly researched areas (Rust et al., 2017). To move beyond the current practice of social researcher being 'tacked on' to projects (Russell and Harshbarger, 2003, Campbell, 2005a) social researchers need to be embedded with their expertise, theories and methods, into conservation practice (de Snoo et al., 2013).

One further complication in social research practice that needs to be acknowledged is that the 'subject' of social research are people (Robson, 2011, Blaikie and Priest, 2017). People have their own fluid, subjective, irrational interpretation of the social world around them. They are within their own constellations of social practices, and the researcher needs to be mindful of this in term of the social processes involved in research (Schatzki, 2012). Other considerations for social research concern being mindful of the historically political context of working with communities (Russell and Harshbarger, 2003, Brosius, 2006, Dowie,

2011), and how the communities perceive the researcher. As Russell and Harshbarger (2003) noted that:

> *"villages flee when they see someone approaching with a notebook as they are tired of being studied with no benefit."*

One of the aims of social research practice is to inform decisions for what interventions or changes need to be made to the context (Newing, 2010). It is literature around these interventions which will now be depicted. To 'intervene' is defined by the Oxford dictionary for English as "*take part in something so as to prevent or alter a result or course of events*" (Stevenson, 2010). The reason for social intervention varies, but as much of the biodiversity loss is anthropocentrically driven, the interest increasingly for desired change is solution focused rather than problem based (Berkes, 2004).

The processes involved in some interventions in conservation have historically been highly detrimental to the communities involved. In cases where forced interventions occurred such as the displacement of people from land to convert into protected areas (Dowie, 2011), the practices were misaligned to community rights Such approaches have significant negative impacts of these people (Ghimire and Pimbert, 1997, Brechin et al., 2002). In the last few decades, more 'community based' approaches have evolved (Russell and Harshbarger, 2003, Berkes, 2004, Redford and Adams, 2009, Western et al., 2013), which include, respect and respond to the people involved. Current issues with community based intervention practices include a persistent sense of distrust and miscommunication (Madden and McQuinn, 2014, Chan et al., 2007), fuelled by collective memories of

historical conflict that can cause ongoing tensions between communities and conservation (Brockington and Igoe, 2006, Woodroffe et al., 2005).

There has been a rapid evolution of the types of interventions as the conservation community acknowledges the complexity of human behaviour (Clayton and Brook, 2005, Stoll-Kleemann, 2004, Schultz, 2011), and the myriad of pathways to bringing about change (Thomas, 2016, Ghimire and Pimbert, 2013, Shove, 2010, McKenzie-Mohr, 1994), and that people are influenced by their personal, social and cultural contexts. However, a lack of systematic use of evidence to inform decisions on what action to take (Pullin et al., 2004, Sutherland et al., 2004) and a lack of understanding interventions based on clear and measurable outcomes has been problematic for conservationists (Kapos et al., 2009, Oldekop et al., 2016).

'Behaviour change' a is popular phrase used recurrently within the conservation world for the purpose of social interventions, for example Barongi et al (2015) , Heimlich and Ardoin (2008). As much of the negative impacts on the planet are reportedly due to people and societal actions (Hughes et al., 2017), there is a drive to foster pro-environmental behaviours and practices within society (McKenzie-Mohr, 2011). However, this is problematic due to the complexities of the system and as previously stated often rely on simplistic, linear approaches to change (Ajzen, 1991). Additionally, there is a reported apathy (Thompson and Mintzes, 2002)towards big environmental issues such as biodiversity loss (Miller, 2005) and climate change (Norgaard, 2011), and that often desired change through social interventions with these longer term dangers do not work. In Goleman's book 'Ecological Intelligence', he offers one reason for this apparent disconnect between aim and outcome:

> *Evolution fine-tuned our brains to protect us from immediate survival threats – lions, tigers and bears. But long-term dangers, such as those that threaten our planet today, don't register. The problem is that we don't perceive, nor are we alarmed by, these changes" (Goleman, 2010)*

A flaw highlighted by Shove et al., (2012) is that change processes have been biased towards individualistic changes as the focus, which does not acknowledge how external influences from others in the system can also effect change. For strategies of behaviour change based on theories of practice difference pathways and outcomes would be hypothesised compared to those that viewed behaviour change as an outcome of personal preference (Hargreaves, 2011). Designing, implementing and evaluating these interventions has become a growing practice within conservation (Russell and Harshbarger, 2003, Mascia et al., 2014), and as such there are increasing calls that conservationists possess the capacity to implement successful conservation initiatives (Bonine et al., 2003).

One type of intervention that has the potential for the duality of a social focus and social process are policies. In a conservation landscape that is always in transition, policies are made through a series of social interactions and subjective decisions (Pullin et al., 2004, Seddon et al., 2016). Policies can be social in focus and are bound in networks of social processes throughout their design and implementation. Far from a rational process, policy makers, implicate themselves part of the patterns, systems and social arrangements they hope to govern (Shove et al., 2012).

Policy makers have a contingency to understand the sociological and ecological nature of the processes they seek to influence (Grin et al., 2010). From a practice orientated policy making stance, policies are not made by manipulating to gain a predefined outcome, instead they can be viewed as process based anchored to the details of the practises in action (Shove et al., 2012). Policy making is about guiding processes of selection and variation, about adapting to and reflexively monitoring the emergent bundles and complexes of practices. To improve professional practice, conservationists need to be more explicit about their tacit choices are made in their conservation policies (Leader-Williams et al., 2011).

2.2.3 Multidisciplinary practice

The notion of crossing disciplinary boundaries has grown in interest for many research and practice initiatives (Klein, 2010, Tress et al., 2005), and there are several calls in the prior research for social and ecological integration (Viseu, 2015, Strang, 2007). This thesis follows Pooley et al., (2014) assumptions that 'Multidisciplinary' covers the following three terms:

- *Multidisciplinary - projects involve different academic disciplines researching a single problem or theme but working in parallel without integration.*
- *Interdisciplinary - projects involve unrelated academic disciplines in a way that requires them to cross disciplinary boundaries to create new knowledge and theory in pursuit of a common research goal.*
- *Transdisciplinary - projects integrate academic researchers from unrelated disciplines, and non-academic participants, in pursuing a common goal, and creating new knowledge and theory.* (Pooley et al., 2014)

Multidisciplinarity has gained general support to help address the 'big questions' in conservation. Despite efforts to improve opportunities and processes between the social and ecological disciplines for multidisciplinary practice (Sandbrook et al., 2013, Busher and Wolmer, 2007, Christie, 2011), it has been described as challenging both personally and professionally (Adams, 2007, Brosius, 2006, Campbell, 2005a, Fox et al., 2006, Welch-Devine and Campbell, 2010), and progress in integrating natural and social science perspectives has been disappointingly slow (Mascia et al., 2003, Meffe, 1998, Noss, 1997). Communication between disciplines has been described as a *"dialog of the deaf"* (Agrawal and Ostrom, 2006).

Pooley et al., (2014) identified five main conceptual challenges for multiple disciplinarity practice. These are: methodological challenges, value judgments, theories of knowledge, disciplinary prejudices, and interdisciplinary communication. The search for more effective multidisciplanarity continues (Redford, 2011). Publications around social science methods for conservation (Bennett and Roth, 2015, Mascia et al., 2003, Newing, 2011) and the Society for Conservation Biology's Social Sciences Working Group have supported conservationists to cross boundaries between disciplines. Reasons why this debate has not moved forward in the last few decades are cited by Pooley et al., (2014) the:

> *"pressure to produce 'positive outcomes' and gloss over disagreements, the ephemeral nature of many such projects and resulting lack of institutional memory, and the apparent complexity and incoherence of the endeavour."* (Pooley et al., 2013)

Whilst other have made both intellectual and practical recommendations for fostering better connection between disciplines (MacMynowski, 2007, Newing, 2010, Phillipson et al., 2009, Winowiecki et al., 2011).

Multidisciplinary, transdisciplinary and interdisciplinarity are examples of clusters of social practices that are reliant of individuals constructing knowledge, interacting, coordinating and transcending on a liminal position. As the challenges in conservation are complex and multifaceted, they require being address from multiple perspectives rather than the uni-disciplinary approaches that are still the major position taken in current conservation practice.

2.2.4 Ethical considerations in conservation practices

Ethical issues occur at all stages of research from designing the study, collecting the data and publishing the results. In conservation, there is an increasing awareness of these ethical and moral considerations when working in the social dimensions (Newing, 2011) and yet there is relative little established approach or comprehensive guidance for conservation professionals (Minteer and Collins, 2005). Conservationists needs to ensure that their practices within the social dimensions have has moral parameters (Brechin, 2002) as several large conservation organisations have recently come under scrutiny in the press lead by Survival International who frame themselves as an organisation whose vision is "*A world where tribal peoples are respected as contemporary societies and their human rights protected."* They critique various practices by these conservation organisations and claim that their conservation actions are infringing on communities' human rights (Chapin, 2004). In principle, conservationists have knowledge and guidance from policies such as Universal Declaration of Human Rights and FPIC (Free Informed and Prior Consent) which is part

of the United Nations Declaration on the Rights of Indigenous Peoples (Hanna and Vanclay, 2013). However, in practice working in conservation involves a whole myriad of social interactions and practices with individuals from different cultures, religions and economic contexts.

As Russell and Harshbarger (2003) comment on the difficulties of practices contexts:

> *"People working on conservation programs are sent out with little knowledge, short time frames and externally driven agendas to try and effect change in deeply tangled and charged situation*" (Russell and Harshbarger, 2003)

Real world contexts are difficult to navigate through the ethical and moral consideration at the various stages during a conservation project (Caplan, 2004, Newing, 2011, Robson, 2011).

2.2.5 Social conflict in conservation

Much of conservation is about interactions with 'others'. For conservationists, these others could be other colleagues within their own organisation or from other conservation NGOs. It could be with politicians, community members, zoo visitors, journalists and numerous other stakeholders. As commented by Decker et al (2012) "*wildlife management is 10% working with wildlife and 90% percent working with people*".

Regardless of who the interaction is with, there are some commonalities in the interactional practices performed. Much of how people interact with others is connected to their emotional and social intelligence (Goleman, 1996, Goleman, 2007). The five areas within the social and emotional aspects of learning framework: self-awareness, empathy,

managing feelings, motivation and social skills (Jarvela, 2011) indicate how individuals need to be able to manage their own practices, empathise and interact appropriately with others. Within the conservation literature there is a dearth in exploring the essential nature of possessing interpersonal skills in conservation. Cannon et al., (1996) eludes to the need for conservation biologists to be trained in human interaction skills, but there appears to be little attention given to it since. Guides to social research in conservation such Helen Newing's book (2011) are sparse of detailed information regarding effective interactional practices whilst undertaking social research.

Through the literature, conflict surfaces as key issue in conservation. Madden and McQuinn (2014) call it 'conservation's blind spot'. They argue that conflicts in conservation space is exacerbated by complex and underlying social disputes. Failure to recognize or reconcile the deep-rooted tensions among stakeholders and current limitations in conflict resolution practice has obstructed effective conservation (Cannon et al., 1996, Dickman, 2010, Marshall et al., 2007, Peterson et al., 2013, Redpath et al., 2013).

Conservation conflict is defined by Redpath et al. (2013) as: 'situations that occur when two or more parties with strongly held opinions clash over conservation objectives and when one party is perceived to assert its interests at the expense of another'. Conflicts in conservation can manifest due to a number of reasons such as difficulty managing common resources (Adams et al., 2003), different conservation and development agendas (Chan et al., 2007), tensions between the ecological and social disciplinary practices, (Campbell, 2005a) conservation policy practices (Carmen et al., 2015) and exclusion from protected areas (Dowie 2011).

One area of conservation conflict that has gain increasing attention is the perceived conflict between wildlife and humans (Redpath et al., 2013, Knight, 2000, Hill et al., 2017). Due mainly to human population growth and the expansion of where people live, the spaces between where species and humans dwell decreases, or in many cases starts to overlap. Because of this, the potential for human-wildlife interaction increases (Saberwal et al., 1994, Zimmermann et al., 2005, Woodroffe et al., 2005, Chartier et al., 2011). Human-wildlife conflict is a term widely used in conservation to convey the negative interaction between people and wildlife (Hill et al., 2017). It is variably defined but this thesis will use Madden's (2004) definition:

> *"Human-wildlife conflict occurs when the needs and behaviour of wildlife impact negatively on the goals of humans or when the goals of humans negatively impact the needs of wildlife." (Madden, 2004)*

Human–wildlife conflict like much of the social dimensions of conservation has historically been depicted as a management problem where solutions are technical or financial in nature (Rust et al., 2016, Brockington and Igoe, 2006). Current work on human-wildlife conflict often centres on the focal species actions and how these are perceived by people (Hill et al., 2017). However, this approaches fails to acknowledge the deeper social conflict that exist between groups and within groups that is both the catalyst and the fuel for many of the conflicts in conservation (Madden, 2004, Madden and McQuinn, 2014, Rust et al., 2016, Marchini, 2014). The groups include, but are limited to communities, policy makers, hunters, conservationists and businesses. It is unsurprising that social conflict happens in conservation as there is a multitude of different stakeholders existing and complex contexts which can be described as 'wicked'. Wicked problems are those issues that are difficult or

impossible to resolve because of their complexity, competing and contradictory factors and constant fluid nature. (Rittel and Webber, 1973). Conservation is riddled with these types of issues which is one of the contributing factors that it is so difficult to find and implement long term solutions (Game et al., 2014).

The other key item to acknowledge is that conflicts involving conservationists has an uncomfortable temporal dimension. Historically, conservation organisations had an uneasy relationship with indigenous people living in, or close to areas that conservationists aimed to protect. Chapin(2004) highlighted the complaints and questions from local communities and human rights activists about the practices of three of the largest conservation organisations - World Wildlife Fund (WWF), Conservation International (CI) and The Nature Conservancy (TNC). These complaints had been building over time and were perceived to be aligned to growth in size of these organisations. One of the primary areas of disagreement was the creation of protected areas which according to the people who live in these areas often infringes on their human rights. Indigenous people perceived conservationists to be leading much of the evictions from these lands and working with Governments or multinationals who they saw as being directly responsible for destroying the areas owned by these people. Therefore, it is not surprising then that indigenous people did not view conservationists favourably considering these catalogues of tensions. Profound misunderstandings of each other's perspective on science and culture, as well as conflicting views on nature and different definitions of wilderness have been at the heart of the conflict between conservation organisations (Dowie, 2011). Considerable learning and attempts at reparation has been done by conservationists, but the perception of conservation

organisations by many individuals, communities echoes of protectionist, colonial and imperialistic practices (Garland, 2008).

All conservation conflicts are multifaceted, involving complex struggles and are grounded in social interactions and stem from social, economic, and political drivers (Rust, et al., 2016). They usually involve multiple stakeholders who perceptions, agendas and assumptions are incongruent with each other. These will continue, and there is an acknowledgement that the goal is not to end conflict, as it is natural part of people's social practices. However, the notion of moving to co-existence rather than conflict with regards to wildlife has gained traction within the literature (Woodroffe et al., 2005, Banerjee et al., 2013). There is a wide range of prior research that call for conservationists to increase their capacity and resolution strategies to understand and address the range of social conflicts in conservation (Madden, 2004, Madden and McQuinn, 2014, Redpath et al., 2013). Examples of this include Through conservation conflict transformation approaches including structured and participatory decision making (Estévez et al., 2015, Davies et al., 2013), consideration of social factors and practices (Dickman, 2010), understanding stakeholders values, perceptions and agendas (Estévez et al., 2015) mapping social data (Knight et al., 2010) shared solutions (Redpath et al., 2013) and increasing the social elements of conservationists training (Cannon et al., 1996, Fisher et al., 2009, Newing, 2010).

2.2.6 The social dimensions of conservation from a wider perspective

In this section, a wider lens will be applied to the conservation space, with an illustrative exploration into organisational, historical and global perspectives of the social dimensions of conservation. The remit of safeguarding biodiversity spans multiple sectors.

Conservation organisations exist alongside, governments, academia, environmental and development non-government organisations, businesses and community groups, all of which have a stake in remit of conserving biodiversity (Seddon et al., 2016).

Conservation organisations may differ in size, scope and mission, but they have a number of social elements in common (Brooks, 2009). All these organisations employ people to perform clusters of practices in the name of conservation. The clusters can form 'communities of practice' (Wenger, 1998). There are organisational management structures, which give social order to and determine relationships between tasks and members of the organisation (Brooks, 2009). Social processes are involved in assigning roles and responsibilities, cultures and social processes in sense making (Maitlis, 2005).

Organisational practices can be defined as:

> *"an organization's routine use of knowledge for conducting a particular function that has evolved over time under the influence of the organization's history, people, interests, and actions."* (Kostova and Roth, 2002)

This alludes to the temporal, social, political and cultural factors which affect the practices of the organisation.

Additionally, Brown and Duguid(1991) highlight that the:

> *"ways people actually work usually differ fundamentally from the ways organizations describe that work in manuals, training programs, organizational charts, and job descriptions" (Brown and Duguid, 1991)*

The practices organisational members perform are reliant on, and influenced by their communities of practice (Wenger, 1991), social capital (Ostrom and Ahn, 2003) and the relationship between the organisational structure and the individuals' agency (Brooks, 2009).

Thinking now to the wider perspective of the conservation disciplinary community; conservation organisations are following the general trend of acknowledging the importance of people and their actions on the environment. An interest around the social sciences is growing (Decker et al., 2012, Bennett et al., 2017a); however, gaps have been identified in capacity within these organisations to adequately address the current conservation crisis.

Now moving to a historical perspective: Many countries have experienced imperialism, widespread colonial practices and other regimes which have impacted on human rights and social justice (Dowie 2011) Despite the historical nature of these regimes, there is a tacit dimension of remembrance existing in cultures where conservation is taking place. Conservation has to recognise that historical traditions have a responsibility for the environmental problems of our time (Pitt, 1988). These historical contexts of negative practices by internal or external forces including prior negative experiences of conservation organisations needs to be foregrounded as important factor in understanding the perceptions of people who live in these contexts and how it might impact on the effectiveness of conservation interventions.

Historically, the first and strongest advocates for biodiversity and it is conservation were biologists (Redford and Stearman, 1993). As biodiversity conservation went from a largely

academic endeavour to one of global concern, its arena and audiences who showed interest and staked a claim has expanded (Redford and Sanderson, 1992). In Redford and Stearman's paper, they talk about bringing to the attention of the community of conservation biologists the indigenous people of the Amazon basin who have interest in the issues of biodiversity conservation. Written a mere 24 years ago, and yet it demonstrates how new and emergent the concept of including local people in conservation. This helps to understand some of the self-reported naivety and unsophisticated practices seen in conservation. Indeed, conservation appears to be in the middle of a paradigm shift with regards to the social dimensions, as the process of moving from awareness by the conservation community of people involved in conservation landscape, to an understanding that people and their societal practices are responsible for much of the threats and solutions within the conservation landscape. The next phase of which this research aims to add to the body of knowledge around, is a commitment from the conservation community to place more attention on the importance on the social dimension and take collective and consistent action to start successfully moving forward in addressing the social nature of the biodiversity loss.

Lastly, A global perspective on the social dimensions of conservation shows clear evidence that ecosystems have been transformed because of human use (McGill et al., 2015, Vitousek et al., 1997). Cebellas et al.'s (2017) paper uses the term '*biological annihilation'* to stress the seriousness of the rate of biodiversity loss mainly due to anthropogenic destruction in what has been called the Earth's sixth mass extinction event. Further evidence from the Living Planet Index report (WWF, 2016) worryingly illustrates that from 1970 to 2012, overall abundance of vertebrate population has decreased by 58%. This

indicates a majority acceptance of the present conservation crisis and it link to human societies actions. A recent paper in Nature concerning coral reefs (Hughes et al., 2017) posited that returning an ecosystem to its past configurations is no longer an option, but now the global challenge is to steer the ecosystems through the Anthropocene era with the minimum of changes as possible.

From a development perspective over the last century there has been an evolution through industrialisation, urbanisation, consumerism. Whilst the vertebrate populations have halved in the last forty years, human populations have doubled. This tied with an increase in human population has pushed the planet to ecological breaking point with the collapse of the planet's life support systems (Steffen et al., 2015). Pressure on natural resources through direct or indirect practices is an importance and increasing consideration for the context of conservation (Vitousek et al., 1997). Global social issues such as climate change, over consumption of natural resources and poverty alleviation are often too large to many to comprehend and feel they can have effect as an individual (Norgaard, 2011). Yet sustainably managing natural resources is vital for long term survival of the planet (Vollan and Ostrom, 2010). The 'tragedy of the commons' (Hardin, 2009) and subsequent responses and adaptations of this economic theory all question how individual practices contribute to the common good of all (Margoluis et al., 2000). At this level, multiple layers of practice are woven together to provide a complex social, economic and political context for conservation practices to take place. This typifies the complexities of conservation as there are both large number of variables in the multiple layers in the system (Bronfenbrenner, 1992, Senge, 1999) and unpredictability in these variable will interact with each other (Salafsky et al., 2002).

2.2.7 Conservationists and the social dimensions of conservation

Conservationist themselves are a key actor within the conservation system and as part of that training is a key part of equipping conservationists with the knowledge resources and skills to perform the practices required for their jobs (Knight et al., 2008, Jacobson and Duff, 1998, Jacobson and Robinson, 1990, Saberwal and Kothari, 1996). It has been widely reported that many professionals who work in conservation are trained in a biological discipline (Adams, 2007, Sandbrook et al., 2013, Mascia et al., 2003). Given the growing interest in people and societal practices, it is unsurprising that several articles include a call for more training in the social dimensions of conservation. The call for 'human dimensions' to be integrated into conservation training started to be seen two decades ago (Saberwal and Kothari 1996, Jacobson and Duff 1998). This came alongside criticisms that traditional conservation biology courses were too specialised (Berkson and Harrison, 2001) and left learners unprepared for real world conservation (Berkson, 2001). Conservation has long acknowledged the importance of people and societal practices, along with an urge to take interdisciplinary approaches to tackle modern conservation issues (Wilson, 1989, Mascia et al., 2003, Fox et al., 2006). However, gaps are identified where few institutions have advanced in employing a systematic approach to embedding the practices of the social dimensions into their training or professional development (Fisher et al., 2009, Eriksson, 1999).

In addition to the call for more training in the technical skills of the social sciences, the gap in developing essential, but non-academic skills for has also been widely reported (Noss, 1997, Jacobson and Duff, 1998, Clark et al., 2011, Bonine et al., 2003, Pérez, 2005, Salafsky et al., 2002). Yet more than 80% of conservation biology doctoral students thought

their training was insufficient in these skills such as teamwork, collaboration, organisation and management (Gaff, 2002). Cannon et al. (1996) found that graduates and those working in conservation reported a high need in training in the following seven areas:

> "*written and oral communication; explaining science and values of biodiversity to the lay public; group decision making; interpersonal skills; group planning; leadership; and advocacy"*

In recent years there has been a growing attention put on building capacity in the social science research practices in conservation (Jacobson, 2009, Newing, 2011, Bennett et al., 2017b). There are pockets of training in the social dimensions within university courses, and training for professional in for example social conflict resolution (Madden, 2004) facilitation, decision making and communication skills training by the Conservation Breeding Specialist Group (CBSG) (Byers et al., 2013). However, it can be argued that given the urgency placed on anthropocentric elements in the conservation crisis, this level and scope of training is woefully inadequate to prepare the current and future conservation community to address the varied and challenging social components in conservation (Clark, 2001).

The result of this disconnect is that:

> *"An understanding of the interrelationships among ecological, social, and economic, constraints is rarely evident, because few people have training outside their own disciplines"* (Jacobson and Robinson, 1990)

To embrace the social dimensions of conservation and systematically address the conservation challenges of the 21st Century, there is a need for bolder thinking (Noss et al., 2012), for inclusive, integrative and collaborative conservation practice (Bennett et al., 2017a).

2.3 Situating the social dimensions in the general policy context

People and societal practices have become a defining feature within the conservation policy landscape. To further clarify the context for this research, this section will explore some key indicative policies connected to conservation, and comment on how they reflect the social dimensions. This overview is not intended to be exhaustive, but to give a flavour of the policy context of my research.

It is now accepted that the earth is in the Anthropocene epoch (Zalasiewicz et al., 2011, Vince, 2014). This reflects evidence that human interactions with the natural world are linked to the current scale and speed of biodiversity loss (Vitousek et al., 1997). Simultaneously, there is evidence that biodiversity can support human well-being (Díaz et al., 2006, Naeem, 2009, Cardinale et al., 2012). Well-being has a multi-layered relationship with ecosystem services (Mace et al., 2012) and a contested relationship with poverty and its alleviation (Roe, 2008, Adams et al., 2004, Sanderson and Redford, 2003).

The global historical context of how people and society are represented in the conservation movement helps understand the evolution of conservation policy. Governance to protect species and 'people free' wildernesses gained interest in Western conservation though the 19th and 20th Centuries (Dowie, 2011). Much of these early protected areas were acquired and designated through force and evictions, and will little regard for local communities

(Russell and Harshbarger, 2003) This uncomfortable history of protectionist, fortress conservation approaches and the preference for wilderness without people, has caused long standing underlying tensions between conservationists and local people which have lingered (Madden and McQuinn, 2014) A more recent insight is the realisation that by only supporting people and preserving cultural diversity can biological diversity be protected (Dowie, 2011).

In the last half of the twentieth century, the first cluster of environmental policies focused mainly on maintenance of biodiversity among other environmental issues, and they were seen to be very separate from people and societies (Berkes, 2009, Kothari et al., 2013). At the same time, as environmental concern was growing, other keys themes such as peace, freedom and development had also gained global and political attention. Freedom was sought through struggles to end imperialism, and former colonies gaining national independence was joined with a focus on economic development (Dowie,2011).

Later, the World Conservation Strategy of the International Union for the Conservation of Nature launched in 1980 and the World Commission on Environment and Development was created in 1982. The latter wrote a report called *'Our Common Future'* , also known as the Brundtland Report in 1987 (WCED, 1987). It sought to create a sustainable development pathway, which would put environmental issues firmly on the political agenda. It framed the environment and development as one single issue, and argued for a better integration for ecological and social dimensions:

> *"The environment does not exist as a sphere separate from human actions, ambitions, and needs, and attempts to defend it in isolation from human*

> *concerns have given the very word "environment" a connotation of naivety in some political circles. The word "development" has also been narrowed by some into a very limited focus, along the lines of "what poor nations should do to become richer," and thus again is automatically dismissed by many in the international arena as being a concern of specialists, of those involved in questions of "development assistance." But the "environment" is where we live; and "development" is what we all do in attempting to improve our lot within that abode. The two are inseparable. (WCED, 1987)*

Following this, The United Nations Conference on Environment and Development (UNCED) was held in Rio de Janerio in 1992. It was called the 'Earth Summit' and from it emerged a detailed Agenda 21 of desired actions, international agreements on climate change and biodiversity, with the social dimensions being integrated into many of these policies (Johns, 2009).

At the turn of the 21st Century, eight Millennium Development Goals (MDGs) were formed to form a blueprint agreed to by the majority of world's countries and all the world's leading development institutions. They were designed as time-bound targets for addressing a range of social issues such as health, poverty and education, but also environmental sustainability. Later in 2015, the Agenda for Sustainable Development detailed 17 Sustainable Development Goals which includes goals on both ecological and social perspectives. Describe by UN Secretary -General Ban Ki-moon as a "*shared vision of humanity and a social contract between the world's leaders and the people*".

Over the decades there have been several global commitments with the imperative of conserving biodiversity. The challenge to both policy and practice in the more traditional conservation agreements, such as CITES is the increasing emphasis on the social dimension of conservation, along with issues of legitimacy and equity (Hutton and Dickson, 2000).

The 2020 Aichi targets are a set of 20 biodiversity protection targets that lay out a series of international commitments (Leadley et al., 2014) with the vision was that:

> "*By 2050, biodiversity is valued, conserved, restored and wisely used, maintaining ecosystem services, sustaining a healthy planet and delivering benefits essential for all people."*

From a social perspective, many of these global policies have several connections to people and societal practises from raising awareness to traditional community rights. Despite Governments agreeing to these ambitious targets and even though they have accelerated policy and management responses to biodiversity loss, there has been claims that it unlikely that these targets (like Aichi) will be met (Tittensor et al., 2014).

International conservation policies have evolved, learning and building on previous governance to further incorporate the social perspective. Now policies and conservation events have moved to a more social and participatory stance. Policy and practice now acknowledges the vital role of people, and of those communities that live closest to the biodiversity being conserved. Knowledge, practices, and skills of these communities, creating the possibilities of meaningful partnerships with organisations and individuals from the formal sectors is now central in international governance (Kothari et al., 2013)

Several studies have concluded that protection of animals and their habitats cannot be restricted to nature protection policies alone. They should acknowledge and include different sectors such as the social (Ghermandi et al., 2013). Outside of the main global policies detailed above, conservation has multiple layers of policies, legislation and governance. There are several ongoing debates in conservation about the policy context:

- Firstly, whether conservationists have influenced toward the policy makers (Agrawal and Ostrom 2006) given the frequent differences in focus and scale of research and policy.
- Secondly how policies that concern biodiversity conservation can have important (positive / negative) social implications (Ghermandi et al., 2013) whether explicitly as part of the proposed policy or as an unintended consequence of a policy change.
- Thirdly, how to turn policies into desired results through effective monitoring and evaluation (Mascia et al., 2014).

I now turn to the policy - practice gap. Policies can be described as deliberate efforts to intervene (Shove, 2010), and these interventions rely on actors and only have effect when taken up in, and through practice. These effects are inherently unpredictable, and policy should be seen as moving towards an ever-moving target rather than advancing on ready-made goals. The nature and complexity of conservation means there is no simple cause-effect relationship for change, and by thinking about policy through a practice lens helps to situate how the policy-practice relationship works. Once a policy is formed, it is essential to build networks and coalitions and construct partnerships that make the conditions for practice possible (Shove, 2010) and create an enabling environment.

The social dimensions of biodiversity policy described by Ghermandi et al (2013) can be understood as "*social stability and human livelihoods and the strengths of links to the market and non-market value of biodiversity*." Due to complexity of these linkages along with trade-offs (between biodiversity, ecosystem services, employment and livelihoods of vulnerable groups) that there is no one simple policy approach to that can improves the situation for nature and people.

There are those that critique the move toward a more participatory approach from people. This originates from questions concerning is governance such as protected areas. Terborgh (1999) stated that:

> *"Biodiversity conservation is doomed to failure when it is based on bottom-up processes that depend on voluntary compliance"*

He supported a return to the protectionist paradigm. However, those that support an evolving people-oriented approach further argue that key aspects of social and political process are important as they shape how conservation practices occur in situated contexts (Brechin et al., 2002, Wilshusen et al., 2002).

This thesis is intended to be a contribution to the policy debate. It aims to further our understanding of the 'social dimensions' of conservation by arguing for a more integrated approach based on a clear idea of the range of practices it entails.

2.4 Situating the research in the organisational context

This thesis examines the social dimensions of conservation with specific reference to the perceptions of individuals based in one UK zoo-based conservation organisation called the Zoological Society of London (ZSL). This section provides the context for the research by

describing the organisation in which the study was conducted and explains how ZSL is situated within the wider zoo conservation community. This section will also offer indications of the extent to which findings from this thesis might be applicable to other similar institutions. Lastly, aspects of the organisational governance, practices and culture will be explored and why, given these factors, it was deemed is an ideal and unique context to conduct such a study.

The research took place at the Zoological Society of London (ZSL). Founded in 1826, it is one of the oldest zoological societies in world. It describes itself as an:

> "*international scientific, conservation and educational charity whose mission is to promote and achieve the worldwide conservation of animals and their habitats"*.

ZSL has four main components It runs two zoos, one in central London (ZSL London Zoo) and the other around 35 miles North of London (ZSL Whipsnade Zoo). Secondly, there is the Institute of Zoology (IOZ) which is a world-renowned scientific research centre working at the cutting edge of conservation biology, and specialising in scientific issues relevant to preserving animal species and their habitats. Lastly, there is ZSL's Conservation Programmes which conducts conservation projects and programmes in over 50 countries worldwide. The headquarters and most of the staff are based at the central London site, but there are several hundred-staff based in a number of other locations both in the UK and overseas.

ZSL has a standard operating structure with a Director General, three Directors for the mission areas of Zoological, Conservation Programmes and Science and four Directors for

the four mission enabling areas of Commercial and Communication, Development, HR and Finance. Each directorate is subdivided into departments and teams. In addition to the leadership team, internal governance come from the organisation's council and trustees. When the data for this thesis were collected in the first half of 2015, there had been a period of organisational stability with most of the directors largely been unchanged for several years. The Director General, Directors of Conservation Programmes and Zoological had been in post for more than 10 years. The Director of Science who had been in post for seven years left the organisation just before the data were collected.

ZSL is an organisation that has been in existence for nearly 200 years. ZSL was established in 1826 as a learned society housing a zoological collection for study. Originally open only to members, including Charles Darwin who visited the collection to study the behaviour of animals and develop his scientific theories. It later opened to the public and ZSL London Zoo now has a visitation of 1.3 million people annually. Later, in 1931 the second zoo, ZSL Whipsnade Zoo opened followed by the Institute of Zoology opening in 1960. The conservation programmes directorate started to emerge within the organisation around 20 years ago and has grown fortuitously and exponentially in the last 10 years from employing a few staff to several hundred in 2017.

The site of the study describes itself as a UK zoo-based conservation organisation. Therefore, it must deal with several potentially conflicting interpretations of its identity and the practices it undertakes. As an organisation that runs two zoos, it has been part of a long evolution of zoos from menageries to strongholds of captive breeding and conservation.

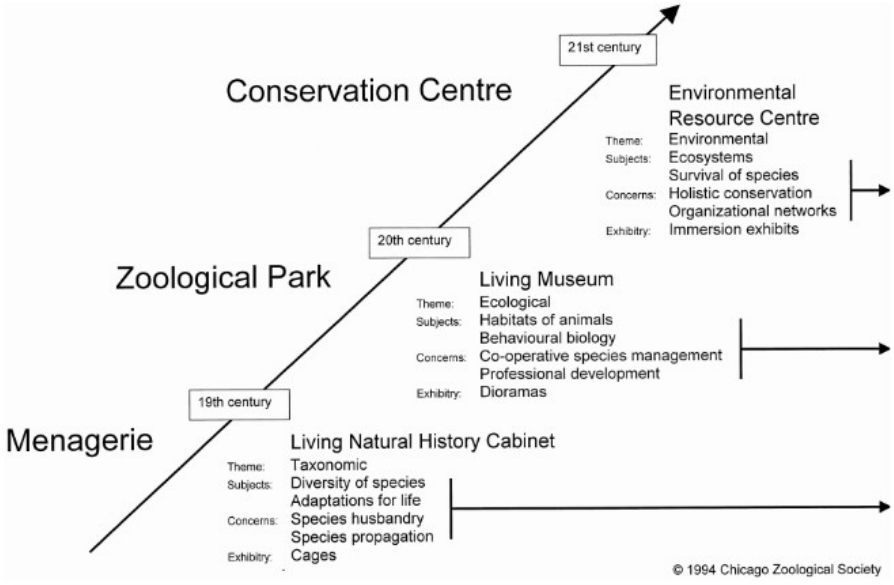

Figure 3: Diagram of the evolution of zoos and aquariums, Chicago Zoological Society (1994) cited (Rabb and Saunders, 2005)

Figure 3 demonstrates how like many zoos it has evolved over the last two centuries to the present day where there is increasing evidence of being aligned to a mission to support education (Moss et al., 2014, Thomas, 2016), conservation (Zimmermann et al., 2007) animal care (Hosey et al., 2009) and research (WWF, 2016) However, zoos have consistently been criticised in the literature over the same areas for example (Moss and Esson, 2013, Clubb and Mason, 2002). Because of this ongoing debate, ZSL, like other zoos and aquariums find themselves with a difficult dual identity of being sites for visitor attraction yet with a key purpose of biodiversity conservation.

As a conservation organisation, it must also situate itself within a busy landscape of other institutions whose focus is the mitigation of biodiversity loss. The organisation in this study is relatively large in the sense of is geographical reach but sits between the likes of the BINGOs (Big NGOs) such as WWF, CI, TNC and WCS (Dowie,2011) and the small grass roots locally run initiatives. Regardless of size, the remit of conservation

organisations is undeniably complex, geographically extensive and culturally diverse. The Wildlife Conservation Society (WCS) is closest in structure to the study organisation, as it runs four zoos and an aquarium, as well as working on a range of conservation projects and programmes, albeit on a much larger scale than the study organisation.

As they operate currently, zoos are a major force in terms of practices around biodiversity conservation (Tudge, 1992). Zoos have long formed alliances and working relationships with other conservation organisations. One such relationship is with the International Union for the Conservation of Nature (IUCN). Partnering with the IUCN allows close working relationships to the ecological focused commissions such as the species survival commission and social focused commissions such as Commission for Communication and Education (CEC) and Commission on Environmental, Economic and Social Policy (CEESP). This organisation also has close ties to the IUCN's Conservation Planning Specialist Group (CPSG) which now strives to integrate social considerations into its planning processes.

Another alliance involving this organisation formed under the umbrella of United for Wildlife, and under a common purpose: to create a global movement for change. This was an unprecedented collaboration between seven of the largest international conservation organisations (Conservation International, Fauna & Flora International, International Union for Conservation of Nature, The Nature Conservancy, Wildlife Conservation Society, World Wildlife Fund-UK, the Zoological Society of London), brought together by, and supported the Royal Foundation.)

The Zoological Society of London is externally governed as a zoological collection at several different nested levels. Nationally through compliance to the SSMZP (Secretary State Standards for Modern Zoo Practices) of the zoo licencing process and the membership standards of BIAZA (British and Irish Association of Zoos and Aquariums), and at a regional level through compliance of EU directive and through accreditation to EAZA (European Association of Zoos and Aquaria). At a global level, the organisation is a member of WAZA (World Association of zoos and Aquariums). Whilst being mainly animal focused, zoos and aquariums are social spaces which millions of people visit annually. Consequently, there are guidance, standards and strategic directions which focus on people's understanding, attitudes and behaviour towards the natural world (Thomas, 2016)

Zoos and conservation connect on many levels and the One Plan Approach tries to align and reconcile the *in-situ* and *ex-situ* efforts to makes them stronger than the sum of their parts (Byers et al., 2013). From a social perspective, there is more work to be done to realise the potential of the experience held within zoos and aquariums and how they can contribute to the enhancing practices in the social dimensions. Zoos are strongholds for protecting endangered species, social spaces where millions of people visit to learn about and connect with biodiversity, powerful advocates / actors for *in-situ* and *ex-situ* biodiversity conservation.

2.5 Personal context

My personal background is that I have an undergraduate degree in Zoology and postgraduate qualification in teaching, learning and education. I have worked in zoos and aquariums for the last 15 years. Because I have training and experience in both the

biological and social domains this aided my perspective and interest in this kind research project. I joined ZSL in 2011, and my current role is the Head of Discovery and Learning. I am part of the senior management team in the Zoological Directorate, but I have attended and contributed to the programme managers meetings in the Conservation Programmes and the People, Wildlife and Ecosystems theme meeting in the Institute of Zoology. There I learnt about a range of different science and conservation projects and programmes undertaken by ZSL.

As a uniquely situated UK zoo-based conservation organisation, the site of this study has science, conservation and education mission elements which combine through projects and programmes in countries around the world and through the practices within the organisations two zoos.

Despite differences in the focal species, the country or continent, there were two commonalities with all the narrative I heard from colleagues which formed the impetus for this research. Firstly, there appeared to be a growing emphasis on the inclusion of people, communities and societal practices in the conservation work undertaken by these colleagues. Secondly, there was a broad perception that both individually and collectively as an organisation, there was not the right knowledge, skills or confidence to design, deliver and evaluate the social components of their projects. I am also in the unique position to be both embedded within the organisation in a post which allow me to cross the boundaries and work collaboratively with colleagues from different areas in the organisation to support them in the social components of their projects and programmes.

Chapter Three: Methods and Methodology

This research explored the social dimensions of conservation within a UK zoo-based conservation organisation. It addressed the following research questions:

1. What are the boundaries of the social dimensions within biodiversity conservation?
2. What practice themes can be identified within the social dimensions of conservation?
3. What are the perceptions towards the social dimensions of conservation at the Zoological Society of London?
4. How does using a practice lens provide a novel way to explore the social dimensions of conservation?
5. To what extent can new knowledge about the social dimensions of conservation be embedded within the Zoological Society of London and the wider conservation community?

The review of the literature highlighted that understanding people and their actions are widely acknowledged as being relevant to conservation, but there are gaps in understanding these social dimensions and how they can be effectively embedded into conservation practice (Mascia et al., 2003). This research attempted to address this gap by gathering data on the perceptions of the social dimensions to locate themes to further understand the boundaries and practice themes of social dimensions of conservation. A theoretical frame was foregrounded using the social practices theories and additionally informed by the

ecological system model. This practice lens brings novelty to the research methodology in conservation but enabled several practice themes to be described and depicted.

Several decisions were taken to shape the research design, methods and methodological framework. Firstly, an early decision was to locate the research within my own organisation, both for interest in the practices of where I worked, but also ease of collecting the data set. Secondly, a methodological decision was made to look at all the conservation projects and programmes collectively to draw out themes within the social dimensions. An alternative would be to take one current project and examine it in detail. However, I was interested in gaining organisational wide perspective of practices, rather than in just one project context. Taking this approach allowed categories of practice to emerge which were application to the whole organisation. Due to the nature of the research problem and the research questions described, an appropriate approach needed to be located that would allow the capture of the rich narrative of the perceptions towards the social dimensions, but also capture a broad range of perceptions from across the organisation. This dual need for both depth and breadth of data gave an early indication that a mixed methods approach could lend itself to this kind of research.

Before embarking on designing, collecting and analysing the data for this research, two important areas needed to be considered. Firstly, the appropriateness of using a mixed methods approach to explore the social dimensions of conservation, and secondly what potential implications taking an insider research stance would have on this study. The next section attempts to answers these questions.

3.1 Mixed method research

Put simply, researchers who use mixed methods employ a research design that uses both quantitative and qualitative data to answer a particular question or set of questions (Hesse-Biber, 2010). The central premise for this combination is that it enhances the value by providing a better understanding of a complex phenomenon than utilizing either approach alone (Creswell and Plano Clark, 2011). Mixed method research is seen as a relatively recent approach to research, but it is increasingly being used and recognised as the third major approach or research paradigm (Johnson et al., 2007). In the social sciences at large, mixed methods research has become increasingly popular and is considered a legitimate, stand-alone research design (Tashakkori and Teddie, 1998, Azorín and Cameron, 2010, Fetters et al., 2013, Greene et al., 1989). To some, truly mixed method research should include both quantitative and qualitative features in the problem identification, design, data collection and analysis (Tashakkori and Teddie, 2003) However, its structure and function is still contested as is how it is described. 'Multi-method', 'integrated' and 'hybrid' are all seen in the literature as alternative names for this approach although 'mixed methods' is becoming the preferred term (Creswell and Plano Clark, 2011).

Mixed methods research is often used in response to the organisational, political and interpersonal challenges that mandate the use of multiple tools (Greene et al., 1989) With this research problem being complex, a key strength of mixed methods research is its methodological pluralism, which frequently results in research which provides broader perspectives than those offered by mono-method designs (Azorín and Cameron, 2010) "*Words, pictures and narrative can be used to add meaning to numbers*" (Johnson and Onwuegbuzie, 2004) Using mixed methods as a way to triangulate and validate data is

another of it strengths Denzin (1978) defined this triangulation as "*the combination of methodologies in the study of the same phenomenon*" Using this triangulation approach his contention was that "*the bias inherent in any particular data source, investigators, and particularly method will be cancelled out when used in conjunction with other data sources, investigators, and methods*" and "*the result will be a convergence upon the truth about some social phenomenon*" Through this process convergences, inconsistencies and contradictions can be uncovered. The data is richer and can tell a more complete story about the social phenomenon under examination (Cohen et al., 2011, Greene et al., 1989).

This use of methodological triangulation of the outcomes from the interviews and the surveys is one way to deal with potential bias in the research which would be more likely if only one method to collect data was employed. (Cohen et al., 2011). Using triangulation compares information from multiple sources to determine corroboration through a process of cross-validation, which results in reliable inferences. Other forms of triangulation such as investigator triangulation, where an additional researcher examines the same data to establish inter-observer reliability was not deemed appropriate for this study due to scope of this research along with the researcher's time and resource constraints. The same justification applied to other approaches to dealing with bias I considered but rejected such as triangulating data from ZSL and other conservation NGOs or conducting a longitudinal study collecting data from the same participants over time.

Despite these advantages of conducting mixed methods research, there are several challenges that need to be considered. Skills, time and resources to design instruments, collect data and perform analysis from both the quantitative and qualitative approaches is a challenge (Creswell and Plano Clark, 2011) and something that should be considered

before embarking on using a mixed method approach. Critics of mixed method research indicated that researchers who try and combine the two methods (quantitative and qualitative) are doomed to fail due to inherent differences in the philosophies that underlies them (Tashakkori and Teddie, 2003). In this research, the following from Tashakori and Teddie (1998) summarises both the motivation for topic and methodological framework for this thesis:

> " *Study what interests you and is of value to you, study it in the different ways that you deem appropriate, and utilize the results in ways that bring about positive consequences within your value system*" (Tashakkori and Teddie, 1998).

The decisions I took to create a research strategy that would not only answer my research question, but also fit into my personal position within the organisational and research context. This research aimed to seek new insights into the social dimensions of conservation and therefore took an exploratory route to gather perceptions from colleagues. With this mind, an "*exploratory mixed method approach*" was selected Creswell and Plano Clark (2011). This approach allowed the research problem to be explored from multiple perspectives. To employ an qualitative phase gave me the rich thick data (Geertz, 1993) that allow the constellation that is involved in individuals and organisational practices to be uncovered. The quantitative phase allowed this data to be reified by a wider cohort. It is should be acknowledged that throughout, there was informal consultations with colleagues that assisted with the sense checking that the themes uncovered where pertinent to both the focus of the research – both conceptually and practically.

3.2 Social constructivist researcher

In addition to thinking carefully about the methodology chosen for this research, I must acknowledge how my philosophical stance and my position as an insider researcher has informed how I structured the research design, collected, analysed and presented the data. Additionally, possible ethical and methodological implications and how my position potentially influences the research process need to be considered.

Firstly, to consider how I perceive myself as a researcher draws on the review of the theoretical context, which centres social constructivism is the clear stance throughout this research. Through this theoretical frame, both knowledge and meaning are social constructed through interactions with others (Young and Collin, 2004, Berger and Luckmann, 1991, Vygotsky, 1978). As a researcher guided by this constructivist paradigm:

> *"knowledge is socially constructed by people active in the research process and that the researcher should attempt to understand the complex world of lived experiences from the point of view of those that live it"* (Schwandt, 2000).

I am intertwined with the research, and cannot be separated from it, due to being employed in the site of the study, undertaking recurrent interactions with colleagues and being embedded in the culture of the organisation. The epistemological assumptions in this study are that myself as the researcher and the participants are interlocked in an interactive process – that we influence each other recurrently over time. The way that I and my research participants socially construct knowledge is bound to our daily working routine practices. It would be practically problematic to take an isolated and objective position to conduct

this research and taking that stance would lose the depth and richness of the data being gathered.

The ontological assumptions are that in a constructivist world, when thinking about a specific phenomenon, such as social dimensions of conservation, it needs to acknowledge that this phenomenon means different things to different people. The goal as the researcher is to understand the range of meanings made by the participants to make sense of this social phenomenon from a broad range of perspectives. Taking a constructivist position allows for a more personal and interactive mode of data collection. However, there is recognised caution concerning personal research bias and limiting the pre-exiting assumptions and personal values cloud how the data emerges from this study.

Constructivist methodologies assume that the research can only be conducted through the interaction between and amongst the researcher and the respondents (Lincoln and Guba, 2000). This hermeneutical approach allows the researcher to obtain multiple perspectives on one focal topic that allow the emergence of a better interpretation of meaning. The meanings produced can be then be compared and contrasted allowing key themes to tested and strands of consistent meaning to be foregrounded.

3.3 Insider research

The term ‘insider research’ is used to describe where the researcher has a direct connection with the study setting (Robson, 2011). This study has an insider researcher dimension which needs to be examined and justified as part of the methodology. Researching from the inside can have potential intended and unintended consequences, meaning a researcher needs to acknowledge their position as an insider and navigate carefully during the research

landscape. Deciding to undertake a study directly concerned with the researcher's work setting is becoming increasingly common (Robson, 2011). Insider research has both a number of attractive advantages and unique dilemmas for the researcher, which are practical, epistemological, ethical, theoretical and methodological in nature. Work based research allows the researcher to be an exceptional position, to study an issue with depth, with prior and rich knowledge of the research context. The easy access to the people and information can allow further enhancement of this knowledge around the issue.

The situatedness and context is an important aspect to acknowledge and foreground when researcher from the inside. (Costley et al., 2010). All organisations have their own special complexities and tensions. Some work issues are beset with paradoxes and ambiguity, but an insider is often able to unravel and comprehend the intricacies and complications (Costley et al., 2010). Bourdieu calls it '*having a feel for the game and hidden rules'*. (Bourdieu, 1988). Being an insider researcher on this project was a fascinating process. I was in this privileged position to see the research problem from both an objective researcher's perspective and that of a subjective employee. Feeling emotionally connected to the research and the participants is expected as an insider (Sikes and Potts, 2008). Participants are seen both sources of valuable data and colleagues who are embedded in a shared setting, and as actors in an organisational network (Smyth and Holian, 2008).

The initial driver to choose an insider research context was for pragmatic reasons. As someone who was conducting their PhD research in their own time, it was an attractive rationale to keep my research focus closely nested within my work location. As the research design started to take shape, there was a personal transformation in the motivations to undertake such a study. The research design highlighted clear connections between the data

gathered and the possibility of implementing tangible and positive changes within my own organisation. This duality of both research and practice implications arguably one of the key advantages of conducting insider led research (Costley et al., 2010, Mercer, 2007).

The advantages as an inside researcher are that data was readily available with recurrent access to potential participants and the researcher has an intimate knowledge of the context of the study and is embedded within the organisational culture.

This insider position also allowed the development of the study to be co-constructed with colleagues to garner both an interesting focal to the research, but also one which would be of use to the organisation and not just viewed as a purely academic pursuit. A level of trust was constructed with the participants, which may not necessarily possible with an outsider. The honesty and transparency in the opinions and narratives given suggests participants wanted their voices to be heard, but trusted that I would represent their views in a sensitive an anonymised format.

Despite there being a growing interesting in undertaking work based research, there is relatively little attention given to unravel the unique epistemological, methodological, political and ethical dilemmas (Mercer, 2007). Additionally, there are several challenges that face the inside researcher. Critics of this mode of research say that the researcher is too close, too emotionally invested in the setting to be objective (Brannick and Coghlan, 2007). Others argue that the "*dual role of investigator and employee are incompatible , and they might place the researcher in an untenable position*" (Morse, 1998). Others agree that insider research can be problematic. It is not perceived to conform to the traditions of intellectual rigour and is frequently disqualified.

Tensions for insiders exist between their professional practitioner and researcher identities. A practitioner is actively involved in the organisational interactions whereas the researcher needs to objectively examine the evidence. This tension, which Mercer (2007) describes as a '*double edged sword'* exists in all inside researchers and there is a question about whether a researcher critical stance may undermine expected loyalty to the institution (Sikes and Potts, 2008). These multiple identities that inside researcher possess (Mercer, 2007) are challenging to the research process, how the data is revealed and how recommendations are made. Insider educational research is expected to conform to the same ethical standards as any research (Floyd and Arthur, 2012). However, when the research participants are colleagues and friends, the nature of the research can be personal (Floyd and Arthur, 2012). After describing and defending the selection of the methodological framework and how being an insider researcher will likely influence the research process, the next sections will describe how the data were collected, analysed and presented.

3.4 Data Collection

Framed as exploratory, inductive and informed by a grounded approach, (Glaser and Strauss, 1967) the methods for data collection were first shaped by a series of informal conversations with colleagues. Glaser's (2001) contention is that '*All is data'*, and this resonated as pieces of intelligence were collated about the social dimensions. Prior personal knowledge, along with informal consultative conversation during organisational meetings helped to identify potential strands of enquiry within the research context.

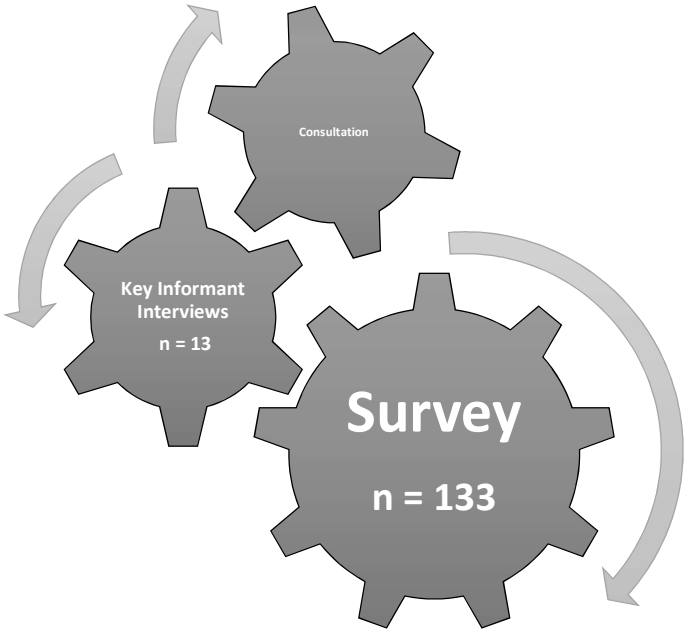

Figure 4 : Diagram of the relationship between the different phases of the data collection

Choosing mixed methods allowed the research design to have a combination of the distinctive strengths of each approach. Different kinds of data were collected through each phase, then they synthesised during the analysis to produce consolidated results. A quasi-sequential approach was used, and Figure 4 shows the flow of the research process; from informal consultations, to qualitative key informant interviews and then leading to a quantitative based online survey.

Ethical approval was gained for both phases through the Lancaster University research ethics committee. Informed consent sections were included in both the key informant interviews and the online survey. This ensure participants understood basic details of the project, that their involvement was voluntary, they could withdraw at any point and their data and identity would be protected. All digital data was stored in a password-protected

folder on the organisation's server and any printed materials were stored in a locket cabinet (Cohen et al., 2011). This complies with the Data Protection Act (1998) and standards ethical research practice (British Educational Research Association, 2011).

3.4.1 Phase One: Key Informant Interviews

Key informants are " *individuals that share information*" (Gilchrist and Williams, 1999). This information can be multisensorial, contextual, emotional, social, spiritual and cultural. Not all individuals make a good key informant. They must possess special knowledge or provide the researcher access to a perspective or observations on the research problem (Gilchrist and Williams, 1999). They can be conceived as translators both literally and figuratively. They are selected for their knowledge, but also their inclination to share this information with the researcher. Using key informant interviews to gather data is both pragmatic and efficient. Not all employees need to be interviewed as by selecting the right key informants, a few people can give their own and organisational wide perspective on the social dimension of conservation. A small number of people can give a rich picture of the research issue and organisational landscape. I was mindful of both selection and sample bias (Cohen et al., 2011) but the scope, focus and exploratory nature of this research leant itself to gathering data from a number of key individuals and using that data set to allow the themes emerge.

Using a key informants approach was appealing as the participants could talk about their own perceptions and experiences, but also make broader statements about practices in their teams, reveal thoughts about the organisation and how the organisation fits into the conservation community. To choose a structured individualistic focused interview would

not have given the richness of data due to their prescriptive nature and would have excluded the wider, inductive perspective that I wanted to include.

Recruitment of key informants was done through drawing on information from the conservation directorates organisational chart. Using the seven different teams, all UK based members of staff were listed in a table taking note of their different levels of positions. Then 2 to 3 people in each team were selected from the different levels of seniority. By using this method of heterogenic grouping, it allowed for all teams and levels of seniority to be represented. A total of 15 participants were invited to participate in a key informant interview. All had been employed at the organisation for more than a year, with the longest serving having 30 years' service. Email invitations to participate in the study were sent to the selected colleagues along with a project description. Out of the 15 invited, only two declined due to being unavailable during the desired interview period, however their level and team remained represented by other participants. Each participant that agreed to take part was sent an informed consent form, a brief outline of the project and what their role would be in the research.

Based on the initial conversations with colleagues, some general themes of discussion were crafted for the interview stage. The decision was made to start the key informant interviews with two of the most senior and long serving staff in the conservation department. As well as piloting the key question areas, they were invited to give additional insights to any aspects of social dimensions of conservation they felt should be researched within the organisation. As well as key informants, they were key collaborators, as they both knew the conservation and organisation landscape very well. In their interviews, they usefully highlighted the need to not only look at the conservation projects in the field and their

associated components, but they both talked about the need to look at the entrenched organisational practices and how they influence individuals, teams and the approach to conservation.

The remaining interviews were arranged at the interviewee's convenience and all lasted around one hour each. They were all digitally recorded and transcribed verbatim. There were ten questions I asked during the interview. The first question was a broad descriptive question that asked them to describe what they saw as social aspects in their projects. Each subsequent question got more focused around specific aspects of social dimensions, and I asked additional clarification questions which varied between participants (see Appendix 1 for key informant question guide).

Through the interviews, I was aware that I was as much part of the process as the informants. We jointly constructed a reality, and one that is first filtered by the informant, and then secondly via the researcher make meaning through interpreting the narrative provided. In addition, I was aware of my own subjectivity, that I brought my own agenda, values and biases on the situation. However, adopting a critical perspective on this allowed a balance to be achieved between rigor and feasibility. Awareness that the sources of information gather could hold biases and likely effect the data collected. Recruiting and interviewing more than one informant, and from different levels and teams allows for triangulation and themes from multiple informants. This, along with the mixed method approach gathers data from multiple sources and perspectives. My role as the researcher is to glean the relevant themes and synthesise them into organisational wide results and conclusions. Time and resource prevented the data to be reviewed by independent researchers, so I had to be mindful of how I alone collected, handled and analysed this data.

One interesting unintended consequence that came out of the interview was that at the end of the interviews, when I asked if there anything else the participant would like to discuss outside the interview schedule, three of the interviewees asked for my opinion on some social dimensional aspects on current projects they were working on. By conducting the interview, the relationship between the interviewer and interviewee have changed. Gilchrist and Williams (1999) stated that:

> "*It behoves the researcher to consider beforehand how their relationship with key informants may change informants as well as themselves and their research philosophy*"

Change did happen between the informants and myself, in our day to day conversations and how they collaborate with me on projects. Essentially because of our time in the interview, I knew more about their working context and how I could support them in the social dimensions, but they also knew more about me and my research and practice interest, so contacted me more about working on aspects of their projects.

3.4.2 Phase Two – Survey

Initial themes that emerged from the key informant interviews were used the online survey instrument. The survey was designed with four sections. The first section was concerned with informed consent and basic classification questions – i.e. gender and department within the organisation. The other three sections were concerned with social research practice, social intervention practice and organisational/conservation practice (See Appendix 2 for survey).

The questions were interested in exploring practices within the social dimensions. They were also designed with an organisational scope in mind. For example, there was a question:

> "*Social science covers a broad range of disciplines which the ESRC lists in the following categories. Please rate how useful you find each one in helping you to complete your (organisation) projects.'* (a brief explanation of each category is provided)

The word useful is deliberate to denote a practical use rather than a general interest or relevance.

For the question around social research methods, descriptions of each method were taken from Bennett and Roth (2015) to give participants further understanding of the terms used. This question asked:

> *'Please tick how frequently you or your immediate team have used the following social science research methods on a (*organisation*) project within the last 3 years."* (a simple definition of each method is provided)*'*

This question also demonstrates two key features used in the survey using the phrase '*you or your immediate team'* allows a wider perspective to be captured in the response. Additionally, using the phrase '*within the last 3 years'* given a timeframe to locate their responses.

Table 1 shows the different types of questions used in the survey, and their purpose.

Question Type	Number	Answer type	Purpose
Ethical consent	3	Specific single response	Gain ethical approval
Respondent characteristics	5	3 – specific single response, 2 - written	Identify respondent variables
Multiple choice	4	3 – multiple responses available, 1 – specific single choice	Gather use and frequency of use of aspects of social dimensions of conservation
Opinion statements	30	Likert type scale (*Strongly agree to Strongly disagree*)	Gather respondent opinions about social dimensions

Table 1: Question types for the online survey instrument

As my research focused on gathering colleagues' perceptions on social dimensions of conservation, the majority of the questions were opinion and attitudinal in nature. Likert scale format (Likert, 1974) was employed where the question consisted of a statement and respondents were asked to what extent they agreed or disagreed with a specific statement. After each question, there was space for respondents to add in additional comments if desired. At the end of the survey was a space for any other comments, which allowed respondents to offer their thoughts and opinions outside of the constraints of set choices of answers.

The survey was designed using SurveyMonkey. An online data collection method is appropriate for a large number of respondents over a wide geographical region. An online tool also provides anonymity, collates and presents data ready for analysis.

The survey evolved over several iterations. Initially, I drew up the questions and recruited several colleagues to pilot the survey and give feedback on the use and usability of the instrument. This was one of the most important stages in my research process. The cyclical process of integrating the feedback into my survey allowed me to refine an instrument that could be easily completed. In a survey if the questions are ambiguous, assumptive of prior knowledge or uses language or dialect outside the respondents, then the instrument is unlikely to be completed.

The questionnaire was sent to all colleagues that are involved in biodiversity conservation projects and programmes in some aspect of their work. This includes the teams involved with science, veterinary services, senior staff in the animal department and the discovery and learning department. As the survey had a question asked for respondents' departmental location, I could choose to segment the responses if desired.

This quantitative phase of the research aimed to collect organisational wide perceptions on the social dimensions of conservation. The organisation has its central office in London, UK, but has several hundred staff based overseas in over 50 different countries. The survey was sent out through an email link by the researcher. It was sent to 433 individuals who were either organisation employees, or students undertaking PhD and or MSc courses at ZSL. The survey was open for a three-week period and a reminder was sent three days

before the deadline to all potential respondents. A total of 133 respondents completed the survey.

At the end of the two phases, I had data from key informant interviews and the online survey. Through appropriate analysis I synthesised the data from multiple sources to produce several practice themes

3.5 Data analysis

In mixed methods research, the way data is analysed involves techniques that consists of analysing qualitative data using qualitative methods and analysing quantitative data using quantitative methods. In addition. a mixed analysis of the qualitative and quantitative data and results can be undertaken. The approach to analysis is dependent on the research questions, but by selecting the right approach to analysis, the researcher can represent, interpret and validate the data and results (Creswell and Plano Clark, 2011).

3.5.1 Key informant interviews

After each of the interviews had been transcribed, I sorted the 13 interviews by question. This allowed me to have 13 perspectives on the same question. A thematic analysis approach was used to analyse the data (Braun and Clarke, 2006, Aronson, 1995, Agresti and Kateri, 2011). This process was inductive and cyclical, and informed by a grounded approach (Glaser, 2001), to allow the categories and theme to emerge from the data. Progressive focussing (Strauss and Corbin, 1994) was used to collate the different items into practice themes along with associated quotes from the narrative. This approach was chosen rather than a more in depth dialogical, content analysis as this thesis was focused on the social practices as the unit of analysis, rather than the individual. Once all 10

questions had been analysed, I draw all the key areas together to produce an initial thematic map of social dimensions themes that emerged from the data. These themes, and associated sub-themes informed how the survey instrument was constructed.

3.5.2 Survey

Once the data from the survey was collected, it was first examined and cleaned. This processed involved removing any data sets where the respondent had not gone past the first page of informed consent and demographic information. I also checked the IP addresses to see if there were any replications. I could verify this by checking their demographic information to ensure an individual had not completed the survey twice. There were some data sets where they had not completed the last section of the survey, however, as they were 'unique' respondents. I kept their uncompleted surveys in the analysis mix as there was still data that could be included from the earlier sections

Directorate	Number emailed with the survey	Number of responses	Response rate
Institute of Zoology (IOZ) (staff and students)	186	52	27.9%
Conservation Programmes – (CP) UK staff	61	27	44.3%
Conservation Programmes - (CP) Overseas staff	149	33	22.1%
Zoological	32	21	65. 6%

Table 2: Table to show the response rates of online survey

The survey was administered online through SurveyMonkey. I was thus able to run analysis reports through this platform. For the questions on use of social sciences, social research methods, purpose of social interventions and methods of interventions, I ranked the responses to give a numerical and visual picture of which categories held the highest use within the data.

For the opinion statements, I analysed the data in the following three ways:

- A descriptive analysis which indicated what percentage of respondents agreed or strongly agreed with each statement
- A mean value was calculated to establish a mean value for each of the opinion statement. As a reminder of the mean score scale: 1= strongly agree, 2 = agree, 3 = neutral, 4 = disagree and 5 = strongly agree.
- The non-parametric Kruskal-Wallis test (Field, 2005) was employed to look for any significant differences in attitudes between participants from the different organisational work areas. The non-parametric approach was used because some of the data deviated slightly from the assumptions required for standard parametric techniques. (A reminder of the five work areas are called: Zoological, CP UK, CP Overseas, IOZ staff and IOZ students)

This latter phase was performed to establish not only the collective perceptions of the respondents, but also to ascertain if there were any significant differences in the opinions from the different organisational work areas. Once the survey had been completed and

initial analysis had taken place. I returned to the initial themes and merged in the survey data, building on, then refining back the themes until the they were stabilised.

3.5.3 Anonymity

An issue that needs to be considered with this research is to maintain confidentiality and anonymity throughout the research process. It is imperative that any narrative I used to illustrate my results of the analysis will remain anonymous. This is especially pertinent with the research being located within my own organisation, when even with the names removed, word, phrases and opinions maybe identified by other colleagues. For each of the quotes, I did not use any narrative that could be attributed to the specific team or a specific set of projects within the organisation. The research is not about individuals, or their projects, but more the themes around the social dimensions that are foregrounded through the research process.

The other issue to overcome is if the respondents reveal any sensitive or controversial information during their interview or via the survey. Their views need to be anonymised and as an employee of the organisation, I wanted to ensure that any of the quotes used would not damage the individual's or institution's reputation. As an insider, I feel that respondents gave me a very truthful and transparent account of practices within the organisation associated with conservation. My job as a researcher and a colleague is to maintain academic rigor but be aware and sensitive to these issues.

Chapter Four: Results

4.1 Introduction

This chapter outlines the key research findings from both the qualitative and quantitative phases of this mixed method study. Analysis of the interview and the survey data have been synthesised for presentation in this chapter. The aim of this research was to locate themes around, what are, and what factors shape the practices associated with the social dimension of conservation. Thematic analysis has allowed the data to be merged, built upon and progressively focussed to produce the following practice themes. As eluded to in Chapter One and Two, an ecological model (Bronfenbrenner 1979) is a useful framework to think about how the different manifestations of social practises in conservation. For this reason, and for ease of the reader to follow, the results will be presented using this system model, and from an individual level to global perspective in this chapter. I created this conceptual model based on the subsequent themes detailed in this results section. It gives a visual description of the system and constellations that exist for practices with the social dimensions of conservation.

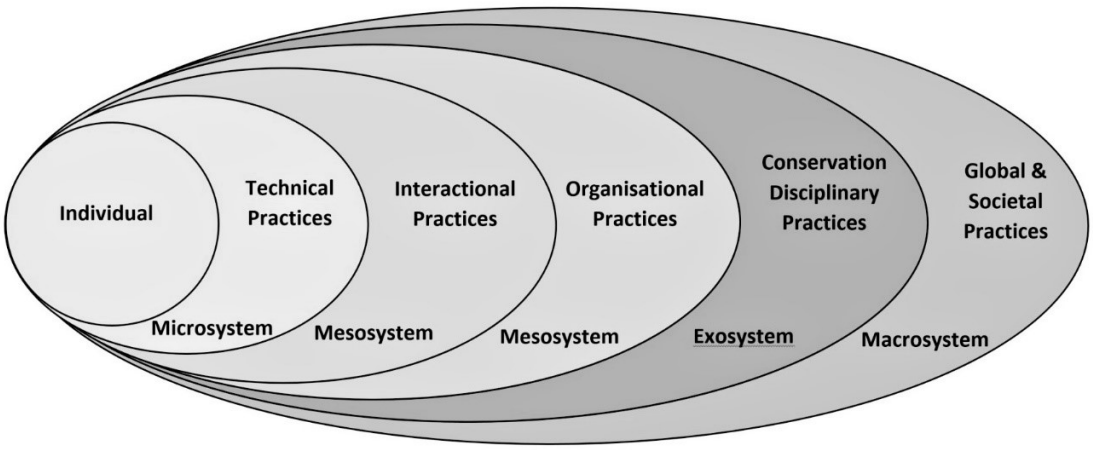

Figure 5: Diagram of the conceptual model for the ecological system of practices within the social dimensions of conservation.

Being informed by Brofenbrenner's model, Figure 5 above shows a visual conceptualisation of the layers that emerged from the data and exist in the social dimensions of conservation.

From the research, each layer in the system has been given a frame which are listed below:

Microsystem – includes both the individual conservationist, and the technical practices such as social: research, interventions, planning and policy

Mesosystem – provides interconnections between the microsystems. Here, it includes the interactional practices which include communication, collaboration, social relationships and conflict. It also includes organisational practices which provide a wider approach to these interconnections.

Exosystem – lies outside the individual's immediate context, but still has an influence on practices. Here, this includes the conservation community and other conservation disciplinary components,

Macrosystem – includes social, political and economic contexts from a global perspective.

Chronosystem – encompasses time as component that relates to the other four systems. This can include power historical influences or the notion that individuals will change over time. (this is not represented in the Figure 5 but is seen as an important factor in this system)

The quantitative data from the survey will be presented in two formats, using both the descriptive and inferential statistics. Description of the opinion statements will be presented both as a percentage, and as a mean value. As a reminder of the mean score scale: 1= strongly agree, 2 = agree, 3 = neutral, 4 = disagree and 5 = strongly agree. The results from the Kruskal-Wallis tests will also be listed investigate any significant differences in attitudes between participants from the different organisational work areas. The themes emerged informed by a grounded approach and are a result of categorical analysis. Verbatim quotes are used to both illustrate and to evocatively capture the tone and content of key segments of the interviews with the longer quotes indented.

4.1.1 Demographic of study participants

From the systematic recruitment process described in 3.4.1, thirteen key informants were interviewed. To protect participants anonymity, only a summary of the group profile of these key informants is given in this thesis. The key informant cohort comprised of three males and ten females. Each Key Informant (KI) was given a unique code as a proxy for their name - KI1 to KI13. These codes were used to identify and track each key informant illustrative quotes in the results section. All the key informants had been employed at ZSL for more than one year. Their years of service in the organisation ranged from one year to more than 30 years. Their seniority ranged from Head of Departments, Programme

Managers, Project Managers to Technical Specialists and Project Co-Ordinators. There was at least on representative from most of teams within the conservation programmes directorate, including Marine and Freshwater, EDGE, Africa, Asia, UK and Europe, Business and Biodiversity and Conservation Technology. This ensured a broad coverage of perceptions from colleagues working on a wide range of projects and programmes.

In addition, other colleague's names, specific project titles or species that could be used to identify the respondents has been omitted from the narrative. The different directorate names and the name of organisation have not been omitted or changed

For the online survey, 428 email invitations were sent and 133 were returned over a three-week period. This gives a response rate of 31%. A higher response rate lowers the impact of non-response bias, where the views of respondents differ from those who did not complete the survey (Fowler Jr, 2013). Despite the response rate being less than 1/3 of the colleagues targeted, Table 2 (in 3.5.2) shows how the total number of those responded are equally representative of the departments surveyed which according to Cook et al (2000) is more important indicator of validity than response rate. Table 2 shows that response rate varied from 22.1% for CP overseas staff to 65.6% for Zoological staff. Reported reasons for the low response rate in the overseas group was slow internet speed and not being in regular contact with emails during the three-week survey window. Attrition occurred during the survey questions with 133 responding to the initial questions and reducing to 112 respondents for the last questions. Respondents were checked for uniqueness, meaning all the semi completed surveys in the cohort were included as it would still glean useful data from those questions that were completed.

There was an even gender balance in the 133 respondents, with 66 females and 67 males. The gender of participants and the responses they give to the survey was not designed to be a focus of the research, but the statistical analysis tests were run to investigate if there was a clear pattern connected to gender in the responses. The results showed no consistency with only five opinion statements showing any significant difference between males and females. Table 3 give details of the opinion statements that suggest a significant difference between genders. As there appears to be marginal differences with no clear pattern, and due to self-imposed limits of the remit of this thesis, I decided not to progress this variable further in the analysis and results of this thesis.

Opinion statement	Mean Female	Mean Male	Kruskal Wallis Test
As an organisation, I think that ZSL has the necessary staff capacity to meet the current need for social science research in its projects	3.39	2.55	$H= 9.407$, $p<0.05$
In the last 3 years, I feel there has been an increase in the number of funding applications that require a social component (research and/or interventions as part of the project outline	1.76	2.36	$H= 9.400$, $p <0.05$
I collaborate well on projects within my own team	1.50	1.82	$H= 6.404$, $p < 0.05$
Collaborations with people outside my Directorate often begins with conversations in informal settings (such as the staff canteen and the pub)	2.19	2.54	$H= 4.270$, $p <0.05$
There are not enough opportunities for me to informally meet people from other directorates on a regular basis	1.90	2.37	$H = 6.176$, $p = 0.13$

Table 3: Table to show the opinion statements that suggest a significant difference in the responses between males and females

Respondents were asked to identify where they worked in the organisation and the pie chart below shows the five main groups that will be referred to during this chapter. As well as the findings for the whole survey group, this thesis is also interested if there are any significant differences in the responses to the opinion statements from the different directorates.

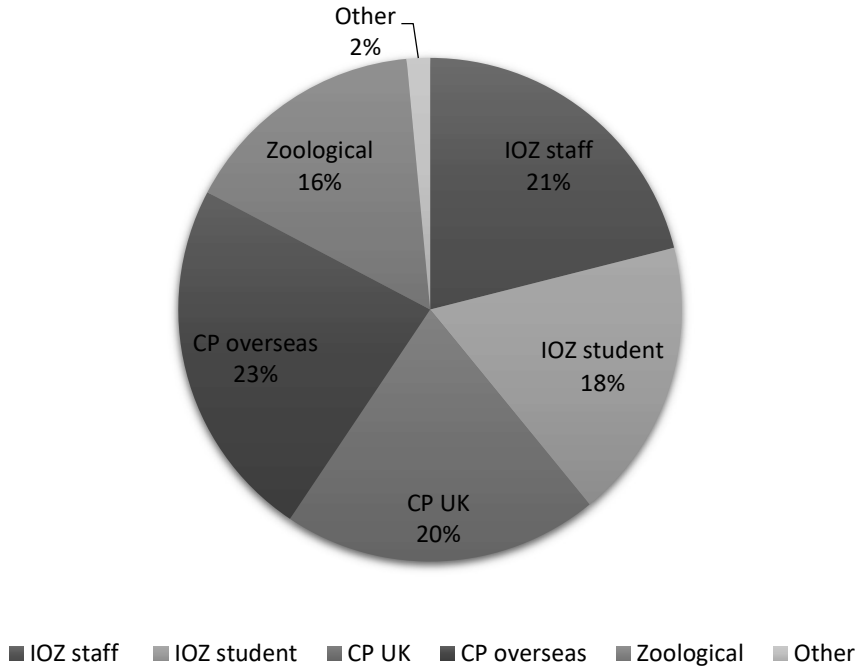

Figure 6: Pie chart of where survey respondents worked in the organisation

Another demographic question asked how many years each of the survey respondents had been employed at the organisation. Figure 7 below shows the breadth of their responses. This question was included to give a sense of longevity and scope of perceptions about the institution but was not used as a variable for the analysis of the data. It was decided by the researcher to be a false indicator of their professional conservation experience – as there were examples where the years of service at ZSL were short but the individual had

significant prior experience working in conservation. It was established that the number of years employed at ZSL was not always the same as the number of years' experience they had working in conservation, and on reflection, this latter question would have been possibly more useful to ask in the survey than the one included.

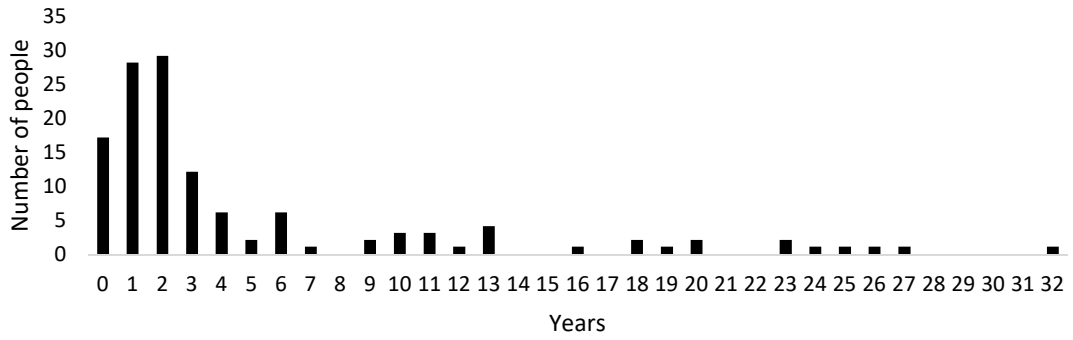

Figure 7: Graph of the number of years employed within the organisation

(0 = less than 1 year employed)

4.1.2 General perceptions of this study

A general theme that emerged from the data was an overwhelming interest in understanding more about the social dimension of conservation. Several colleagues called the study 'timely', with one commenting:

> *"your research is really important. I hope it will result in positive change at ZSL. I hope the social dimensions of conservation "holding pattern" transitions into a much more dynamic as people with increasingly varied, interdisciplinary training become involved in conservation."* (IOZ student survey respondent)

In addition, the complexity of the social dimension was clearly acknowledged with two main aspects identified:

"Essentially there are two components - Interacting within the organisation, cross departmental, and what we do practically in terms of human aspects of conservation". (KI1)

Lastly, there was a general perception that conservation is inherently social and that future advances in the field of conservation need a more integrated and holistic approach.

Practice Theme One – Individual practice perspective

This is the first of six themes derived from the interview data with relevant quantitative descriptive data integrated and centres on the social dimension of conservation from the individual unit of analysis.

4.2.1 People and conservation

Through the data, people and their actions were seen at the heart of the conservation crisis. Their actions were both described as the cause of this crisis, but also their actions were needed for many of the solutions.

"That is why we need conservation, because if we didn't, if there weren't any people we would be natural historians, and we would have lovely time looking at, and counting things. The nature of conservation is about people, I guess is at its core, and with more and more people on this planet, it becomes more and more direct, its less about the edges, its more about every person who are indirectly and directly threatening every aspect, every protected area, every species, every ecosystem services on the planet." (KI12)

4.2.2 Passion and personalities

Repeatedly in the data, conservationists with passion and drive, enthusiasm and intrinsic motivation were perceived as important factors in conservation. Dependency on success

was linked to these individuals with one stating *"in field projects, success often comes down to one person driving it forward"* (KI6). However, others cautioned that projects risk being too reliant on one individual as *"you lose that person, you lose that entire programme"* (KI10). It was debated about having good but homogenous project managers in place as a potential risk of losing the rich diversity of skills and personal attributes of the current workforce. As one respondent pointed out "*Personalities and slight eccentricities is what makes this organisation"* (KI1), and she feared if individuals became homogenised and "*beige*" in their practices it would be disastrous for the organisation.

This tension in the perceived identity of conservationists was echoed by many. One commented:

> *"I'm in the realm of am I more of a manager or am I more a scientist, and it trying to find a balance between doing the science because that's what keeps us here and that the heart and soul of why we are in conservation… and to the fact that at some point you are a manager, and you can be a more effective conservationist if you can bring diverse teams together to really make those changes happen"* (KI10)

Whilst another commented:

> *"For staff working in practical conservation – the majority is about people (communities, stakeholders, staff) management rather than wildlife"* (KI4)

4.2.3 Knowledge resources

Individuals revealed that they draw on knowledge resources from both formal training and lived experiences to inform their practices in the social dimension. Most respondents have

a science-based degree which is illustrated in the Figure 8 which shows the different the qualifications held by survey respondents. The lack of social components within their formal training was reported by many, and this was cited as a gap both individually and within the biodiversity conservation community more broadly.

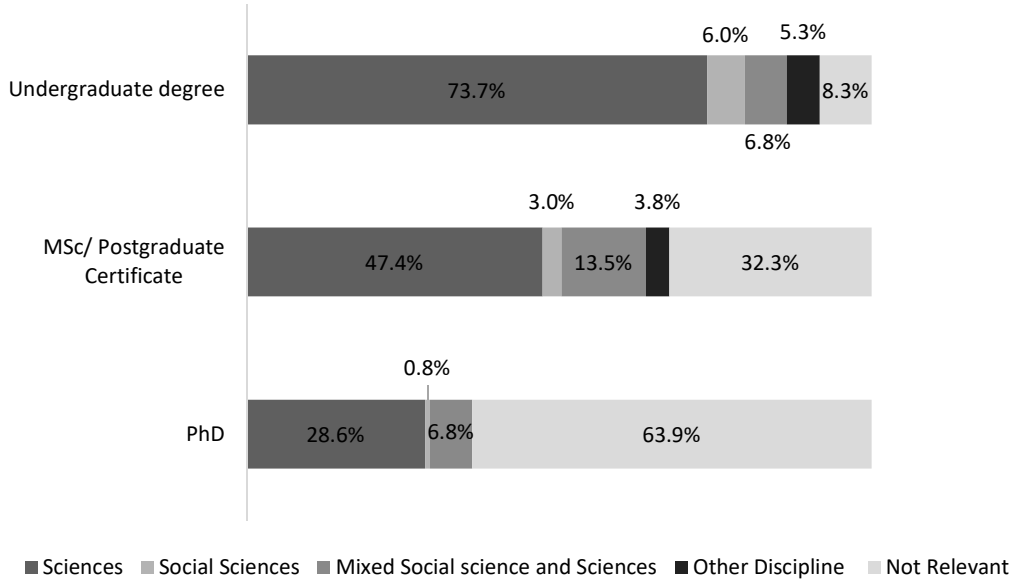

Figure 8: Graph of the qualifications of survey respondents (n= 133)

Not relevant = (tick this is you have not completed, or are part way through this qualification)

There was a general feeling of a dichotomy between those who trained in social or ecological disciplines. One reflected, there are "*different perceptions of what's important and priorities and frameworks for looking at things*" (KI8) between the socially and ecologically trained mind-sets. It was perceived to be struggle for traditionally trained

biologists to cross disciplinary boundaries into the social domain. This was seen by respondents as a constraining factor to fostering a holistic approach in conservation.

The majority of the knowledge resources cited around the social dimension came from prior work experiences. Many felt they still had a lot to learn, but there was a perception that individually and collectively as an organisation their knowledge, skills and confidence in the social dimension had grown over time. These experiences included "*working it out on the job*" and self-lead knowledge resources building. One commented*:*

> *"Certainly, the social stuff is probably the things that I've learnt more of since I've been here (at the organisation). It's the area that I was weaker on and possibly less interested in when I started. Because of the work that I had done previously I hadn't really involved that much, but I recognise that we have to do it, so I've made a conscious effort to read about engaged in discussion on things that are relevant to that."* (KI4)

In response to the survey opinion statement *"The main reason I started to work in this field was because of my interest in the biological side of animal conservation and science, not the human and social components.",* 62.5% agreed or strongly agreed. There was a mean of 2.2, and there was no significant difference observed between the five groups (H=9.184, p=0.057).

4.2.4 Future perspectives

When thinking about the future perspective of individuals working in conservation, there was a general perception that a shift needs to happen away from purely ecological focus. As one commented:

"*I don't think you can be a biologist on conservation any more, I think you have to have that interdisciplinary approach and understanding and empathy and ability to engage with people on all levels."* (KI3)

Many agreed that changes to support the social dimensions had started to happen, but to adequately prepare individuals and the organisation for a future of more socially focused conservation issues, understanding, training and embedding more effective practices around the social dimension was required.

Practice Theme Two - Technical Practices

The second meta theme to emerge from the data is called technical practices. The word 'technical' has been used to describe knowledge, skills and personal qualities required in social science practices associated with: social research, social interventions, planning and policy.

4.3.1 Social sciences in conservation

When thinking about how the social sciences are positioned within their work; 81.6 % of survey respondents agreed or strongly agreeing that *'having a social science component is an essential part of a successful conservation project.'* And 82.4 % agreed or strongly agreed that '*there will be an increase in the amount of (organisation) conservation projects that require a social science component.* For both these opinion statements, there was a mean of 1.7, with no significant difference between the five groups was observed (H= 6.686, p=0.153) and (H=8.548, p=0.073) respectively. One confirmed this strong position by stating:

"Without a doubt, there is a need for broader social science components in the projects and for a broader understanding of social science" (KI7)

Despite this strong reported importance, several key informants commented that the level of social science required was often context dependant, and others voiced their concerns about the organisation being able to meet this future requirement given the current individual and collective capacity. This caution was further illustrated by the two capacity opinion statements below.

Opinion statements about social research practice	No. of respondents	Strongly agree %	Agree %	Neutral %	Disagree %	Strongly disagree %	Not sure %	Not applicable to me %
I do not feel confident in my own ability to conduct the social science research element of my projects	125	11.2	17.6	15.2	31.2	11.2	0.0	13.6
As an organisation, I think that ZSL has the necessary staff capacity to meet the current need for social science research in its projects	125	16.8	19.2	12.8	20.8	13.6	13.6	3.2

Table 4: Table to show the opinion statement responses to social science capacity questions

The data shows there were mixed opinions on individual's social research capacity. The statement '*I do not feel confident in my own ability to conduct the social science research element of my projects' has a* mean of 3.2 with no significant difference between the five groups was observed. (H=1.260, p=0.868)). Similarly, the opinion towards the organisational capacity was mixed. *'As an organisation, I think that ZSL has the necessary staff capacity to meet the current need for social science research in its projects'* has a mean of 2.9, and a significant difference between the CP overseas and the rest of the four

groups was observed. (H=19.704, p=0.01). Figure 9 below indicates that the CP Overseas group more strongly agree with this statement than other groups in this survey cohort.

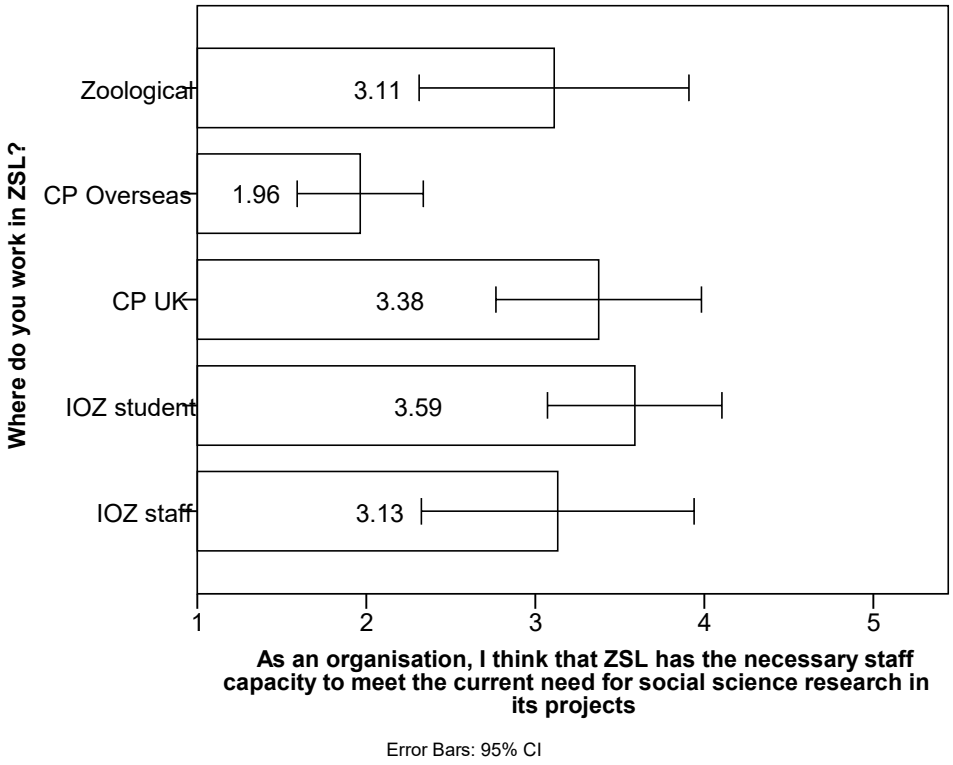

Figure 9: Graph of the results for the opinion statement: 'As an organisation, I think that ZSL has the necessary staff capacity to meet the current need for social science research in its projects'

4.3.2 Use and usability of the social sciences

During the key informant interviews, the social sciences were often referred to as one singular entity – '*the social sciences'* or commenting about working with, or needing '*a social scientist*' This use of a homogenous narrative seen in the interview was the catalyst for the inclusion of a question in the survey which built upon the enquiry around the use and usefulness of the different social science disciplines. Using the ESRC (Economic and Social Research Council) social science categories, the question was asked *'how useful you find each one in helping you to complete your ZSL projects.'* Respondents were invited to choose one of five responses ('very useful', 'somewhat useful', 'not very useful', 'not at

all useful' or not sure) For the presentation of the data, the 'very useful' and 'somewhat useful' categories were collapsed together and the same for the 'Not very useful' and 'Not at all useful'. This gave two clear views – which of the social science disciplines were perceived as being useful and those that were not. The scores for each discipline were ranked to show which were perceived most useful by respondents.

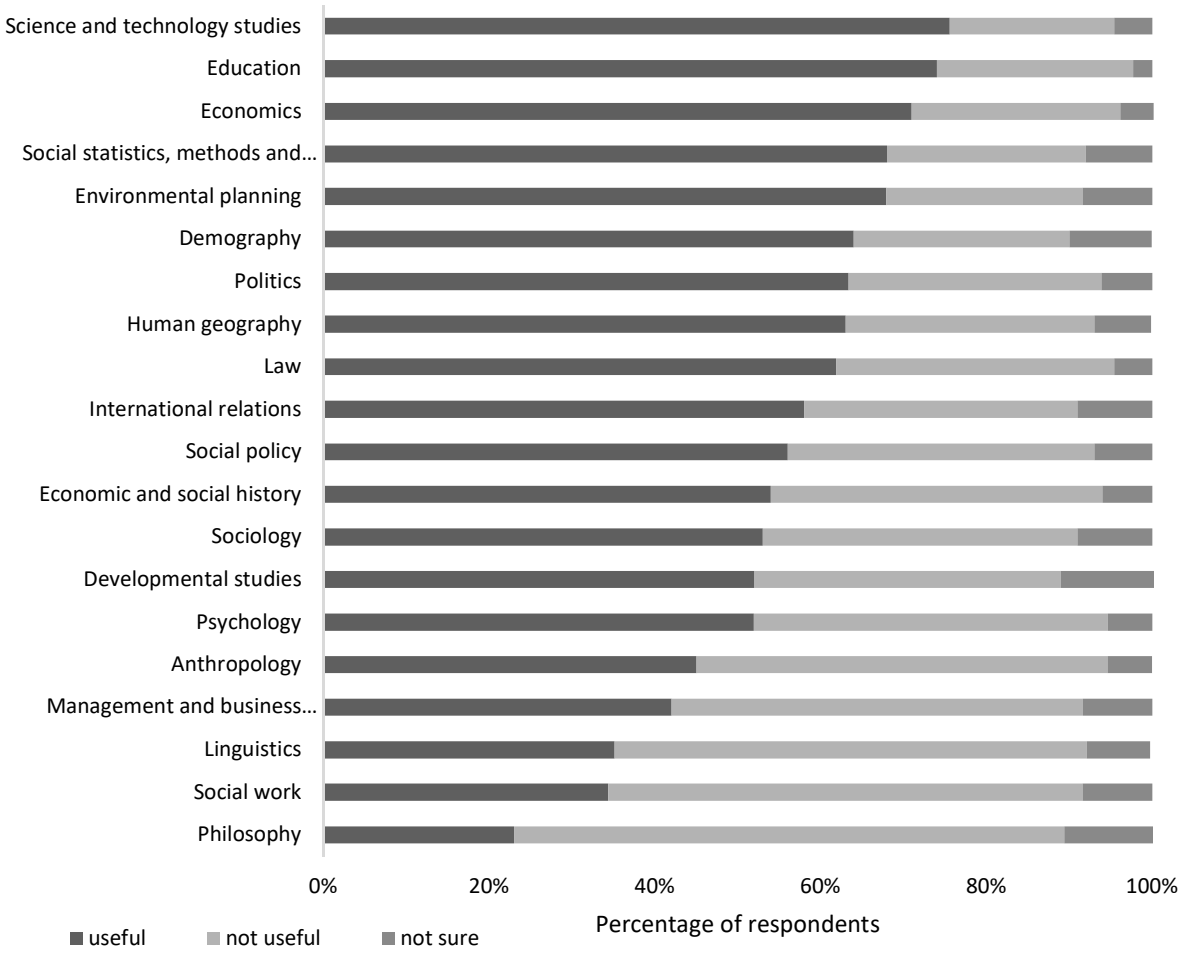

Figure 10 : Graph of the perceived usefulness of the of the social science disciplines (n=112)

Figure 10 shows that science and technology studies, education, economics, social statistics, methods and computing, and environmental planning were ranked the top five most useful overall by survey respondents.

4.3.3 Social research practices

This section looks more specifically at the data which emerged associated with the clusters of practices around social research in conservation.

When talking about purpose of their social research practice, two reasons main reasons were give, – research on conservation and research for conservation. This was illustrated by one interviewee who described:

> "*the two aspects that involve some social aspects are firstly trying to find out about the focal species themselves and then secondly trying to find about people's attitudes etc towards the species and that species habitats."* (KI2)

4.3.3.1 Methods of social research

Another interesting aspect of social research practice is exploring what methods are employed. Using the list of methods cited by Bennett and Roth (2015) the question was asked *'how frequently you or your immediate team have used the following social science research methods on a ZSL project within the last 3 years*.' Respondents were asked to choose one of the following options 'I often use this method', 'I sometimes use this method', 'I rarely use this method', 'I never use this method' and 'I am unaware of this method'. For the presentation of the data, the first two categories were collapsed together, and were the latter two categories. These were then ranked according to the frequency of use. Figure 11 below shows how the methods were ranked with most used at the top.

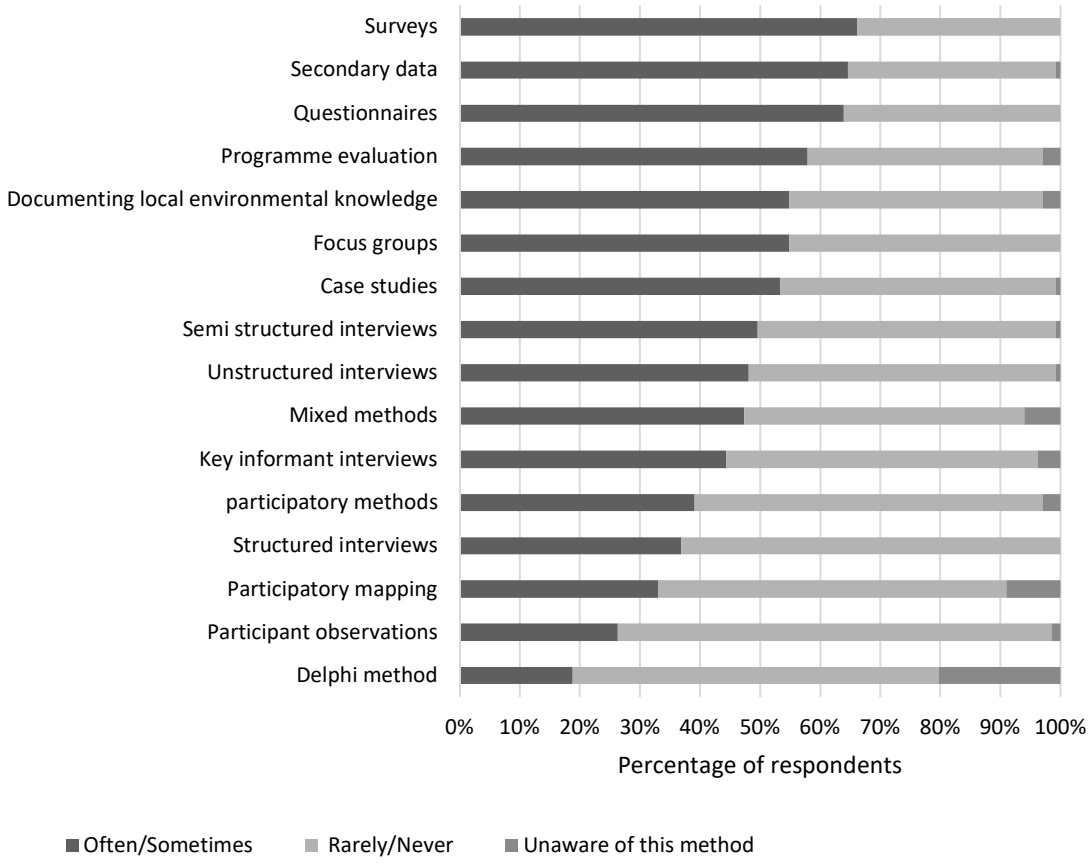

Figure 11: Graph of the frequency of different social science research methods used

Figure 11 shows that surveys, secondary data, questionnaires, programme evaluation and focus groups were ranked as the top five frequently used methods by all the survey respondents. 47.2% agreed or strongly agreed that "*My own knowledge of appropriate social science research methods comes from my own lived experiences on projects rather than any formal training I have undertaken."* The mean for this statement was 2.5, and no significant difference between the five groups was observed (H=3.217, p=0.522) Most of the comments re-enforced this notion that their knowledge resources around methods came from a mixture of origins. However, comments further qualified a desire for more training

as one commented "*a ZSL conservation social science training course could be really useful*." (KI11) And another said:

> "*I feel somewhat confident but think that I need far more training to understand why particular methods should be used in some instances over others."* (Zoological survey respondent)

4.3.3.2 Ethics in social research practice

A large proportion of the key informants reported a willing need to improve their knowledge and understanding of ethical considerations and human rights issues. Confusion was reported around ethics practices

> *"It's such a fuzzy boundary when it comes to the ethics behind the human dimension. Most biologists and ecologists would stay away from it."* (KI1)

Another voiced her concerns:

> "*We have to think about the ethical responsibility, what kind of ethically approval do we need to be collecting from surveys from people and what issues do we need to think a about when we consider when we are asking them about illegal activities or other activities that could have consequences for them, if someone other than us were to find out about that data. I think that is a massive issue.*" (KI3)

To investigate this further, the following survey question was asked: '*When conducting social science research, how do you gain informed consent from your participants?'*

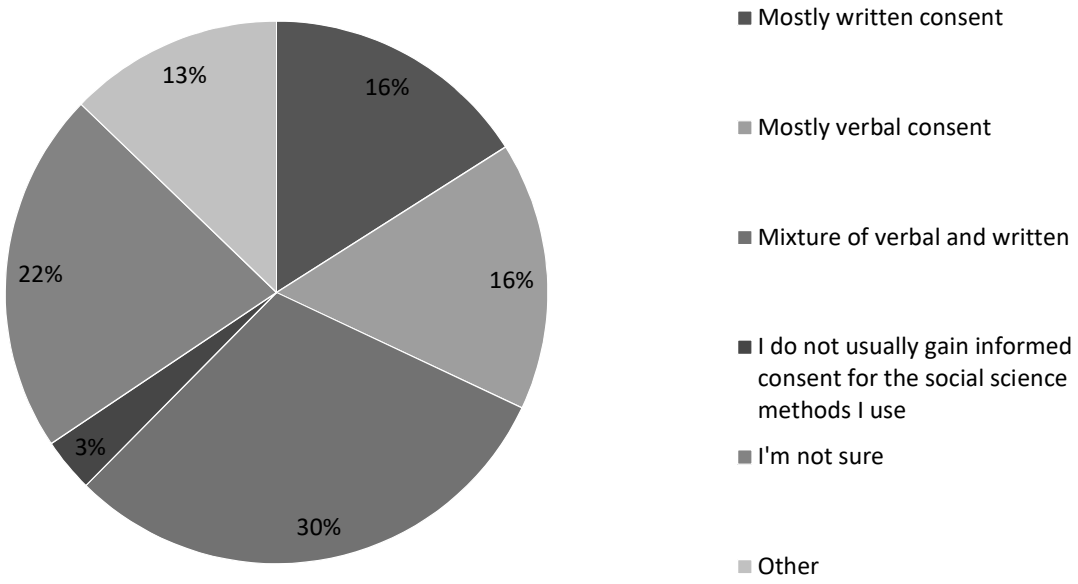

Figure 12: Pie chart of the results for the question: 'How do you gain informed consent?'

Figure 12 indicates that there is a mixed response about how informed consent is gained. Interestingly, nearly quarter (22.0%) said 'I'm not sure', with the majority citing that use a mixture of written and verbal consent (30.0%)

4.3.3.3 Perception of social research practice

Despite the noted usefulness of social sciences in conservation projects, many of the participants recognised logistical, cultural and personal challenges of undertaking social research practice. Several of the key informants, revealed cycles of trial and error whilst doing social research. Most gave examples of where things had not gone as expected with their practices around social research. These included poorly designed questionnaires, "*saying the wrong thing*", miscommunication with participants due to cultural or language barriers and lack of interest in the research from communities. One remembered an early career project that involved motivations around hunting.

> "so, *I asked them why do you hunt – and it was like… blank looks or they would say "cos we do"* (KI12)

This, she stated was realisation moment of her naivety of the social aspects of her project, and of her own assumption that she placed on others in her research. There was also an awareness of how they as external, and often white conservationists were poorly perceived by the individuals and communities they visited. Many talked about the brevity of these visits and difficulties building up a rapport and connection, and a worry that they were perceived doing research 'on' these communities rather than with them.

Most talked about how they endeavoured to change their practices over time. Formative issues had been reflected on, learning from their experiences and strived to adapt more appropriate way of doings and sayings. They gave examples of how they had adapted their initial research instruments to make the more interactive, and more culturally appropriate, and that they spent more time with the individuals, groups and in the research contexts. They also reported turning to other internal and external colleagues who could provide support with gaps in their social research capacity. However, perceptions of themselves, their colleagues and organisationally – many they felt that "*there was a long way to go"* regarding lack of understanding of the social sciences. As one participant argued:

> *"there is no understanding in (her department) of an economic or social perspective and yet we dabble in social survey and extrapolate from it without, I can't imagine that would ever be published because it would be crushed if it was published in a social science journal. – There are a lot of problems."* (KI3)

Others agreed:

> "*in a dominate way across the organisation that biological data has a higher status than social data and the way is recorded and while sometimes there is a nod to it, some people don't really know what data to collect, some people don't know how to handle qualitative data"* (KI1)

There was a tacit sense that the social research practice was not joined up across the organisation, and gaps existed in both organisational capacity and a systematic approach towards social research. As one respondent voiced:

> *"We are not doing evaluations, we are not doing base lines, we are just doing what's been asked of us or what's been stuck in there.*" (KI10)

Along with capacity, another constraining factor that came across when thinking about embedding social research within projects was time. One said, *"often we haven't got time for research – we need action"* (KI7). This referred to the perceived length of time the social research process can take, and it being at tension with needing to act quickly to protect species and ecosystems whose protection is time dependant.

Respondents saw an opportunity to unlock the potential of social research practice to strengthen and support projects. One key informant commented: *"we do ecological assessments but would be good to have the capacity to the same for the social."* (KI8). This aligned to other colleagues who saw benefits of embedding social research in their projects. Along with initial baselines, social mapping and stakeholder assessments, colleagues saw use in systematically measuring the effects of their interventions and project to improve their conservation practice. One respondent gave the following example:

> *"it is not only about getting the right messages out to the people, but also about measuring our impact and talking to people in like focus groups, surveys… and then translating the results in how we can better do our public and social outreach…... but now we don't have any idea, and I think many projects could benefit from more of that social, human cultural piece."* (KI6)

4.3.3.4 Future perspectives

The key informant interviewees were frank about their perceptions of the urgent need to build organisational capacity and make partnerships with academic research institutions to better undertake practices around social research. One voiced that

> "*an increase in social science capacity, and, y'know measuring and communicating impact, this would be a valuable resource across the organisation.*" (KI8)

In response to the following opinion statement, 70.4% agreed or strongly agreed that "*As an organisation, I feel ZSL should employ specifically trained staff that could support all departments with the design and delivery of the social science research elements of their projects."* The mean was 2.0, and there were no significant differences observed between the five departmental groups (H=1.141, p=0.888). Further comments queried that despite this additional support ideologically being useful, how this would be implemented in practice was unclear. One said it was important, but not feasible internally due to financial implications and power struggles between teams but supported external partnerships as a more viable option. The basic premise of bringing in specialised staff was supported, but one warned:

"Provided the social scientists in question understand conservation issues very well and are clear about their role(s) - social scientists can be as guilty of pursuing their own research agendas as natural scientists, and a balanced view of conservation challenges is crucial in any case." (KI4)

4.3.4 Social intervention practices

This second strand within the technical practices met theme clusters the activities and events that aim to bring about change within a project or programme via an intervention. Connected to social research practices, interventions, or the practice of intervening was discussed by all key informants. In response to the opinion statement "*I do not think social interventions are an important part of my work at ZSL"* 72.4% disagreed or strongly disagreed. The mean was 4.4, and there was no significant different was observed between the groups was observed (H=9.193, p=0.56).

Despite supporting their importance, tensions were identified in effectively resourcing interventions, as one reflected:

"*I recognize the need to build this in to projects but generally I am worried about the cost and resource implications, so this is why sometimes it might not be implemented as effectively as it should be. I understand that this is short term-ist and the long-term benefits would out way cost."* (KI9)

4.3.4.1 Planning social interventions

The survey instrument asked participants their opinions of social intervention practices. In terms of aims and outcomes of planning a social intervention, 53% agreed or strongly agreed that *"In general, I feel confident in my knowledge to decide which social interventions are appropriate for the needs of my projects*". The mean was 2.4 and there

were no significant differences observed between the five groups (H=7.725, p=0.102). Some participants reported that they lacked training and experience in this area so turned to more experience internal and external colleagues for support. One added that their knowledge on interventions had *"developed over many years of managing projects*" (KI12) and another said:

> *"I feel confident in the use of some of the most traditional techniques for social interaction (e.g. presentations, workshops, one-to-one, training etc.) but not in others (e.g. social media, infographics, children's education)."* (CP overseas survey respondent)

Regarding the more complicated interventions, one cautioned on the lack of institutional capacity:

> *"I don't know how we can position ourselves being able to deliver on the expertise we currently don't have. We have never done demand reduction and it's incredibly difficult and complex."* (KI4)

The often-illegal nature that interventions try to mitigate was discussed by many participants. The myriads of cultural and local political challenges, practice norms of corruption and apathy towards protection to navigate and negotiate through their work was seen as a norm. Interestingly, the lack of evidence of the effectiveness of interventions was frequently discussed. Professional conferences and networks were often cited as useful places to learn about what interventions others are doing, as one explained:

> *"No broad evidence, we are just going with a few select case studies that have been highlighted to us, and at conferences and symposiums ... saying this*

works… so we are all jumping on that bandwagon and saying this new approach works, so we have to try it everywhere." (KI10)

and another confirmed that intervention practices are learnt from other successful contexts:

"basically we're looking at other successful projects, how they have done them and then adapting it based on the specific condition." (KI13)

Some had drawn on published literature about specific interventions that they wanted to deploy in their own project's context. In one example, despite the intervention being published and recommended for use, after consulting the target community, the participant reported they were not keen on intervention described. However, this consultative practice was deemed useful by the respondent as it allowed community feedback, stakeholder buy-in and avoided investing in an ill-fitting initiative. Previously seen as 'add-ons', active engagement with communities was now perceived as a main initiative of this key informants practice.

4.3.4.2 Purpose of social interventions

Survey participants were asked to *"tick as many of the items below which reflect the goals of the social interventions you and your immediate team have undertaken in during the last 3 years."* This aimed to explore their perception of the purpose of their interventions. The chart below shows the aggregated total of the respondents in ranked order.

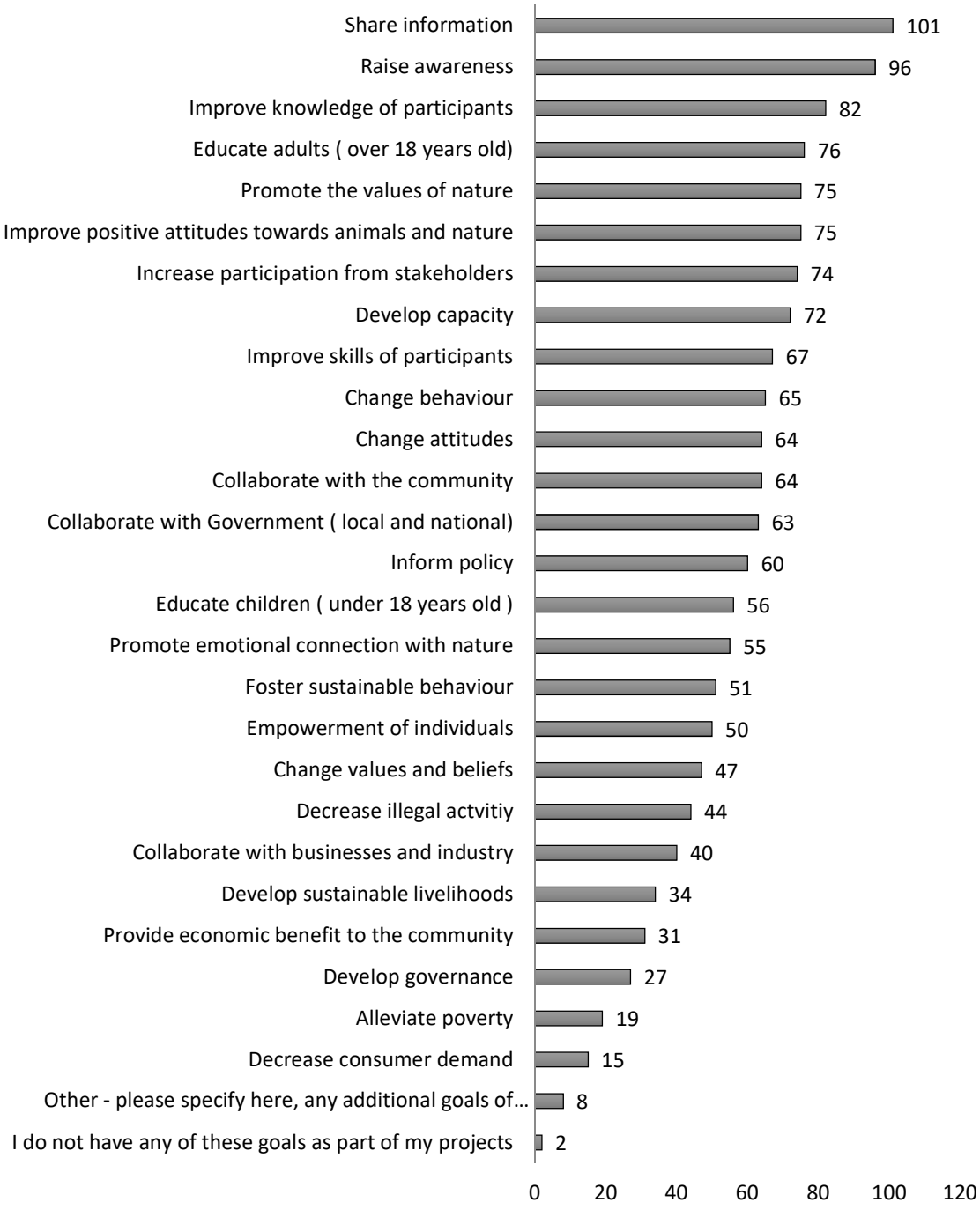

Figure 13: Graph of the different goals of social interventions (n=116)

Figure 13 shows that the top five reported goals of social interventions were: sharing information, raising awareness, improve knowledge of participants, educate adults and promote values of nature. These focus on knowledge and understanding goals, and which take a passive learning approach. More active learning goals which focused on skills, action or progression such as around changing behaviour and attitudes or decrease consumer demand were seen much lower down the chart.

Whilst thinking their practices around social interventions, some talked about a disconnect between the aims, desired outcome and measurable impact of the intervention. One gave an example where there were several activities in one location around a central theme of sustainable consumer behaviour. She said that she thought the programme was:

> "*really successful - we think… we know it got media in over 30 countries…. However, we don't whether that translated into any behaviour change…. We just have that overarching positive feeling… and I think a lot of conservation operates at that level as well."* (KI6)

On the topic of interventions that focused on change, specifically changing people's behaviour, many of the participants openly reported their confusion and uncertainty of their own capacity to take on a complex social intervention practice, and that it was an area they felt needed more attention in terms of building capacity as an organisation.

4.3.4.3 Methods of social interventions

Tied to the purpose of the social interventions, this thesis was interested in investigating what methods were used in their social intervention practice. The following question was asked on the survey: '*Please tick as many of the activities below that you and your immediate team have undertaken on ZSL projects during the last 3 years.'* Again, the

responses were aggregated and ranked, and the chart below shows the findings from this question.

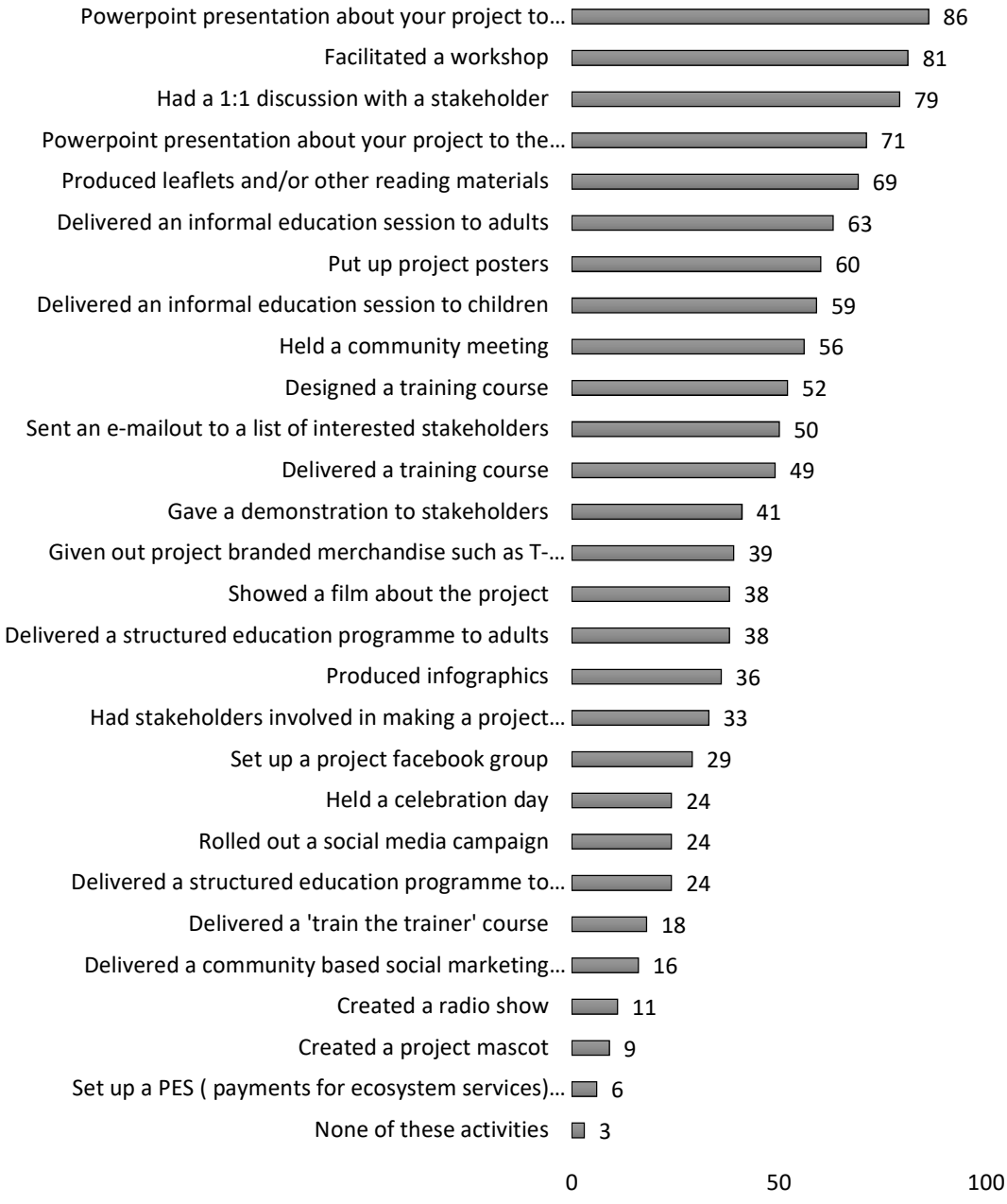

Figure 14: Graph of the different methods of social interventions (n=116)

Figure 14 shows the top five methods used for their social interventions were delivering PowerPoints to stakeholders and the general public, producing leaflets and/or other reading materials which matches the main goals of sharing information. Facilitating a workshop and having a 1:1 discussion with a stakeholder have a range of goals attached to them but indicate that conservationists work at varying scales from 1:1 to bigger groups with their intervention practices.

Reflecting about their social intervention practice in conservation, several of the respondents talked about how there had been a general shift over time to more considered and situationally appropriate practices, that tied to the intended outcome of the intervention or project.

One talked about her early intervention experiences:

> "*we just dabbling - saying we are doing community engagement, which was very much going in and speaking to groups of people in the village and giving them posters and giving them hand-out. All of which we know now didn't work very well*" (KI4)

This respondent talked of the changes that had taken place in their projects intervention practice. It had gone from *"all very well-meaning but I 'm not convinced that it did anything*" (KI4) through a reflection and improvement process to "*where we are now I do feel there is actually something that potentially might have more of an impact."* (KI4)

One of the main reported goals was raising awareness, and many talked about tools such as modern technology which assist with this goal. *Now it is easy share information to the*

public about our work and campaigns through things like hashtags. But I think that ease will mean it will be a more competitive space." (KI6)

4.3.4.4 Perceptions of social intervention practices.

Participants of this study have varying opinions on social interventions, but some clear strands came from the data. Firstly 70% agreed or strongly agreed that " *I feel that I need more training on the range of social interventions available and how to successfully implement them*" The mean was 2.1, with no significant difference observed between the five groups (H=7.300,p=0.121). Comments further supported the notion that colleagues felt they would benefit from growing their knowledge, skills and confidence in social intervention practices. Many stated they already worked the researcher and with colleagues in the researcher's department who supported their social interventions planning and implementation. With regards to training in social interventions, one warned:

> "*It's not possible to be a jack of all trades. We need to be able to bring in relevant expertise as and when required - and that will vary from project to project ....Better to be great at a subset of interventions and bring in other people who specialise in other interventions - as long as you have a broad understanding of those interventions and how they fit together*." (KI1)

One common feeling regarding interventions was to ensure the balance was right between ecological and social aspects of the project. This was discussed by one key informant who felt:

> *"at times it has become quite tricky because they almost too much come from the social side of it and the actual conservation bit and our end point of trying*

to stop illegal activities is almost forgotten because they are focussing so much on empowering the local people" (KI4)

In this example, the key informant commented that this balance was also connected to the interests and criteria of the donors or funding body, who are "*more interested in saving animals than engaging with communities.*" Others talked about feeling that occasionally projects lost their original focus of species conservation and had become 'too social', and whilst empowering community had benefits, sometime, it had pulled focus away from the original ecological goal.

4.3.4.5 Evaluation of social interventions

Only 41 % agreed or strongly agreed that "*Usually, I have an evaluation plan in place that will measure the success of the social interventions I have implemented on my projects"*. The mean was 2.7, and there was a significant difference observed between the five groups (H=11.734, p=0.19). Figure 15 below indicated that Zoological and CP Overseas agreed slightly more strongly than the IOZ student and IOZ staff groups.

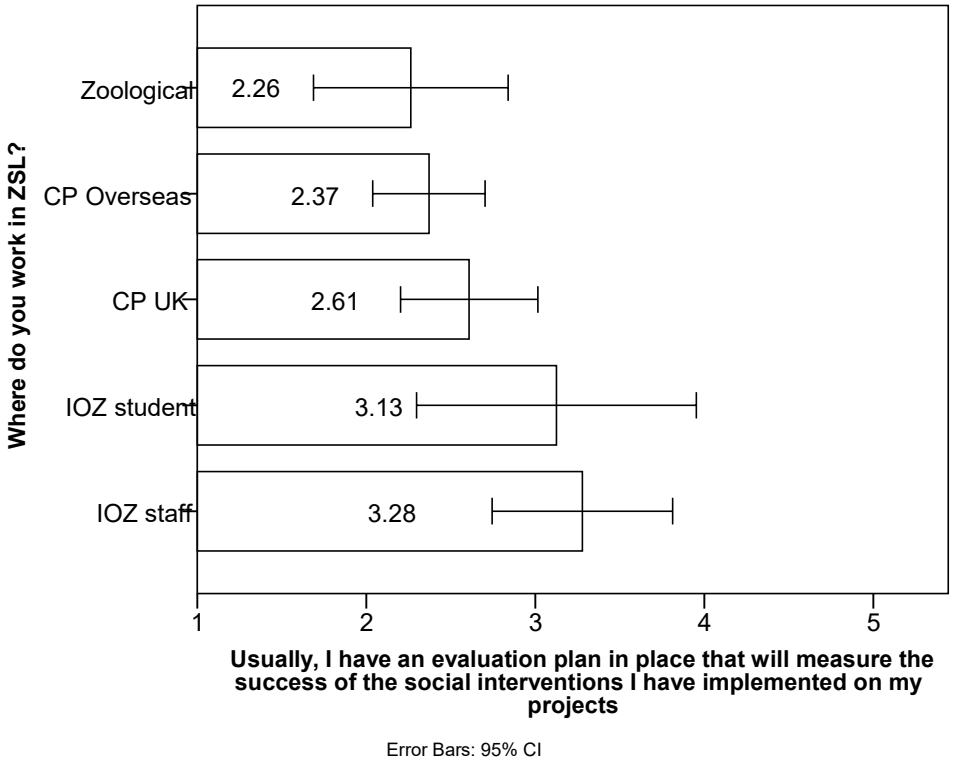

Figure 15: Graph of the results of the opinion statement: "Usually, I have an evaluation plan in place that will measure the success of the social interventions I have implemented on my projects".

Comments around this question showed that colleagues are aware of the value evaluations of their interventions, but it often did not translate into practice. Reasons given included "*donor timelines and funding restrictions can make these difficult to implement evaluations in practice*" (KI11) and evaluation only happened *"when and where funding and logistics allow.*" (KI5). Other admitted *"I try to insist that the projects on the ground do, but I'm afraid I can't always vouch for the quality"* (KI2). This indicates issues with prioritisation, capacity and quality in evaluation practice. This was supported with 73.3% agreeing or strongly agreeing that *'I feel I need more training on the range of approaches to evaluate the success of the social interventions on my projects*.' The mean was 2.0, and there was no significant difference observed between the five groups (H=6.208, p=0.184). Key

informants further supported this by acknowledging gaps in their own capacity, and many said they relied on the support and expertise from the researcher's and her department to design and some cases carry project evaluative practices.

4.3.4.6 Changes in social intervention practice

Through the data came an acknowledgement that in conservation there had be a history of gaps in capacity around cultural sensitivity. This knowledge came from their own past experiences and hearing stories about other individuals and organisation's practices. An example was given where communities were sceptical of working with the organisation due to their past experiences of culturally insensitivity by another conservation organisation. One of the key informants recalled:

> *"In some of the communities I went to, said things like "XXX (name of international conservation NGO) came here and they built a fence and then they left, nothing gets maintained, there is no continuing engagement. It's just we'll come here, we'll do something, and you should be grateful for it and then we'll go away and if you don't keep on doing it it's your fault"* (KI10)

The time scales involved in planning, delivering, and evaluating the effects was also discussed by participants. Most respondents talked about the need for long term engagement in conservation that worked closely with all stakeholders in an inclusive way. Many had noticed a change in how conservationists approach interventions. This was explained by one as:

> *"in the past, working with people was really a top down approach – so going in and saying " you shouldn't do this", whereas now it's making that shift to working with the communities to identify what are the challenges for them and*

working with them to change… to achieve that behaviour change….and being culturally sensitive to these areas, rather than coming in and as the big person from outside." (KI7)

In the past, the well accepted model for interventions centred around verbal communication was enough to evoke change in people's behaviour

"*There was this assumption that if you went around and told people what the laws are, that all of a sudden they will stop poaching*" (KI5)

This rational approach was historically wide spread according to most of the key informants, as it was easy to do, and it was seen as a normative practice. One respondent commented about interventions that involved changing people's behaviour and how that was outside of her comfort zone:

"*The rational approach, which is me, you explain the facts, you explain the consequence of action and you expect people to take a rational decision. This does not happen. You have to use the techniques I loathe and despise the manipulations of people's emotions."* (KI7)

Those interviewed talked about learning to deliver more sophisticated interventions, but currently still feeling both overwhelmed and under prepared in term of knowledge, skills and confidence to plan, manage, deliver, evaluate modern conservation interventions. It was also clear from the data that respondents acknowledged that change as a result of interventions took time, and this change was perceived to take longer than a projects ecological counterpart. To illustrate:

"we need to demonstrate results, but behaviour change is a slow process which is a mindset that needs to be embedded within the development community and the conservation community working with social aspects. So, with biological monitoring particular species over three years, you can perhaps, detect that change. With behaviour change it take a year at least perhaps to start see what's happening … and the time frames are fluid depending on where you are." (KI9)

4.3.4.7 Participatory approaches to interventions

When thinking about interventions that had gone well, respondents talked about involving individuals and communities throughout the intervention process, and things worked when they were 'locally led'. One discussed that communities need support with their initiatives. "*It's really building on they already had started themselves and trying and strengthening the existing ideas"* (KI4). Early involvement and recurrent consultations with stakeholders also emerged as a key item from the data. To illustrate, one respondent talked about another NGO who had put a huge amount of money into various aspects of a landscape. Now after 4 years, there is a realisation from different parties that money was injected where it perhaps should not have been. Systems that worked perfectly well before, without these external funds were now going to collapse completely once the project and the money ends. The flaw in this project she stated was there was not a proper consultation process, there was an assumption that things needed changing, however it had gone from being sustainable to one that now requires recurrent injections of external funds to keep stability. She stated that this NGO "*wanted to go in with an action rather than spending time researching the community and the culture first"* (KI10). She also commented that they had taken a model

that had worked in one geographical and cultural context, and without proper process had *"plonked it somewhere else without really thinking it through"*

Active stakeholder involvement and taking participatory approaches was recalled in different forms from citizen science projects, to community informant schemes. In all cases, the notion of people gaining a sense of ownership positively affected the progress and effectiveness of the project. One key informant said, "*basically they become conservationist themselves, and our reach is much further than it would be because of them."* (KI6)

With these community-based interventions, many talked about the difficulties in keeping people interested and motivated in the longer term. Individuals staff who were cited as playing a key role in engaging and communicating with individuals and communities and being the point of contact and enthusiasm for keeping the project going.

4.3.5 Policy and governance practices

The third sub theme that emerged from the data concerns the technical practices connected to policy. Key informants talked about the role of policy in their recurrent practices and the contributions they had made to policy change and policy implementation. To illustrate:

> "*Policy, I guess is about people and influencing decision making in the general sense, liaising with different parties, stakeholders at conventions and workshops and trying to get our science and applied conservation work embedded and influencing policy - so a range of stakeholders and parliamentary meetings, largely international, certainly my experiences is international rather than UK focused."* (KI9)

This example demonstrates the extent of interactions with others as part of the organisation's policy work. It also eludes to what several of the respondents talked about, that is, that the organisation generates scientific evidence to be used by policy makers to inform their decision. Policy work was described as challenging due to working with a range of stakeholders, often with varying timescales, issues with governance, power struggles and a sense of frustration when different agendas were involved.

Policy was discussed as a mechanism to bring about change, but there was caution given about the expectations and limitations

> *"you have to be particularly clear on the policy intervention side what you can expect in terms of conservation change, what steps are involved to do that, where are the barriers to success are. Those are the things we should start thinking about and how do we do drill down."* (KI6)

Several talked about policy, and their importance in creating a suitable context for sustainable practices to take place. As one key informant discussed that:

> "*policy work helps to create that enabling environment for our work on the ground, to create that right environment to forward and I don't think we've had too much of that discussion of policy importance at ZSL.). You can upskill everyone etc but actually you have to have an enabled environment. I've always thought of policy as creating those enabled environments."* (KI2)

4.3.6 Planning practices

Practices concerned with planning is the last sub theme detected in the data connected to the technical practices theme. Planning emerged as a recurrent activity essential in the work

of the participants in the study. One identified the challenge to embedding social considerations into planning practices is the dynamic nature of conservation issues. The desire for thorough and systematic planning is at tension with the immediate urgency to take mitigating action when a species or ecosystem is under threat. Indicative of this is the comment that *"everything evolves as the threats change"* (KI10) and colleagues often felt a void in information regarding the social contexts in their projects. The notion that time is running out for biodiversity and rapid action is required was not always conducive to the timescales required for the planning process. As such many reported it was often the practices around planning that were forfeited. From the data, this is a common scenario for colleagues within this organisation. One colleague gave the following example about mapping the social contexts before a project starts*:*

> "*We never really have the time to go into the field and spend time with the communities to figure out what they are already doing, and what's working well."* (KI13)

Lack of time to perform these planning practices in their day to day work was widespread in the data. As one stated:

> *"none of us spend enough time properly planning a project. You are up against it ...you do your log frame – but there are all of these phases you should go through before that."* (KI10)

Thinking about the practices of planning projects where participants perceived the social aspects had gone well, respondents talked about using a participatory approach, performing stakeholder consultations, forming strong local partnerships and having clear planning

process. They felt these enabling factors helped conservation practices on the ground succeed.

And with specific reference to the social dimensions… Holistic planning where the social and ecological data was integrated was stressed as a key factor:

> *"just being able to develop it holistically, to being able to say these are what are the conservation challenges are and this is what we are doing biological monitoring side of it and so how can we look at the human aspect.* (KI8)

Respondents talked about a desire for a more standardised and visible process for planning their projects. Several talked about planning models they had used, with varying success. There was a feeling individually and as an organisation, further support was needed to understand and implement a rigorous 'theory of change' process, and how to embed social aspects into these planning practices. Retrospectively, many reported the social dimensions were a seen as an add on but felt now the emphasis on people and their actions was gaining focus in the conservation arena, effective planning in the social dimension was fundamental for conservation success. One thought about future solutions to this issue:

> *"I think a person with social science skills set could really help, sit down right when the project is at the idea phase to properly build in the social component."* (KI11)

Practice Theme Three - Interactional Practices

The third meta theme to be discussed is called interactional practices. Within this theme, there were four main connected sub themes of practices located around: social capital,

communication, collaboration and conflict. This section will review the findings from the data which illustrate this practice theme.

4.4.1 Social Capital

In the key informant interviews, the respondents talked about interactional practises embedded within the daily actions performed within their work. They articulated that much of their work involved interacting with others. These 'others' could be colleagues from within the same team or in other areas of the organisation, but also external professionals, and other stakeholders such as politicians, Governmental officials, businesses, donors, members of the public, communities or law enforcement officials. Social capital was not a term explicitly mentioned, but there was a tacit theme around the importance of relationships and generally understanding other people perspectives when working in conservation. One respondent felt much of the issues connected to the social dimensions of conservation were due to what she phrased *"the human dimensions of human dimensions"* (KI1). Clarifying that the topic of the social research or intervention was not the only social consideration, but also people's relationships and how they positively or negatively interacted was a vital factor to take into account in the conservation landscape. This was further supported by several respondents who talked about how making positive relationships enabled their own work practices. As one reflected:

> *"I think it's also about drawing on personal relationships that you have across the departments, because everyone at ZSL, but I guess like most other organisations, are just so busy, that you have to exactly know who to draw on, who to call on when I really need help on this and pulling them into meetings.*

So, it does take bit of concerted to make sure you are getting everything on board, but I think we are getting better over time." (KI1)

4.4.2 Communication

The second sub theme in the interactional practice theme concerns communication. Both practices around communication with colleagues internally in the organisation, and with external stakeholders were equally discussed. Effective communication was perceived as essential in conservation practice, and through the data, communication manifested in different forms and between different stakeholders depending on the personal, social, cultural and physical contexts. Despite it being perceived as important, it was an extremely challenging practice to get right due to a number of different reasons. To explain further, communication practices were reportedly modified to meet the different needs of a range of individuals and groups who often had distinct agendas and viewpoints. In addition, the multitude of physical and cultural contexts conservationists work in was also cited as catalysts for adapting their practices. The majority of the knowledge resources they draw on to perform communication practices comes from the lived experiences and as one stated her communication skills had developed "*from having to explain complicated topic to a variety of lay people and stakeholders"* (KI1). Many found tailoring their practices to a context difficult if it was a novel location or they were ill equipped to deal with the stakeholder or the context. One reflected: *"conservation needs good communication, but it is incredibly difficult to pitch it right*" (KI2). These, and other comments demonstrated that many felt a gap in their capacity in communication and desired further support building their skills in this area.

Respondents talked about how they within their own teams and across the organisation, and conversely how they communicate with external partners and other stakeholders. To address the internal communication practices 61.7% agreed or strongly agreed with the following opinion statement *"there is a good level of communication about my current projects within my own directorate"*. There was a mean of 2.4, and there was no significant difference observed between the five groups (H=9.268, p=.0.055).

The different pathways of communication were identified within the organisation, through different mechanisms such as emails, staff updates, meetings, digital and print mediums. Both horizontal and vertical pathways of communication with the organisation were identified, but a general tacit theme from most of the participants highlighted their feeling that internal communisation could be improved. The most repeated narrative was around *'just not know what was going on in other areas of the organisation'*. (KI12) The data showed how there was a perceived gap in vertical communication between directors and senior management decisions and how they were communicated out to the employees, both within their own directorate and between others. In the same way, horizontal pathways of communication across different teams appeared to be hindered by time constraints, and disconnected communication channels. Other examples referenced gaps in how new projects, developments, staff and key organisational decisions were communicated. However, this was balanced with participants understanding this is a large organisation, and communication was no worse than other places they had worked, and there was a perception that due to recent personnel changes in the senior team, communication had started to improve.

Communication practices were identified as not only for sharing information and ideas between colleagues, but also between external stakeholders as part of their projects. The rationale for effective communication was its perception as a key tool for building respect and trust and facilitating different individuals and groups to work together and encourage dialogue. Linked to the technical practices was getting the communication approach and tone right, along with drawing on historical, cultural and political knowledge resources foster effective communication. Examples of prior experiences of aggressive, ego-led and colonial like communication tactics used by conservation professionals were cited as constraining factors to communicating with stakeholders.

4.4.3 Collaboration

The next interactional practices sub theme that emerged from the data was around the practices involved in collaboration. Similarly, to communication, there were two strands of narrative that came from the data. Firstly, collaborating externally with other individuals, groups or organisations on projects, and secondly, collaborating with others within the organisation. Conservation is a social endeavour and as such most participants discussed working with others was an essential part of their work. However, the majority also cited experiencing some difficulty in collaborating effectively due to several reasons. As one survey participant offered:

> *"conservation projects are extremely challenging politically. Project partners often have widely differing agendas, so collaboration is a very delicate balancing act."* (KI6)

Whilst others talked of an *"weird uncomfortable relationship"* with other colleagues and departments in the organisation. This was further supported by an oxymoron comment

about how the organisation collaborates: *"We are 'working for wildlife' together in siloes"* (CP UK survey respondent)

4.4.3.1 Organisational collaborative practice

In the key informant interviews, most of the respondents referenced practices of working with others within their organisation. Both positive and negative experiences illustrated the benefits and challenges colleagues face recurrently in performing these practices.

Building on the expansive discussions on collaborative practices, several opinion statements was asked in the survey to explore this area further. Table 5 shows four statements which asks about perceptions of collaborative practises in different spheres of work, within their own team, their own directorate, in the mission directorates (conservation, science and zoological) and in the non-mission directorates (commercial and communication, HR, finance and development).

Opinion statement	Number	% strongly agree	% agree	% neutral	% disagree	% strongly disagree	not sure	not applicable to me
I collaborate well on projects within my own team	112	38.4	51.8	3.6	1.8	0.0	0.0	4.5
I collaborate well on projects with other teams in my directorate	112	11.6	57.1	18.8	0.9	0.0	0.9	10.7
I collaborate well on projects with teams in other ZSL mission (CP/IOZ/Zoological) directorate	112	10.7	42.0	18.6	71.1	2.7	1.8	17.0
I collaborate well on projects with teams from the other non-mission ZSL directorates	112	7.1	33.0	25.0	10.7	2.7	3.6	17.9

Table 5: Table to show the results from the collaboration opinion statements

The findings show that as distance within the organisational structure increases, the perception of collaborating well decreases. To illustrate, within their own teams - 90.2% agree or strongly agree; within their own directorate – 68.7% agree or strongly agree; with other mission directorates – 52.7% agree or strongly agree and with non-mission directorates – 40.1% agree or strongly agree. This suggests increasing disconnects in

practices, the further away the site of potential collaboration is from their immediate team. An interesting note that potentially warrants further investigation was the relatively high percentage that marked collaboration 'not applicable for me' suggesting that they feel collaborative practice is not in their work practice repertoire with these groups.

Questions were asked about the formal and informal nature of how these collaborations are initiated. When asked about formal settings, only 25.0% agreed or strongly agreed that '*collaborations with people outside my directorate often start from wider, cross departmental meetings'*. The mean was 3.0 and there was a significant difference observed between the five groups (H=12.349, p=0.015).

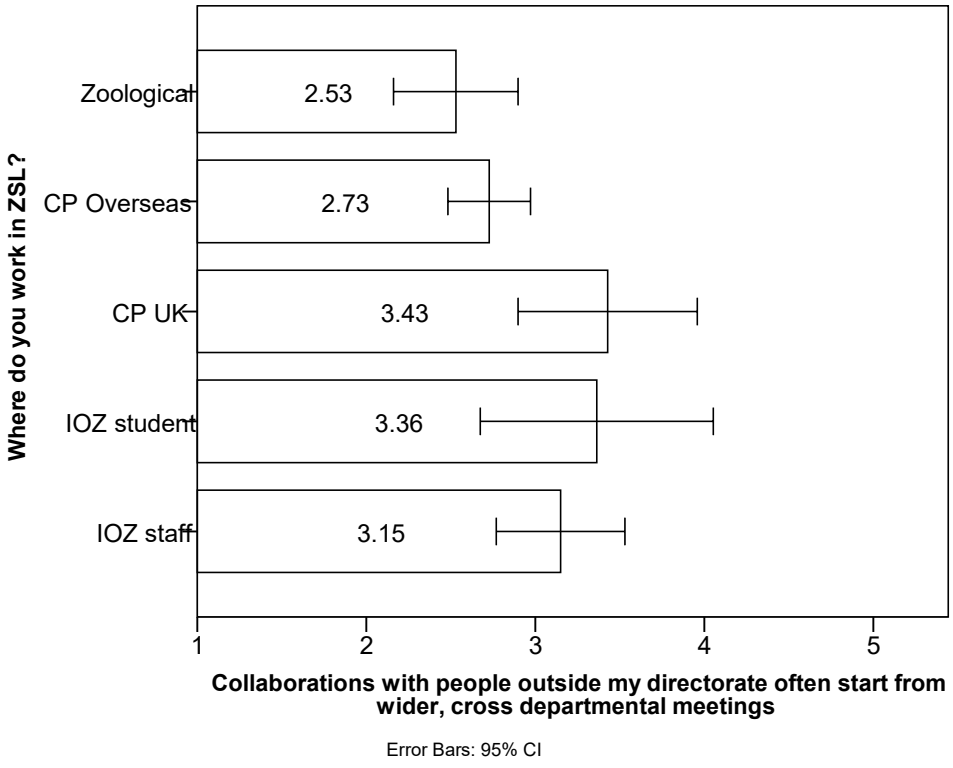

Figure 16: Graph of the results from the opinion statement: 'Collaborations with people outside my directorate often start from wider, cross departmental meetings'

The graph above suggests that both Zoological and CP Overseas agree more with this statement than the other groups. Conversely when asked about informal settings for collaboration, 50.0% agreed or strongly agreed with "*Collaborations with people outside my directorate often begins with conversations in informal settings (such as the staff canteen and the pub)".* The mean was 2.4, and there was no significant difference between the five groups (H=4.414, p=0.353). From these two questions, it suggests that people feel that collaborations begin in informal settings more than structured settings.

In exploring this further, 60.7% agree or strongly agree that *"There are not enough opportunities for me to informally meet people from other directorates on a regular basis"* The mean was 2.3 and there were no significant differences between the five groups (H=8.918, p=0.063).

Several additional comments were given in response to this question, with some referencing the recent closure of the 'social club' (a pub for staff on the London site) where all parts of the organisation could meet informally. Comments strongly highlighted how this space had been excellent setting for facilitating "*networking and fostering of communication and collaboration between directorates"* (KI12). One reflected that in her time employed at the organisation *"lots of ideas were hatched in there"* (KI1) and another said, *"conversations happened with people you would not otherwise speak to….. and it generated some very interesting ideas and collaborations"* (KI11)

It was voiced that a similar space would be highly beneficial for cross organisational collaborative practices in the future, as the more formal alternative was perceived as forced, and did not enable joined up working practices.

Within the organisation, there are three items identified that were determining factors on collaborations being initiated and being sustained. This was around space, time and authorisation. Connected to the organisation as a physical site, several respondents talked about distribution of staff, both on the two zoo sites and those that are based internationally. One reflected in her time in employment, had seen a growth in the size of the organisation, but a decrease in connectedness between colleagues:

> *"in some ways with growth and professionalization of the organisation it has become more siloed in a way, partly practically because of the size and geographic isolation of where people work, everyone has their set tracks through the zoo and set places where they do certain activities, so it's not really a hub of cohesiveness, to do that you have to seek that out"* (KI1)

The same respondent reflected that new staff do not have the knowledge resources of the potential synergies with other staff, and this constrains their collaborative potential.

Lack of time to perform the practices around collaboration was cited as a key constraining factor in employees' work. One voiced that everyone was busy *"doing their day job"* (KI11), and there was little available time for much else. This barrier to collaboration was repeatedly

> "*I think it could be more joined up, but it is a case of there is just not enough hours in the day."* (KI8)

Power and trust were clearly seen in the data as factors surround many of the social practices involved in conservation. However, through the narrative, power and politics

appeared to be particularly pertinent in hindering effective collaboration. As one key informant stated:

> *"in most conservation projects, there is a power relationship, it's a negotiation between the players. Yes, there is definitely a lot of politics."* (KI2)

And this was confirmed further by a survey respondent who commented:

> *"conservation projects are extremely challenging politically. Project partners often have widely differing agendas, so collaboration is a very delicate balancing act."* (KI6)

This strand of narrative around divergent and conflicting agendas between external partners surfaced frequently in the discussions. *"Other conservation NGOs often have different priorities which make it difficult to collaborate together on projects"* (KI9) was asked in the survey which revealed a mixed opinion of a fairly even split between three groups: - those that agreed or strongly (22.3%), those that were neutral (27.6%) and those that disagree or strongly agreed (30.3%). The mean was 3.0, and there was no significant difference observed between the five groups (H=4.904, p=0.297). These differences were unpacked from the additional comments given by respondents. Some underlined constraining factors to collaboration where down to personalities rather than priorities:

> *"I think we tend to have similar priorities but it's personalities and egos that tend to get in the way, almost as much as funding competitions"* (KI5)

Whereas another has an opposing position of:

> *"Provided common interest can be identified, I have found it possible to collaborate with a wide range of organisations - animal welfare, species*

> *interest NGO, conservation, academic institutes, government, public and animal health agencies"* (KI13)

When collaborating with other organisation, key informants surfaced several issues. Firstly, conservation is a busy space for organisations to operate in. As one disclosed:

> *"you have these major conservation organisations and they are all jockeying for position and they are all quite cagey about how this partnership will benefit them."* (KI3)

This competition was further reflected by others who said:

> *"It's very political and there is a lot of rivalry….. I don't see how that is going to change, there is not a lot of true collaboration."* (KI8)

However, this sense of despair exhibited by some, was countered by comments that despite immediate issues with collaborative practice, conservationists need to remember the wider goal:

> *"It can be a bit contentious and tricky, but as long as you can go back to the bigger picture – try to always bring it back to that common goal of biodiversity"* (KI6)

With regards of enabling factors in collaboration, many reported it came down to personal relationships. *"It's a lot of it is who you know and getting people on side."* (KI7). This was further qualified by one interviewee's experience that *it's a learning curve – the more you get to know the people in it, the more you can take control of it."* (KI8)

There was a self-reported gap in skills and confidence navigating the complexities of effective collaboration. Some of the respondents self-reported a lack of confidence in navigating around the complex social arena in conservation

> *"I'm not very good with politics – I guess I deal with it by encouraging people to focus on the end goal and try to make sure that everyone's roles and responsibilities are clear"* (KI5).

4.4.3.2 Collaborative practice potential

There was tremendous reported potential for improved working across the organisation which is yet to be realised because of the way departments are siloed in their practices. One reflected:

> *"I feel we are missing a trick because we have such brilliant sets of people, leaders in their own field across the organisation and we don't catalyse synergies effectively"* (KI1).

Both internally and externally, time, space, power and personal relationships were cited a key determining factors for effective collaborative practices. Collaboration was seen as an essential part of many projects because of funding, and several respondents thought by putting the "*egos and logos*" aside and think of the bigger goal of saving biodiversity, then truly collaborative practice is possible.

4.4.4 Social Conflict

The fourth sub theme in the interactional practice theme is that of conflict. Like all the interactional practices discussed previously, there are overlaps between the sub themes. Most of the conflict referenced was social conflict. it appears to happen between groups or within groups, both internally and externally to the organisation. But as one articulated;

> *"But there is no human-animal conflict, everything is between people over wildlife, but many biologists won't address the latter. It's not about the people shooting the wildlife; it's about the conservationists and the hunters who don't get on."* (KI3)

The origins of the social conflict in conservation were alluded to in the data ranging from personality and ego clashes, whilst others voiced opinions that it arose from poor communication, unclear goals and competition for funding. Disputes over recognition and ownership were also seen as barriers to effectively working together, which could result in conflict situations. General feelings of conflict were foregrounded in the data, with a sense from many that "*politics often supersedes protection"* (KI9). Many stated similar feelings that "*conflict optimises the social dimensions*" (KI3). This was further supported by another commenting:

> *"conflicts in conservation is really tiresome and wastes a lot of time that we could use far more constructively if we operated as a united front."* (KI10)

As to the question why conflict happens so much in the conservation sphere. One responded by reflecting:

> *"That's a difficult question. On paper, all of us talk about partnerships amongst conservation organisations. We would have a much more of an impact if we did work with all the conservation partners on the ground, working towards and dedicated goal, but as you know, this doesn't really happen. There is so much competition amongst organisations for the same finite pots of money and*

there very much, I guess it's more of scent marking around what every partner doing, and that I think a real stumbling block" (KI10).

In the survey, the following question was asked: "*Conflicting interests between conservation organisations is a key barrier to success when working on a project with multiple partners*." 53.6% agreed or strongly agreed. The mean was 2.3, with no significant differences between the five groups (H=3.050, p=0.550). This finding supports the notion that conflict is a key constraining factor in the working with others in conservation.

This issue of social manifests is the individuals, personalities and personal relationships within the conservation community and the perception is that it has huge influence on how practices are performed. As one respondent explained:

"I think there is also a lot of egos in conservation. It's quite a small community, there are very few 'fish', and so it's very political" (KI3)

She recalls one incident where she was trying to bring several external conservationists together to collaborate on a project. She found there were complex social practices involved which often centred on inter-personal tensions rather than the wider conservation context. She said that:

"*there were a lot of very big people who were like – 'well I'm not working with him' - and so they didn't care what the project was or didn't care what the outcome was they were just like - 'No, I don't like him!' "* (KI3)

Social conflict touched on difficult working relationships with other partners within the organisation, and externally. However, others talked about given its unique context, there are bound to be several competing priorities which could cause conflict and competition in

a busy organisational landscape. These issues manifest in the respondents talking about both the benefit and issues working in such an organisation. Tensions were reported to exist between fulfilling both the mission as an education, science and conservation charity and achieving commercial success. One key informant gave the following narrative about this organisational issue

> *"I think there is that differential between the commercial goals and the mission goals, it feels like we are competing with the rest of the commercial side of ZSL for things like press or events or fundraising, or any of those things, and I think that quite a difficult issue to resolve really*." (KI2)

When talking about how this should be changed in the future she responded by stating that:

> *"there needs to be a clearer link between different departments and to also understand our common goals"* (KI2).

In terms of thinking about social conflict resolution within their projects, one reminisced that when she started her conservation career she worked alongside another big conservation NGO working jointly on a charismatic megafauna project. She said that back then:

> *"we all were very much about scientific monitoring, and only later did it start to come up with conflict resolution"* (KI7).

She went on to explain how intervention practice had changed towards the local people, but still conservation is at tension with the human side:

> *"It changed from people being illegally in the national park and should be got out as soon as possible to actually considering what their needs were in the*

arena of human-wildlife conflict. And then you start to realise you can't just say to people - the animals are more important than what they need. It still leaves you with a massive conflict though, cos if we are to succeed in conserving any areas of habitat and particularly large megafauna there going to have to be area where the needs of humans take a back a seat to the needs of the ecosystem and the animals within it. So somewhere, that is going to have to happen, and I think that it our basic difficulty, how do you accomplish without those particular people feel that they are carrying the can for the rest of the planet" (KI7)

Practice Theme Four - Organisational Practices

The fourth layer in practices that arose from the data focus on the organisation practices. These cluster around the routinized activities colleagues participate in through their work and considers element of this organisation workforce. Sub- themes around funding, organisational purpose, organisational identity, organisational approaches to conservation, project prioritization, quality versus quality, interdisciplinary practices and the practices of the leadership and the workforce were located in the data.

4.5.1 Funding

Applying for funding was recalled as a recurrent practice for participants. It was spoken about from two social perspectives Firstly, those concerned with the social focus of the project, and secondly the social processes that are at play when applying for funding. With reference, the social dimensions being included in conservation projects, one explained

> *"I think the social aspect has become more important, but I think everyone is floundering a little bit as to exactly how to include it in funding application."* (KI8)

55.2% of those surveyed agreed or strongly agreed that "*In the last 3 years, I feel there has been an increase in the number of funding applications that require a social component (research and/or interventions) as part of the project outline".* The mean was 2.1, with no significant difference between the five groups (H=4.633, p=0.327). This indicates that for some, a social component is becoming more visual is funders requirements. Respondents who talked about funding increasingly requiring social components such as poverty alleviation, impacts on development and human wellbeing. This change in recent years acknowledged that many funding bodies are trying to explicitly link biodiversity conservation to sustainable development. This was illustrated by one respondent:

> *"funders are increasingly recognising people and people's needs… the impacts require are longer term, and I would say that is a general shift with big funders."* (KI9)

This change was a struggle for some who self-reported a lack of knowledge, skills and confidence in embedding appropriate social components in funding proposals. It was also suggested that some of the decision makers connected to funding have the similar lack of understanding and capacity toward the more sophisticated approaches involved in the social side of a project proposal. One respondent felt in conservation, specifically around the social dimensions that "*projects were sometimes not only naively put together, but also naively funded*" (KI5). He joined others who voiced that a more transparent practice of reporting were things had not worked out as expected and the 'failures' on the social side

of projects. This practice was perceived to be potentially helpful for the conservation community to learn and collectively improve. This was further supported by one of the key informants who talked about the need to share experiences and learn as an organisation:

> "*So, what I worry most about is that we make the same mistakes and re-invent the wheel within the organisation and that's partly because – how do you find out, yes there is the project database, but how do you have those personal conversations. How do we know where peoples expertise is? What has worked, what hasn't worked because we have had a massive growth in people geographically"* (KI10)

There was a perception that in the future, that funding opportunities that requires the dual benefit of conservation and development would continue to grow. To meet this, respondents were clear about the capacity of the organisation needs to improve. As one respondent reflected:

> *"The more on top of the social aspects we are, the quicker we could leap into those niches with open up. And I think they will continue to open up as you will get more and more funders wanting there this duel benefit, and if we had more social scientists, then we could be looking at some of the more development based funding and then have biodiversity conservation as one of the outcomes….and I think that would be a massive opportunity."* (KI9)

In addition to an increase in social components in funding, respondents also reported a shift in funding briefs that encouraged a wider landscape approach and required collaborations of multiple partners. One challenge identified due to these changes in the direction of

funding was to ensure *"we fit funding requirements without changing the original aims of our project."* (KI13)

The second area of interest in funding practices involves the nature of applying for funding being a social process. It requires the interactional practices between several stakeholders including the donor. The data clearly shows a perception of a limited amount of funding available for conservation, which, despite the conservation community working towards a common goal of biodiversity conservation, there is a sense of constant competition. One key informant said

> "*it is really hard – there are enough problems in the world for everyone to have to their own space, but I guess because there is a limited amount of funding – every conservation NGO is driven by funding to a certain extent and we are all competing. We are all in competition with each other for the same resources*" (KI12)

This was further confirmed by 81.2% of those surveyed agreeing or strongly agreeing that *"There is constant competition between conservation organisations for limited funding."* The mean was 1.6, and there was a significant difference observed between the five groups ($H=14.558$, $p=0.06$). Figure 17 suggests that CP Overseas don't agree as strongly to this statement compared to the other groups.

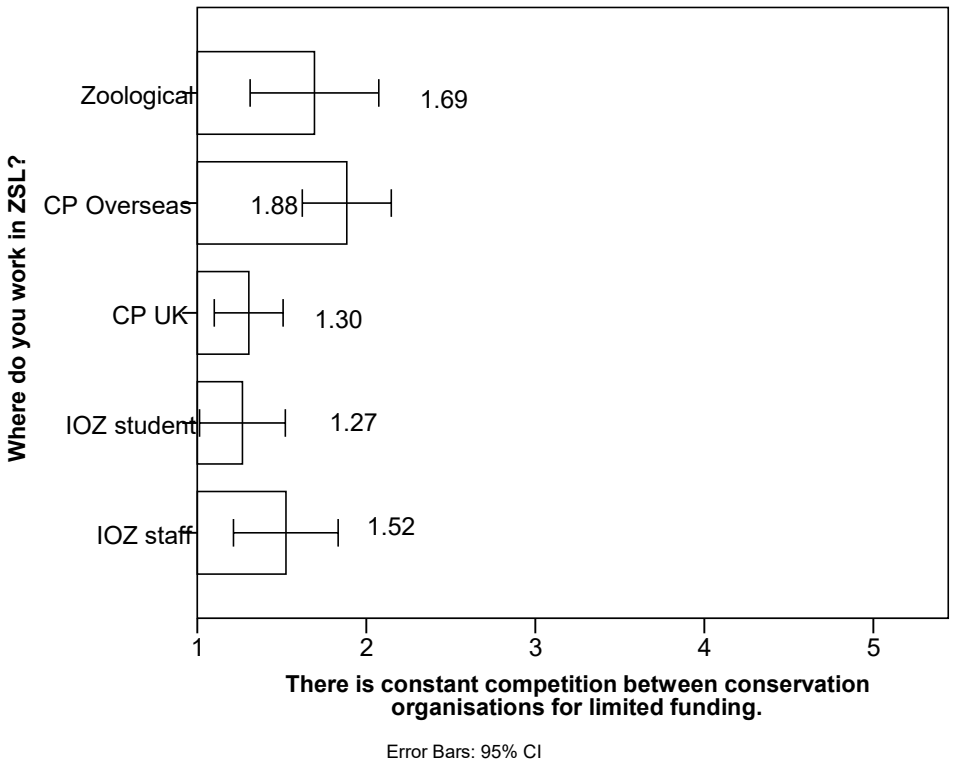

Figure 17: Graph of results for the opinion statement: "There is constant competition between conservation organisations for limited funding."

The motivation around what to allocate funding to, was a topic of discussion. One reported that from her experiences *"individual funders have pet projects and are more emotionally driven"* (KI9). This, she said was more towards saving a particular favoured species rather than having a broader landscape or social focus. She went on to say:

> *"I think you are more likely to get private funders with intrinsic value of biodiversity. I think the Governmental ones are so driven by capitalism that they will always have a utilitarian aspect."* (KI9)

For many of the study participants, the continuation of their jobs is funding dependant. Therefore, it was widely reported that they spend large amounts of time involved in funding practices to ensure their jobs are secure. However, due to the short-term nature of many

funding pots, this job security is often short lived and gave a tacit sense of uncertainty and constant pressure to recurrently apply for future funds.

4.5.2 Organisational Purpose

75.9 % of those surveyed agreed or strongly agreeing that *"As an organisation, we are all working to a common goal of biodiversity conservation".* The mean was 2.0 and there was a significant different observed between the five groups (H=24.474, p<0.001). The graph below alludes to that CP Overseas agree more strongly with statement than the other four groups.

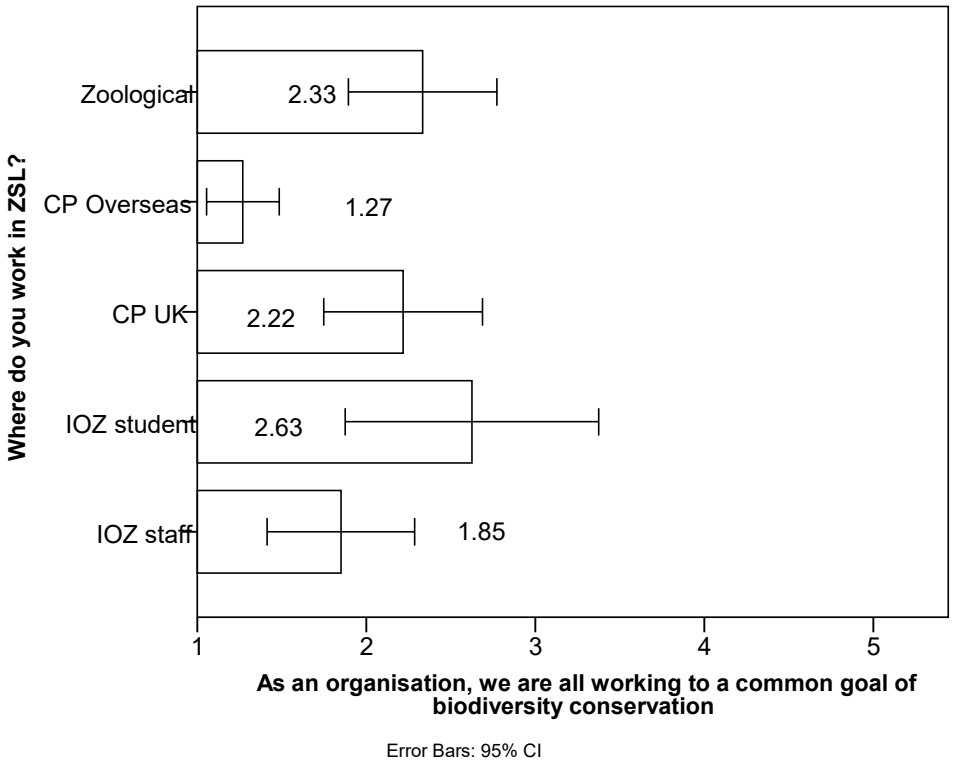

Figure 18: Graph of the results from the opinion statement; "As an organisation, we are all working to a common goal of biodiversity conservation".

Despite the appearance of the majority of participants positively responding, there were several strong comments that probed this statement further. One said, *"We are in theory*

but I'm not sure that everyone is in practice" (Zoological survey respondent). Another said that "*each department had its own agenda"* (CP UK survey respondent), and a third commented that *"I feel our conservation goals and commercial goals are not always in sync"* (KI8). This tension between conservation and commercial, was repeated by several participants. It was perceived that the interface between revenue and mission was an area of uncertainty organisationally.

4.5.3 Organisational workforce

With regards to the perception of the conservation capacity within the organisation, 76.8 % of those surveyed agreed or strongly agreed that *"ZSL has a workforce that have a diverse set of knowledge and skills appropriate for the needs of the organisation"* The mean was 2.2, with no observed significant difference between the five groups (H=3.839, p=0.428). Some supporting this statement, clarified with the following: "*yes, it does, but I don't think we have the time, space or opportunity to use it as well as possible."* (Zoological survey respondent) Another commented *"Yes, but if only we were better at working together!"* (KI4) and this siloed nature of working practices was echoed by most of the key informants.

Several made comments reinforcing that there was a perception to employ more specialists in economics and social sciences to support the conservation targets.

> "We *need a few people who have the expertise in that integrated approach – but as an organisation, we need a mixture of skills*." (KI10)

Respondents voiced that there are very few similar organisations like the one in this research project. It has both the physical settings of the zoos and both conservation practitioners and conservation scientists working within the same organisation. This

context gave the perception of unique potential for practices in this setting. One respondent illustrated this point as follows:

> *"We have such vast experience here, I think that's the other thing in terms of conservation, there are very few organisation where you can think, I need to speak to a topicologist, a brilliant communicator, an educator, someone who is good at software development and you can collate these people in one place on site – that's pretty unique .... But we need to make that opportunity happen more… because at the moment, you have to be proactive."* (KI1)

The question about what kinds of individuals and teams would be a positive addition to the current workforce drew out comments from the data about the social dimensions.

> *"I think it has been capacity at ZSL, having people like you (*the researcher*) coming in and working actively with our teams. In the past we have not had very much support. So, most of the conservation programmes team we have been trained as ecologist and so we are coming from a very different perspective, so I think it's having a social science background and someone who can advised us on how to make our programmes more effective and I think it's also been a push from a funding perspective."* (KI3)

Several others also identified that more support with the social dimensions would be beneficial. Reasons for this need was an acknowledgement that most conservationists in the organisation come from ecological backgrounds. As one reflected:

> *"I don't think we have the skills to do the social. I think a lot of the roles that are taken on that are science specific, have a lot of social in there, and when*

you think about it, it's the same for all our policy work. At the moment all of us are panicking and learning as we go along" (KI12)

4.5.4 Organisational Identity

Regardless of where participants worked in the organisation, there was a strong sense of '*being part of a force for good'*. As one of the key informants reflected:

> *"people generally work for this organisation because they believe in it and I think that is one of the most powerful things, there is a strong sense and feeling that they are very lucky to work here and .....and what we do here is quite special in that way. If you go to anyone, they are passionate about what we do and want to help more.* (KI1)

This may be the general feeling within the organisation, however several were frustrated with how the organisation is perceived externally. One interviewee said often when she goes to policy, Governmental or corporate meetings, their perception of the organisation's mission is skewed:

> *"they think we are just a zoo, and they have no idea we have these conservation programmes in all these countries"* (KI9)

Another told of her experience working with a coalition of other stakeholders including from those from a business, who told her how they were not surprised the organisation had difficult promoting itself externally as they told her:

> *"you scientists are boring, you only focus on the problems rather than the solutions, and you only talk to each other not anyone else."* (KI6)

This was also reflected by others who had experiences of external stakeholders not realising the organisation is a charity and that they had only heard of the zoos, but not the conservation or science work. This caused frustration and questions from participants around how the mission side of the organisation's identity could be further promoted externally.

4.5.5 Organisational approaches to conservation

There were opposing views on how the participants felt about the organisation's current approach to conservation. Some voiced concerns about way people were viewed within many of the current projects.

> *"I think it's a problem that ZSL has real focus on protected areas and law enforcement and that a quite an archaic paradigm that I'm not very comfortable with. So, I have found that many conservation organisations have moved away from that colonial perspective, and they are much more about shared land use"* (KI3)

Many saw the lack of consistent and effective inclusion of the social dimension as a severe limitation of the organisations projects. The social component was seen as "*kind of an add on, not a focus*" (KI5)

> *"I think it's a weakness of ours, that we are not including the social. The ecology comes first …. but it all fits together and the glue if you like, the bit that is missing, is the social element."* (KI8)

The importance of the social dimensions was repeatedly voiced, but through the data was a clear gap between understanding importance and that translating to improving

conservation practices in the organisation. One interviewee helped to illustrate the point further:

> *"The social side of conservation is such an important part of what we do. We need to get our act together so that we can respond to these changes. Because by the time we have really thought through a framework and tried to influence changes within an organisation, things will have been destroyed."* (KI13)

4.5.6 Project prioritisation practices

The perceptions how species and projects get prioritised was another organisation practice linked to the social dimension. A key informant brought up the issue of considering the individual and organisational capacity when deciding to proceed with a project idea. They voiced concerns specifically about a new project that had complex social components but feeling that there was not the necessary organisational capacity to complete it properly. He said that a funder had become interested in a species with specific conservation issue and wanted this organisation to undertake this work. Despite the self-reported lack of capacity in the social dimensions, the project went ahead. This interviewee felt very strongly that the organisation should consider carefully motivations for taking on such a request, to ensure personal or financial motivators do not supersede the strategic conservation priorities of the organisation.

When thinking about how conservation projects are selected just over half of those surveyed (50.9%) agreed or strongly agreed that "*The species and projects ZSL works on are selected through careful analysis of global priorities*". The mean was 2.6, and there was a significant difference observed between the five groups ($H=29.606$, $p<0.001$). Figure

21 suggests that the difference centres on CP Overseas agreeing more strongly with this statement than the other four groups.

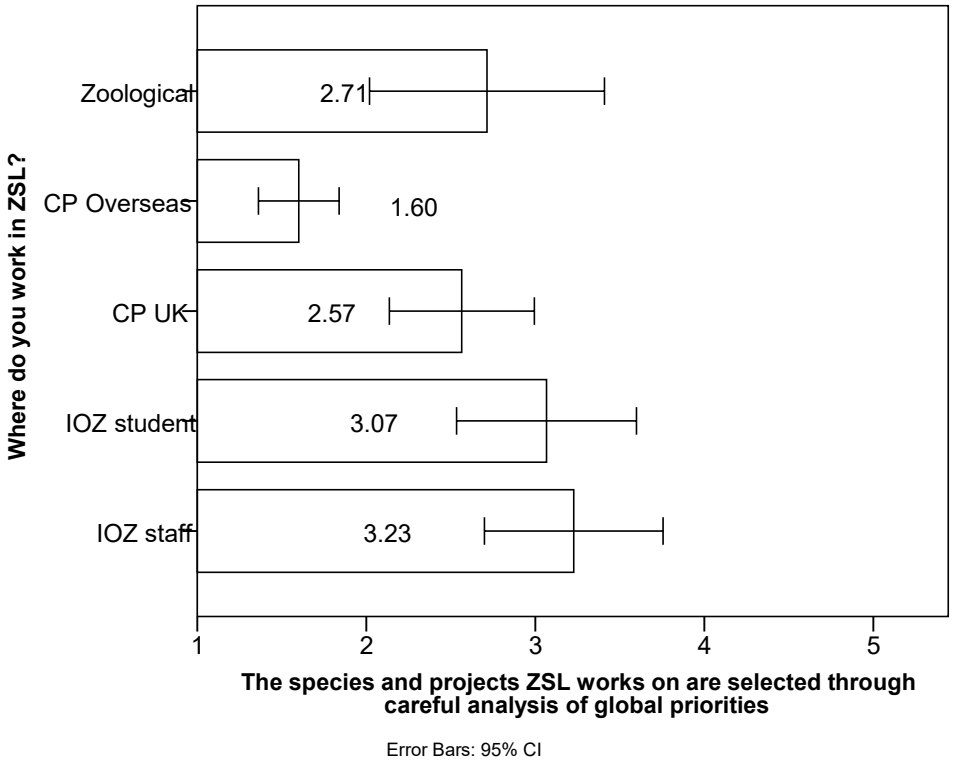

Figure 19: Graph of the results from the opinion statement: "The species and projects ZSL works on are selected through careful analysis of global priorities"

Many respondents further qualified their answers to this question saying they lacked knowledge of the organisational process of how projects were selected. Many thought that prioritisation only applied to some situations. At other times, projects were selected where more funding is available for charismatic species such as tigers, elephants and rhinos. In other projects, it was reported as being down to capacity, achievability or personal interests. Several thought that the organisation was good at selecting appropriate conservation projects and linking between departments. However, other disagreed stating that Director's stick to their own priorities and that generally there was a sporadic approach to project

selection, and funding applications. There was a perception that in some directorates, selection was often based on favouritism and which member of staff is 'owed' a turn to have their work funded. Whereas other balanced this with saying it was:

> "*combination of global priorities and opportunities. Priorities shouldn't be the only driver, as we need to take every opportunity to achieve conservation that we can*." (KI1)

The organisation's unique physical, historical and cultural context was referenced as a contributing factor to what, how and why projects and programmes are prioritised. One key informant reflected:

> "*In an ideal world and (*the organisation*) wasn't a 200-year-old organisation and you were starting our conservation programme from scratch, there would be a better system for prioritisation but that's not where we are - we have people with the agendas and that make who we are as an organisation"* (KI9).

Still on the topic of project selection, personal interest was foregrounded by many of the key informants as a social factor for project selection, so a question was asked in the survey to follow this strand further. 41.1% agreed or strongly agreed that "*Projects ZSL takes on and the species they give priority to are often based on an individual's personal interest*" There was a mean of 2.5, with no significant difference between the five groups (H=8.412, p=0.78). One participant agreed, and further qualified this by saying

> "*I don't have a problem with the projects we do reflecting the interests/skills of the people who work here as long as its nested within the wider society mission*" (KI3)

Another supported personal interest as an important factor by commenting:

> "*And that's how it should be - if people aren't interested in it or don't have knowledge about it then the project won't be successful.*" (KI9)

And another back this comment up further with:

> "*I don't see this as a negative - many species only exist in the world today because of this*!". (KI7)

Many said it depends of the specific situation and that it should be based on expertise as well as interest.

4.5.7 Quality vs quantity

Another strand around the organisation that emerged from the data was connected to practices around quality. Participants talked at length over concerns of the tension between quality practices in conservation and taking on the quantity of projects needed for job security or to meet the requests of the line manager or director. One reflected:

> *"I think we have fallen into a trap of doing too much too fast, we need more time to reflect and consider projects before we go ahead."* (KI8)

This tension was further illustrated by a key informant:

> *"We don't seem to have any KPI of the success of our projects. So, what was the actual outcome of the project? It's all about how much money did you make this year, how much money your team brought in this year, and I think that's a shame that we are moving to more financially based criteria"* (KI3).

Several talked about a desire for a balance between the quantity of projects undertaken and the quality in the practices that are needed to achieve the desired project outcomes. As this was brought up by several of the key informants, the following question was asked in the survey to gather a wider perception of this issue. 48.2 % agreed or strongly agreed that "*ZSL as an organisation focuses on quality rather than quantity in the conservation work it undertakes"*. The mean was 2.8, and there was a significant difference observed between the five groups (H=9.994, p=0.041). Figure 20 below alludes to CP Overseas agreeing with statement more than the other four groups.

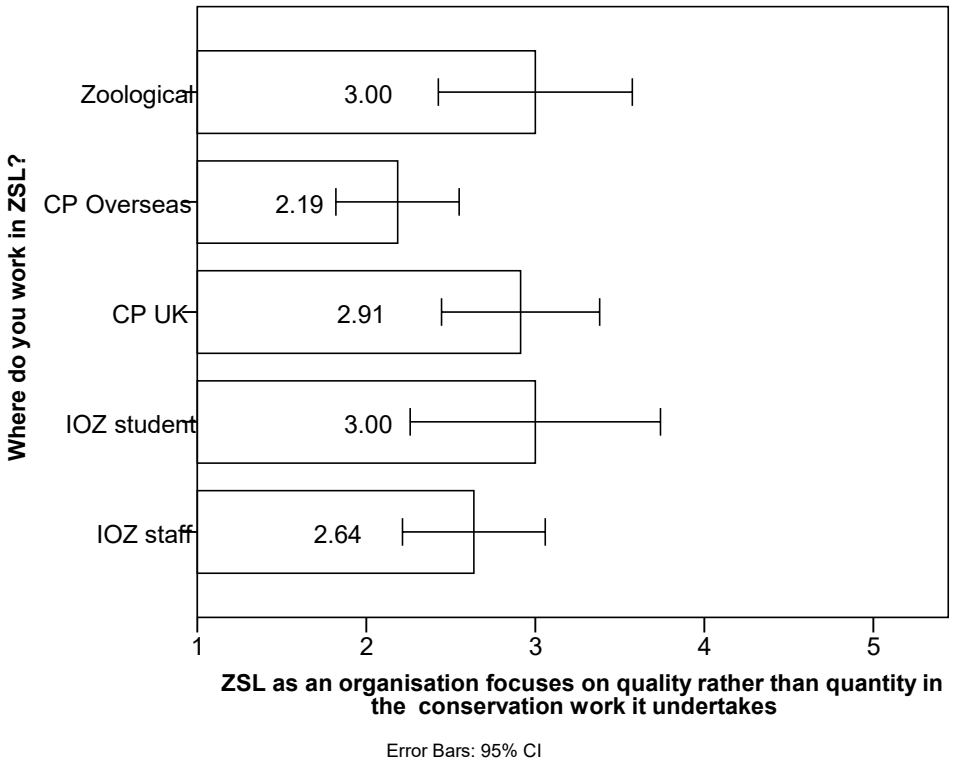

Figure 20: Graph of the results from the opinion statement: ZSL as an organisation focuses on quality rather than quantity in the conservation work it undertakes".

One respondent felt that the leadership team in this organisation were focused more on quantity rather than quality, and other colleagues agreed that the leadership:

"*expects far too much of the staff given the lack of capacity and infrastructure we currently have. A lot of projects get delivered but quality suffers as a result.*" (KI2)

And that financial as one explained was recurrently used a proxy for success:

"*we are beginning to focus on how much money we bring in to deliver. i.e. £10 million equals good conservation project*." (KI11)

One conservation colleague admitted that:

"*We are constantly pushed to do more, sometimes at the expense of consolidating what we're already doing. I think ZSL needs to consolidate and focus more on quality. I see a very stretched workforce currently.*" (KI5)

And another agreed with this by saying to focus on quality and that "we *should be doing less, for longer*" (KI10). Further support was given by one who said:

"*I feel we do far too much, far too fast with no time to reflect, which means the quality is sometime lacking in projects due to lack of time, staff and knowledge. I feel that projects are generally rushed, no real time taken to think about components, especially to do with community elements"* (KI3)

One of the respondents he felt overwhelmed, and uncertain whether there was individual or team capacity to do any more and he went on to say:

"I think we do try to deliver on quality, but I think it is leading a lot of people to get very stressed, very overworked to give far more than we paid to do. Obviously because we care, it's why we are doing it. We are not doing it so

much for the money…. And I guess it probably occurs in lot of places, but I think its detrimental to moral." (KI8)

4.5.8 Interdisciplinary practices

Moving to examining the perception of the ecological and social disciplinary practices in the organisation. Working with colleagues from different disciplines was seen as a value practice as one illustrated:

> *"I've seen the value of different disciplines and what they can do for conservation challenge"* (KI1)

Additionally, several barriers were identified that often prevented the notion of recurrently which references elements of interactional practices as previous discussed in these findings. Around the social components of their projects, both the key informants and the survey participants generally knew who to go to for help with support with the social dimensions of conservation. Interesting, the staff and students from the science directorate reported that they would usually ask other external, academic colleagues for support with the social dimensions. In contrast, staff in the other areas of the organisation said they were more likely to talk to others in their own team, the researcher or members of the researcher's team.

As one respondent confirmed:

> *"I think I am confident in the fact that I know who to go to for help, so I'm a trained ecologist and I can design my methodologies and look at my analysis, and I am confident about that, in terms of doing the social science aspects, I think it has been a tremendous help to be able to lean on someone who actually*

understands it, being able to guide that process and then I can go out in the field and do the survey and the analysis, but it is about leaning on available help here" (KI10).

One key informants reflected on how he saw his role in the organisation as a facilitator to bring the right people together to support interdisciplinary practice.

> *"I think on a personal level, I feel I have enough of an understanding of the role I play which is nowadays the quite broad generalist rather than to having to get into detail. I know the principles and understand things, I couldn't be the person on the ground who would be getting into the details, but I know that sort of person I need to be able to do that and that's not just for the social stuff that for the biological stuff and everything as well."* (KI4)

There was an overwhelming positive response to existing interdisciplinary practices that exist between social and ecological colleagues. Social dimensions support is currently given to conservation and science projects, but many said the capacity in the researcher's department is already stretched and as the social components of projects grow and diverge. As solutions, three strands were identified that could help future practices. These were building of existing staff's capacity on a mixture of technical and interactional practices, bringing in additional dedicated specialist staff to provide a broad social dimensions support system in the organisation, and lastly to foster further partnerships with external individuals and institutions who could provide the expertise for the social aspects of these practices. Many talked about their own, and colleague lack of knowledge skills and capacity towards different components of the social dimension. They noted that "*I think there are not many people in conservation that have that understanding of human dimensions"*

(KI13) and acknowledged the complex context within which much of conservation issues lie. As one reflected *"It's such a complex issue and I think people find it very difficult to organise the narrative around it".* (KI9)

Key informants were asked their opinion on a future perspective for the organisation with respect to the social dimensions of conservation.

> *"I think definitely a more interdisciplinary approach would be absolutely fantastic, I think that would be brilliant, we should have more social and economic scientists if we are going to be pursuing and that something we generally want to pursue, I think we could be more science and evidenced based. I think there is quite a disconnect between directorates and I think that is a problem."* (KI12)

4.5.9 Collective Organisational Knowledge

Despite several respondents expressing that their knowledge and understanding of the social dimensions of their projects had improved over time, there was a sense that not everyone in the organisation was evolving at the same rate. One respondent said, *"I feel that some people aren't learning at all"* (KI4) and he referenced recent proposal that he had to severely modify as he felt his team member had an outdated view of where people are positioned in conservation. The same was perceived around social research and intervention practices, and that the organisation could benefit from sharing and learning collectively. As one voiced:

> *"How do you replicate and scale and share success and that lies within the organisation as well as externally and how do you document it."* (KI6)

Organisational capacity was discussed with reference to the different elements of the social dimensions of conservation and how knowledge and learning could be built collaboratively over time. It was deemed by respondents, that the organisation was unlikely to move forward as a 'learning organisation' with the social dimensions of conservation given the current lack of support in this area. As on commented:

> *"I guess it's difficult when for example, our social science resource in (*researcher's department*) has to do that for all of CP so that's another resource which would be good to have, more social scientists that we can depend on CP."* (KI2)

Further advancement in the social dimensions organisationally was seen to be problematic as one lamented: *"The bureaucracy of this organisation makes it difficult to make swift progress."* (KI7)

4.5.10 Leadership practices

The social practices of the organisation's leadership team were discussed by many of the key informants. Specifically, participants gave an account of the leadership team focused on their own priorities and interests, and with little encouragement to their staff to work collaboratively. Additionally, ongoing power struggles between individuals in the leadership team were collectively cited as reasons behind the siloed nature to organisational working practices. It was also reflected that most gave little acknowledgement to the extra support their staff require to fulfil the more sophisticated aspects of the social dimensions.

Practice Theme Five – Practices within the Conservation Disciplinary Community

The fifth practice theme located in the data is centred around the wider discipline of conservation. The activities, individuals and groups that are actors in this network are considered from a social practice perspective. This wider sphere of people and practices was reported as important by respondents for several reasons. Colleagues cited they collaborated recurrently with the wider conservation disciplinary community on specific projects. They draw on knowledge resources found in articles published by this community and exist in a constellation of formal and informal networks that influence and support their practices.

4.6.1 Conservation professionals

Key to understanding the social practices that exists in conservation is what kind of people make up the conservation disciplinary community and what influence does that have on the clusters of practise that exist in this space. An example given by one of the participants highlights a perceived gap in equitable practices in conservation, which she felt had been left over from historical societal approaches.

> *"the problem with conservation is got such colonial implications and it epitomises the patriarchal society it came from - it really does. We have a lot of senior male figures. There are many 'male, stale and pale' figures in conservation and very few female figures and we virtually no ethnic diversity at all."* (KI3)

This was supported by another who argued that the problem with conservation was that it was *"full of conservationists"* (KI4) alluding to the practices performed by conservationists were not always positively received by community partners. In some cases, negative social

practices by conservationists were recalled as the reason projects failed and thus species declined. Thinking about the wider conservation community practices, one respondent thought that some conservationists were "*stuck in the past*" (KI3) with their actions towards people and communities. This, she said created a general negative opinion of conservationists. She warned:

> *"we shouldn't be imposing our beliefs on people who traditionally have used the landscape, so there are all these issues of resettlement, and traditional access rights, and you can't just dismiss that. Because that was the reason there was such a backlash against conservation in the first place."* (KI3)

There were discussions about what kind conservationists of the future are needed. It was reported that a wider skill set to the social dimensions and those with interdisciplinary qualifications or backgrounds would be welcomed. One interviewee supported this with the following:

> *"I think you need less conservationists in conservation and you need way more people from marketing and PR backgrounds. I mean, I constantly am frustrated when you just see the new people being recruited and there are all just like me, a masters in conservation biology, and you think, come on let's get creative with people….I'm always quite excited when you see someone's CV and they've masters in conservation, but previous totally different career – we need more of them."* (KI4)

Others further reinforced this by saying the future of conservation need less people with long careers as species specialists, and more that have a combination of transferable skills from other disciplines that can contribute creatively to conservation problems.

4.6.2 Colonialism in conservation

A tension that was talked about by a few of the respondents was the issue this organisation like many of the larger NGOs was perceived to take a colonist approach to dealing with the people and communities from the locations where they work. One key informant revealed that:

> *"It's really difficult in conservation to shift that colonial viewpoint because you have got all these kinds of people who keep saying "we should protect more land you should not be allowed on it, you should do this, and you should that."* (KI12)

The key informants had much to say on this matter colonialist approach:

> "*And I these are really fundamental issues that lots of conservation organisation agenda are discussing and thinking about and why are we not doing that, why we are just, I think we, I don't know, we seem to have quite a middle class, colonial perspective, it's just quite worrying."* (KI3)

4.6.3 Conservation in a paradigm shift

To counter the blunt view of traditional conservationists and their practices not seen as favourably by respondents, the same participants balanced this view with stating they felt change had started to happen with regards the social dimensions. This striking strand of narrative from interviewees and survey data showed that they felt the conservation discipline is in the middle of a paradigm shift. This shift related to a move away ecological

perspectives and priorities taking the dominant position in conservation. People and societal practices were emerging and being foregrounded as fundamental components in order to move to a holistic approach. The data gathered gave a broad acknowledgement that the way conservation is conceptualised and conducted in relation to the social dimensions was altering. Colleagues reflected there was still considerable more change needed to fully encompass people and the societal practices of modernity which are inherently linked with protection of biodiversity. One respondent illustrated this theme by saying:

> *"the nature of conservation is about people, I guess is at its core, and with more and more people on this planet - it becomes more and more direct. It's less about the edges. It's more about people who are indirectly and directly threatening every aspect, every protected area, every species, every ecosystem services on the planet."* (KI12)

Further to this, there was a wide acknowledgement that there are social dimensions to all facets of biodiversity conservation. This was illustrated by two participants, one who reflected:

> *"there is always a human component in conservation because people are everywhere."* (KI10)

Another consider his own experiences working in conservation for many years and voiced how people and their practices are often the drivers behind threats to biodiversity:

> *"almost every conservation project I have ever been involved with is because of negative human action."* (KI5)

The exponential growth human population and how that exacerbates the potential impacts on species and their habitats was also highlighted:

> *"we work in places that are really overcrowded places with humans, and there is a very sharp interface between the wildlife and forest and the human populations."* (KI7)

Many felt that whilst it was one of the key current global issues, it was beyond the scope of themselves or the remit of the conservation community. As one participant explained:

> *"there are these big issues unanswered, and I don't think conservation can answer them – like over population. We could do everything we like, but if there are more people, they need more resources and I just don't see how we can get around that."* (KI7)

As well as concerns around where the boundaries of conservation practices in attempting to solve global issues ends, a few participants thought the shift in conservation towards people, development and utilitarian perspectives had gone too far. They argued that:

> *"the convention of biological diversity should be about biological diversity, but it seems now it's all about indigenous rights… I think it needs to go back, it's about getting the balance right."* (KI9)

She also went on to state that:

> *"it's recognising that biodiversity has a right to this world as much as we do. So, you have the intrinsic vs utilitarian at the moment. I feel it has become very utilitarian and I feel we need to start shifting it back."* (KI9)

Practice Theme Six - Global social, political and cultural practices

This next theme references the macro perspective of conservation. The data showed that respondents were aware of various global social, political and cultural contexts that had a meta influence on biodiversity and their habitats. However, many felt, since many of these were large scale and often beyond the boundaries of their project or wider conservation remit. They often felt powerless to catalyse positive change at this macro level which would support their conservation endeavours, and that practices around these wider global issues overshadowed their conservation efforts. Participants felt individually, as an organisation, and across the wider conservation disciplinary community, capacity should be built to view conservation problems in the context of the holistic socio-ecological systems. Participants mentioned livelihoods, water, food security, health, family planning and gender as global scale clusters of social practices that are frame the wider biodiversity crisis. As one reflected:

> *"I think we must strengthen our capacity in this area if we are too keep up with current thinking, without drifting from our mission."* (KI3)

When talking about conservation, many of the respondents talked about the importance of the global cultural awareness and culturally sensitive practices, but also identified that often people who are working in the conservation field lack capacity in this area. For example, one respondent said that her perception of many field researcher was that:

> *"they might have the technical experience, but not the embedded cultural and social experience."* (KI12)

In one specific project, the respondent talked about the tension between where to draw the line as getting involved in the wider socio-political aspect. She acknowledges that despite

there being a species is the focus of the project, but there was a danger getting actively involved into inter-organisational, national and international politics associate with that species and the project's geographical location.

Respondents acknowledged that many of the conservation issues were oceanic in scale, complex in nature and needed them to draw knowledge resources from various layers to address the global perspective of biodiversity loss. One reflected:

> *"in an ideal world where we had all our oceans sustainability managed and really effected network of MPA (*marine protected areas*) then we would have to do this anymore. The ideal situation would be its not even a thing that people have to think about, it's just what we do, we protect our environment and we conserve things for future generations, it's not even a question."* (KI6)

Interviewees talked about their experiences during fieldwork contexts where individuals and communities revealed that they lived in a range of difficult situations such as in poverty, without health care, in fear of lawless societies, dictatorship regimes, corruption or embedded cultural practices such as radical religion, cannibalism or witchcraft. These problems, participants realised were the immediate priority for many communities, and that many goals around biodiversity protection were naturally going to be a lower priority. There was an understanding that conservation has multiple factors that contribute to how context can be seen through the social lens. The historical, cultural, political, economic and ethical contexts was discussed as social factors for consideration. Prior involvement by the organisation or other conservation NGOs in the immediate or local area was also a wider factor to consider. Most of the participants felt they did not have adequate knowledge of these broader global practices which influence conservation from a macro level. There was

a sense they just had to "*just get on with it*", despite they many layers and factors that exists within the conservation space.

Conclusion

This chapter has outlined and thematically analysed the data collected by an exploratory mixed method approach. The analysis produced six thematic categories which were arranged conceptually in an ecological system model. These themes interact with and mutually influences other practises within the social dimension. The categories described and the social practices within them, suggest a rich, complex and sometimes contradictory character to the social dimensions of conservation as perceived and described by the study participants in the organisation. The next chapter I will provide an account of the cross cutting and broader meanings of the social dimensions of conservation through the practice lens.

Chapter Five: Discussion

In the previous chapter, the findings from the research were presented in the form of six grounded practice themes. These were derived from the descriptions of activity and the perceptions of experience using a synthesised mixed method approach (Azorín and Cameron, 2010, Creswell and Plano Clark, 2011).

In this chapter, the findings will be discussed in terms of some over-arching dimensions which cross and transcend the individual practice themes. These form the basis of this discussion which will deepen the knowledge base of existing research of the social dimensions of conservation. They will form the bedrock of a resource, which will have implications for policy, practice and further research in this area.

I bring my personal experience working in the organisation as an additional dimension to the interpretation of the results. This is a benefit by having a deep understanding the research context as an 'insider' (Brannick and Coghlan, 2007), but I am mindful to not let my own perceptions of the findings lead to over interpretation or flawed claims (Costley et al., 2010, Mercer, 2007) (see Chapter 3).

5.1 Relevance and interest of this research

This is the first study, to my knowledge that explores the perceptions of the social dimensions of conservation within a UK zoo-based conservation organisation, namely the Zoological Society of London. One general finding is how receptive my colleagues are to such a study. Interest in the results and potential practical recommendations from this research indicate colleagues who were receptive to furthering understanding and embedding the social dimensions within the organisational practices. Through a presentation detailing the methodology and some initial thematic findings of this study at

the ICCB (International Congress of Conservation Biology) in 2015, external colleagues' comments suggest similar interest and advocacy to this kind of study. This interest is seen through voicing a fascination in the results and curiosity in applying a similar exploratory methodology to their own organisational practices. This gives a strong indication of the relevance of the finding of this study, both to this organisation and to the wider conservation community. It builds on the interest situated in the literature (Adams, 2007, Bennett and Roth, 2015, Mascia, 2003, Newing, 2011, Sandbrook et al., 2013) further suggests the social dimensions are an important area to explore. Further to (Bennett et al., 2017a, Bennett et al., 2017b). This study contributes to how the social dimensions can be 'mainstreamed' within the conservation landscape. It also provides evidence to support some of the barriers located in the which prevent this integrating from currently happening within the organisation (Cook et al., 2013, Fox et al., 2006, Campbell, 2005b, Pooley et al., 2014).

5.2 Exploring the boundaries of the social dimensions in conservation

This study builds a framework in which further understanding of the practice components and boundaries of the social dimensions of conservation can be understood. As part of this research a conceptual definition was created which foregrounds the duality of social focus and social process within the social dimensions. This supports and enhances the literature on the social sciences within the conservation space (Bennett and Roth, 2015, Bennett et al., 2017b, Russell and Harshbarger, 2003, Mascia et al., 2003, Newing, 2011, Adams, 2007) and builds on the practice literature (Reckwitz, 2002, Shove et al., 2012, Nicolini et al., 2003, Hager et al., 2012, Gherardi, 2000) to provide a novel way of describing the social dimensions of conservation.

Additionally, the construction of an ecological systems model (Bronfenbrenner, 1986, Bronfenbrenner, 1992) for the social dimensions allows further understanding of both the systemic and interconnected layers practices within the social dimensions of conservation (Glaser et al., 2008, Liu et al., 2007, Ostrom, 2009). Moving from an individual to global perspective enhances the depiction of the practices performed. This support both the usefulness of taking a systemic view of an issue (Bronfenbrenner, 1992) to produce 'ecologies of practice' (Kemmis et al., 2012) and acknowledges that social practices operate in a system, which is made up of clusters or constellations of practices that constitute daily life (Schatzki, 2012, Schatzki et al., 2001, Hui et al., 2016, Shove et al., 2012, Saunders, 2011). Combined, they offer a novel practice-based approach to conceptualising the social dimensions of conservation. Using this multi-layered model and attending in particular to both the social focus and social processes allows this research, and others to navigate into new spaces to explore and depict how the social dimensions exhibit within a complex conservation context.

5.3 Social practices and conservation

The findings from this study supports the literature that conserving biodiversity is a highly social and pragmatic phenomenon (Bennett and Roth, 2015, Doak et al., 2014, Kareiva and Marvier, 2012, Sandbrook, 2015, Brechin et al., 2002, Rust et al., 2017). This suggests support for the view that conservation should abandon a uni-dimensional approach which privileges a notion of the ecological in isolation from the social. This approach tends to treat conservation as a purely technical and scientific endeavour (Adams, 2007, Pooley et al., 2014). Acknowledging the notion of the social nature of biodiversity loss contributes further to evidence from the literature which describes the current Anthropocene causing 'biological annihilation' (Ceballos et al., 2017, Hughes et al., 2017) and a planet

transformed through human actions (Wilson, 1989, McGill et al., 2015, Vitousek et al., 1997). This study adds weight to literature to afford more attention to the social dimensions of conservation (Bennett et al., 2017a, Mascia et al., 2003), and suggests that solutions should include social and pragmatic perspectives (Campbell, 2005a, Sandbrook et al., 2013, Hargreaves, 2011)

This is one of few known studies that uses the social practices theories as a theoretical frame to research biodiversity conservation. Using a practice lens to explore the social dimensions of conservation gives an opportunity for a novel view to depict day to day practices, interactions, knowledge resources and artefacts situated within conservation practices (Brookes et al., 2006, Hui et al., 2016, Kemmis et al., 2012, Brown and Duguid, 2001) This research contributes to the literature that uses the social practices as a theoretical frame to holistically explore social phenomena (Schatzki et al., 2001, Reckwitz, 2002, Shove et al., 2012) take a practice based approach to explore organisations (Nicolini et al., 2003) and environmental issues (Hargreaves 2011). Evidence of the recurrent ways of doing and saying by colleagues, along with the perceived complexity of the conservation context, suggests further exploration could foster a deeper understanding of how different social practices manifest within the conservation space.

The findings evidence a range of recurrent social practices by colleagues and conservation is portrayed in the data as an active discipline (Hager et al., 2012). Colleagues 'do' research, intervene, make and implement policies, plan, apply for funding, make partnerships along with a wide range of practices in the name of conserving biodiversity. This data builds on the literature which asks, 'What is conservation?' (Doak et al., 2014, Kareiva and Marvier, 2012, Sandbrook, 2015, Soulé, 1985). In this study it suggests that, conservation is a highly

pragmatic discipline, with multiple practice-based tasks performed daily, woven into a complex constellation of clusters of social practices. Using a practice approach allows the unpacking of each of these practices to locate and make sense of their components and 'ecologies of practice'(Kemmis et al., 2012). This includes not only the '*know that*' but also the '*know how'* described by Brown and Duguid (1991). Through the perceptions gathered in this study, constellations of social practice frame and shape much of work undertaken within the conservation arena (Hui et al., 2016). Evidence suggest that these constellations exist throughout the different layers within an ecological system model (Bronfenbrenner, 1992) with multiple actors influencing and effecting others in the system as well as the surrounding environment. The research locates and describes practices within these different layers, which will now be summarised. This provides a novel approach to understanding the social practices that exist within the social dimensions of biodiversity conservation.

5.3.1 Individual practices

The findings show that at an individual level, colleagues perceive their practices in the social dimensions of conservation to be influenced by a variety of factors including academic qualifications, lived experiences, personal attributes and previous interactions with others (Hui et al., 2016, Schatzki, 2012). Evidence from the data suggests that colleagues learn how to act from these prior formal training, experiences and interactions, adapting their practice accordingly. This is indicative of the Reckwitz's (2002) contention that people are carriers of practices in this social dimensions of a conservation system, with their own agency, but additionally guided by the social orders and structures nested within the ecological system that influence their knowledge and practices (Gherardi, 2000, Hager et al., 2012).

5.3.2 Technical practices

Through the analysis, the technical practices in the social dimensions of conservation are split into four areas: social research practice, social intervention practice, planning practices and policy practices. The findings suggest that colleagues perceive that these technical practices require a broad suite of knowledge and skills to correctly implement within the conservation space (Mascia et al., 2003). Many recognise current logistical, cultural and personal challenges in their capacity to embed these aspects of the social dimensions into their suite of recurrent practices. This further supports the literature which recognises various challenges and barriers to integrating social research (Sandbrook et al., 2013), social interventions (Russell and Harshbarger, 2003), planning practices (Conservation Measures Partnership, 2013) and policy practices (Shove, 2010) into the conservation practice landscape (Bennett et al., 2017a, Campbell, 2005b, Cook et al., 2013, Fox et al., 2006).

The data shows a limited use within colleagues' practices of both the full repertoire of social science disciplines, and methods in social research practices. As the data shows, most of the participants are trained in science disciplines, so this result supports the literature (Adams, 2007, Fox et al., 2006, Phillipson et al., 2009), and is expected given their backgrounds, and often reluctance to cross disciplinary boundaries (Margles et al., 2010). Many report a shift within the last decade in conservation projects that increasingly contain a social component, that requires one or more of the technical practices described be drawn upon to address this aspect of the project. A key issue to note is how to broaden colleagues technical practice capacity to further unlock the potential of the contributions the social dimensions of conservation can make to these projects. (Newing, 2010, Bennett et al., 2017a).

Data concerning the social intervention practices indicates that most colleagues feel social interventions are an important work practice to conduct. However, this appears to be in tension with the financial and resources required to be invested in the project to facilitate these kinds of interventional practices. Colleagues felt more confident using traditional techniques such as PowerPoint presentations and workshops, and this was supported by the data, which shows that colleagues favour interventions with a cognitive gain purpose that use knowledge sharing methods. This is a surprising feature of the data since the literature favours more impactful interventions that contribute to social or behavioural change (Ghimire and Pimbert, 2013, Heimlich and Ardoin, 2008, Schultz, 2011). Evaluations to measure the success of the interventional practice are not routinely in place within the organisation, as again time and financial were features that appear to disrupt evaluative practices. Despite there appearing to be a sense that interventions and associated evaluative practices carried out by colleagues had become more mindful of historical, cultural and political sensitivities, there is still strong perception that additional training would be beneficial in this practice area. Colleagues strongly felt both personal and organisational capacity are lacking to attempt the more sophisticated intervention approaches and they caution moving into this unknown territory unless further knowledge, skills and confidence in these areas are built (Mascia et al., 2003, Newing, 2010).

The main finding concerning planning practices suggest that colleagues recurrently undertake planning activities in various aspects of their work practices. For projects, it appears they feel that both the urgency of the threats facing biodiversity that need to be addressed, along with restricted timescales in their funded projects equate to the actualities of planning practices being performed sporadically and without a systematic frame. This

shows a departure from the research literature (Taplin and Clark, 2012, Conservation Measures Partnership, 2013, Knight et al., 2006a, Pressey et al., 2007), and thus suggests this is one practice area that would benefit from an organisational stance to adopt more systematic and holistic planning approach. The data evidences that this potential new approach to practice would be welcomed by colleagues, if a realistic pathway that could be located that will not impact further on their time and resources.

Lastly, the perceptions of ethics and ethical considerations gave a mixture of opinions. From the data, there appears to be some uncertainty of the processes and requirements towards ethics in the social dimensions in conservation. How informed consent was obtained by colleagues for their social research practices was varied, with a sense or adaptability rather than using systematic approach. Evidence suggests a need and willingness to improve knowledge and understanding of the range of ethical considerations when undertaking practices in the social dimensions, which supports to resituate ethics and human rights as a key consideration in conservation practice (Caplan, 2004, Chan et al., 2007, Hanna and Vanclay, 2013).

For these technical practices, like many aspects in the social dimensions, there is a perception that the presence of these types of practices is likely to increase within future projects, given the growing anthropogenic drivers of crisis concerning biodiversity loss. This along with a perception that a more systematic approach would be beneficial both to individual projects and organisationally, collectively suggests an urgent need to invest in building capacity to meet the parameters of these technical practices.

5.3.3 Interactional practices

Interactional practices situate in the mesosystem of the ecological model and are the interconnections that form the constellations between practices and between layers in the system. The perceptions suggest recurrent use of interactional practices by colleagues as they make connections with 'others' in their day to day work. Personal, social, cultural and physical contexts appear to play a role in what interactional practices colleagues draw upon to navigate through the social dimensions successfully (Brown and Duguid, 2001, Gherardi, 2000, Hui et al., 2016). Evidence to suggest that colleagues' practices adapt to meet the requirements of these changing contexts, further supports the notions of colleagues as carriers of practices modify and change depending on contextual frame. The importance of building and maintaining social capital along with practices around communication and collaboration supports the literature as likely to be enabling features of effective interactional practice (Ostrom and Ahn, 2003, Pooley et al., 2014).

Social conflict practices appear to exist between groups and within groups (Madden and McQuinn, 2014) in both internal and external contexts. The social rather than the 'human-wildlife' nature of conflict practices is foregrounded by colleagues' perceptions of their practices. Origins and sustaining attributes of social conflict seem to derive from flaws in other practices such as communication and collaboration, and from a dichotomy in personal values, priorities and agendas (Dickman, 2010, Hill et al., 2017, Madden and McQuinn, 2014, Redpath et al., 2013). This is balanced with evidence that colleagues accept these potential igniting factors due to the size, history, leadership styles and uniqueness of being both a jointly mission-revenue focused organisation (Brooks, 2009, Johns, 2009). Resolution practice to mitigate this conflict appear to be acknowledged, but absent from most colleagues practice repertoires (Madden and McQuinn, 2014, Margles et al., 2010).

5.3.4 Organisational practices

This study gives an insight into the organisational practices at the Zoological Society of London, a UK zoo-based conservation organisation. The findings depict a passionate workforce, who have a clear sense that they are 'working for a good cause'. This surfaces strongly through the data despite the frustrations they often report with flaws in social orders around prioritisation, tensions between quality and quantity, organisational politics and governance structures (Brooks, 2009). Acknowledgement of these factors is important as it highlight many of the organisational practices that are likely to enable or constrain individual and technical practices.

The opinions of the five directorate groups (Zoological, IOZ staff, IOZ student, CP UK, CP Overseas) within the organisation were explored within this study. It appears that their perceptions were not significantly different for most of the opinion statements. This leads to suggests that the majority of the collated data detailed in the results is indicative of the perceptions across the organisation. This level of detail in the data analysis is particularly useful in helping to shape future organisational wide, and departmentally focussed practice recommendations.

5.3.5 Conservation disciplinary practices

In this wider sphere of practice, the findings offer in insight into the people and practices that exist within the conservation disciplinary community. Interestingly, there was a sense from participants that the higher echelons across the conservation community are still held by the "*male, stale and pale*", giving a depiction of a gender biased and diversity void leadership within this discipline. This, joins perceptions of a culture with a 'policy-practice' gap in ethical and human rights practices (Kemmis, 2010, Cook et al., 2013), which in part suggests echoes of colonialism and marginalisation of communities still exist within the

conservation community (Dowie, 2011). Lastly, the data suggest that colleagues are aware that as conservationists they are important actors within the constellations of practice located on conservation social system (Reckwitz, 2002). The myriad of social practices they recurrently perform daily are likely to be one of the key contributing factors as to the nature of the outcome of their projects.

5.3.6 Global – social, cultural and political practices

Through the results, the social dimensions exist at multiple interconnected layers within a system. From a macro perspective, there appears to be clear awareness of the social nature of biodiversity loss (Wilson, 1989).This is a very strong sense that social sciences play an essential role in current conservation projects, and this role will grow in importance in the future (Bennett et al., 2017a). This ties to the notion of the biodiversity crisis worsening (Steffen et al., 2015, McGill et al., 2015), with anthropogenic threats and drivers being at the heart of many of the issues. As the interface between people and biodiversity sharpens, a capacity to design, delivery and evaluate appropriate social components should be a fundamental goal for any modern conservation organisation (Sandbrook et al., 2013, Newing, 2011, Pooley et al., 2014). The study organisation does not clearly evidence this level of capacity towards the social dimensions at present. There is a mixture of agreement towards whether individual and organisational capacity is current at a level to meet this need within the social dimensions.

5.4 Gaps in capacity within the social dimensions of conservation

Drawing on the findings along with the interpretation from the previous discussions sections, it can be eluded to that many colleagues feel that they have gaps in their capacity towards various practices within the social dimensions of conservation. Specifically, evidence suggests gaps in knowledge, skills and confidence in the following practice

including planning, social research, social interventions, policy and ethics (Bennett and Roth, 2015). Further support to enable a wider capacity in the interactional practices - such as social conflict resolution (Madden and McQuinn, 2014) is also apparent from colleagues' perceptions.

These gaps appear to be largely due many colleagues starting their careers in conservation with a biological interest and qualifications (Adams, 2007). This supports a similar view in the literature. The knowledge resources they gather regarding the social dimensions appear to build mainly through their recurrent lived experience as part of their projects. These perceived gaps in capacity within the Zoological Society of London are not unique to within the conservation landscape. It matches the findings from the literature (Bennett et al., 2017a, Cannon et al., 1996, Fisher et al., 2009, Fox et al., 2006, Jacobson and Duff, 1998, Newing, 2010) and comments from other conservation professionals. For example, an external colleague recently describes most conservationists' capacity towards the social dimensions of conservation like "*two blind people trying to describe the colours of a painting*". This study further confirms this position within the discipline but has explored the elements of these gaps in more detail than previous studies, and within a conservation organisation, which is a unique feature of this research.

The gaps evidenced in capacity indicate that colleagues struggle navigating successfully through the more sophisticated elements practices of various aspects of the social dimensions. This study contributes to, and builds upon the literature that advocates for conservationists to build their capacity in the social dimensions of conservation (Mascia et al., 2003, Newing, 2011, Bennett et al., 2017a). The findings from this research offers two additional data driven recommendations connected to organisational capacity building.

Firstly, that additional staff with specialised capacity should be brought into the organisations workforce. Colleagues request that these specialists could support specific deficits in their practice and provide additional support. Secondly, the evidence suggests that colleagues desire to make stronger and more sustained partnerships with external institutions which have expertise in the social practices described in this study. This novel combination has the potential to support and assist colleagues work in a number of useful ways.

5.5 'Collaboratition': collaborating and competing within conservation

'Collaboratition' is a novel but apt word that neatly describes the apparent recurring interplay between collaboration and competition within the conservation community of practice. It adds to the perceptions that conservation is a complex, competitive and political space within the organisation(Brooks, 2009). This helps to explain why the possessing knowledge resources to navigate sensitively through collaborative practices with a range of different individuals, groups and organisations is such a feature within the data. These knowledge resources grow out of the imperative to interact with other, many of whom may have competing or different agendas.

The rivalry is indicative to the limited amount of funding in conservation that causes social conflicts between conservation groups, despite them ideologically sharing the same vision of protecting biodiversity (Fox et al., 2006, Campbell, 2005b). Colleagues are thus tied to a cycle of competing for funding to further their projects, but more often to maintain job security. Many reported this process as stressful and overwhelming. Additionally, the findings show a strong recognition that aspects of the social dimensions will be a requirement within future funding proposals and is likely to increase in the future. As many

colleagues declare an absence of capacity in the social dimensions, a key question is how funding bids of the future will be successfully prepared when this notable gap in the social dimensions exists. This issue will only crystallise further as future conservation initiatives take a stronger social role.

5.6 Working for wildlife in siloes

The findings offer an interesting commentary on the organisational dimension of the social dimensions. Perceptions of the constellations of social practices within this conservation organisation emerged from the analysis. Despite the organisation having a strong, sense of its collective goal of conserving biodiversity, dissonance is observed between this vision and day to day social practices. There is a 'power culture' lived and experienced by its employees through the sporadic growth of its conservation projects and programmes. A sharp interface between 'mission' and revenue' exists, along with the recurrent practices of conflict and coexistence within directorates, and between directorates. Collaborative practices within teams is a feature, but this starts to erode as work involving others, outside the teams, has to take place. This indicates the enabling factors of collaborative practice are not a characteristic across the organisation (Schatzki, 2012, Wenger, 1998, Pullin et al., 2004).

The evidence suggests new collaborations are initiated more through interactions in informal settings than formal structured meetings. Additionally, there is strong evidence that organisationally, there are not enough opportunities to meet people outside of their immediate teams on a regular basis. The need for an 'interactional space' which is evidenced as the genesis of many prior collaborative projects was felt keenly by many respondents. Because of this perceived siloed nature of the organisation, there was little

evidence of collective learning via sharing information across departmental boundaries or a sustained organisational community of practice.

5.7 Multiple disciplinarity in conservation

The findings show that colleagues value and applaud the diverse workforce in the organisation. The barriers to fostering further trans, inter and multiple disciplinary practice are not due to antagonistic reasons which is often cited in the literature (Moon et al., 2014, Pooley et al., 2014, Campbell, 2005b).Rather that within the organisation, most conservationists are from a science background, and therefore there is a paucity of colleagues with qualifications and expertise in the social dimensions to meet the multiple disciplinary potential of the current portfolio of projects and programmes. Universal support appears to exist for fostering an interdisciplinary culture in conservation research and practice, but internal capacity issues along with time, space and authorisation barriers to collaborative practices are preventing the potential for wide spread multiple disciplinary practices. Additionally, the size of the organisation workforce, with its wide geographical distribution of staff embodies an isolationist culture, with few features to suggest a sustained community of practice (Wenger, 1998) towards the social dimensions exist.

5.8 Conclusion

Researching in this context generates both personally interesting and organisationally useful findings. The Zoological Society of London, like many concerned with biodiversity conservation is a complex and dynamic space. It supports a workforce who have clear passion and enthusiasm in their endeavours to conserve biodiversity. These conservationists draw upon and are influenced by elements from different layers within social system that inform their own, and others, day to day practices. Figure 5 below reminds the reader of this social system that was visually conceptualised as part of this

research. It demonstrates how the social dimensions system can be thought of as containing multiple interconnected layers, ranging from individuals to the global context.

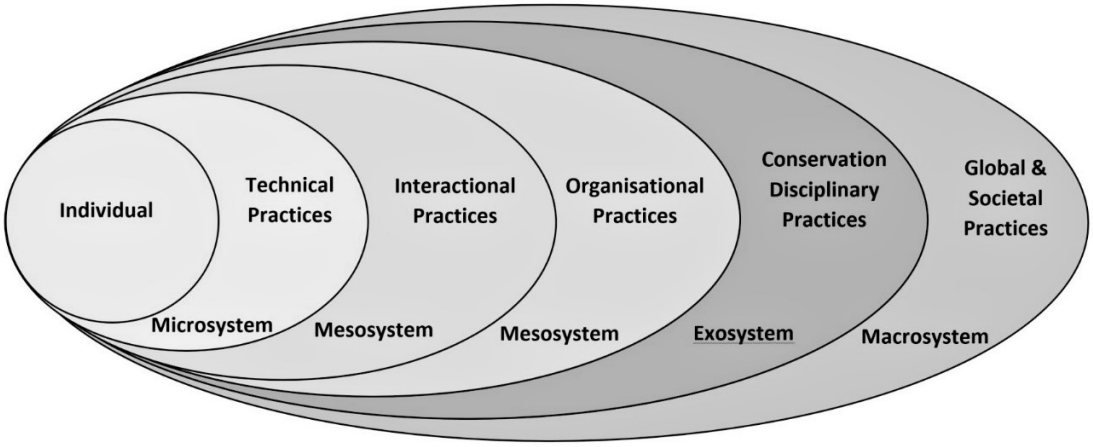

Figure 5: Diagram to show the ecological system of practices within the social dimensions of conservation.

From results of the research, each layer in the system has been given a frame which are listed below:

Microsystem – includes both the individual conservationist, and the technical practices such as social: research, interventions, planning and policy

Mesosystem – provides interconnections between the microsystems. Here, it includes the interactional practices which include communication, collaboration, social relationships and conflict. It also includes organisational practices which provide a wider approach to these interconnections.

Exosystem – lies outside the individual's immediate context, but still has an influence on practices. Here, this includes the conservation community and other conservation disciplinary components,

Macrosystem – includes social, political and economic contexts from a global perspective.

Chronosystem – encompasses time as component that relates to the other four systems. This can include power historical influences or the notion that individuals will change over time. (this is not represented in the ecological diagrams, but is seen as an important factor in the systems)

The research findings depict a system where there is interweaving of competing and collaborating for limited resources to mitigate time bound threats on biodiversity. Where individuals must navigate sensitively through patterns of practices that embody a highly politically charged discipline despite a perceived collective ideology of conserving biodiversity. Despite interest in, and importance of the social dimensions, gaps in knowledge, skills and confidence are widely reported. Recommendations to address these gaps will be further explored in the next chapter. However, it is vital to note here that the evidence suggests that within the social dimensions, colleagues must draw on and effectively conduct a combination of technical, interactional, organisational and disciplinary practices in order to make positive contributions towards mitigating the socially driven conservation crisis

Chapter Six: Conclusions

6.1 Introduction

The purpose of my thesis was to use a practice lens to explore the perceptions of the social dimensions of conservation within the Zoological Society of London, a UK zoo-based conservation organisation. This research was framed by the urgent need to address the current globally recognised, and highly social conservation crisis (Ceballos et al., 2017). The planet has entered the era of the Anthropocene, and the sixth mass extinction of biodiversity is largely evidenced as anthropogenically driven (McGill et al., 2015, Zalasiewicz et al., 2011). This puts conservationists in a new practice space, with an increasing remit to embed the 'social dimensions' into their projects and programmes (Adams, 2007, Mascia et al., 2003, Sandbrook et al., 2013). The localised need, and genesis of this research came from colleagues who reported an interest in, but capacity deficit in conducting conservation initiatives that contained a growing number of social components. This was further supported by the literature which highlighted both an acknowledged interest in (Bennett and Roth, 2015, Adams, 2007), and importance of the 'social dimensions', but also apparent gaps within the understanding and embedding of these elements into a wide range of conservation practices (Mascia et al., 2003, Bennett et al., 2017a, Fox et al., 2006). Given the nature of the problem described, the following research questions were addressed in this thesis:

1. What are the boundaries of the social dimensions within biodiversity conservation?

2. What practice themes can be identified within the social dimensions of conservation?

3. What are the perceptions towards the social dimensions of conservation at the Zoological Society of London?

4. How does using a practice lens provide a novel way to explore the social dimensions of conservation?

5. To what extent can new knowledge about the social dimensions of conservation be embedded within the Zoological Society of London and the wider conservation community?

Using a mixed method, practice based approach (Creswell and Plano Clark, 2011), the research aimed to gather data from colleagues within the Zoological Society of London about their perceptions of the social dimensions of conservation. In phase one, the key informant interviews allowed a rich narrative to be garnered and then examined through categorical analysis (Agresti and Kateri, 2011). From this, initial practice 'areas of consideration' were constructed. Then, through a wider reaching online survey instrument, these practice themes were tested, and built upon through gathering the perceptions of a broader set of colleagues. This second stage allowed the themes to evolve and become more nuanced. The data from the two approaches was then synthesised to allow the results to be presented in a thematical format, under six practice theme headings.

6.2 Overall contribution to new knowledge

The overall contribution to new knowledge falls into several different areas. It is the first study, to my knowledge that explored the perceptions of the social dimensions of conservation within a UK zoo-based conservation organisation, namely the Zoological Society of London. Conducting this kind of insider research brought new insights towards

the social dimensions of conservation by colleagues by the examining the data though a practice lens.

Secondly, part of the study involved attempting to describe and depict the components and boundaries of the social dimensions of conservation. A new conceptual definition was offered which foregrounds the duality of the social focus and the social processes within this dimension. To visualise the concept further, and to assist with situating the practice themes in this research, a visualisation adapted from an ecological system model was created. This contributed to further understanding how the practice themes exist within the social dimensions of conservation. This novel practice-based approach enabled several practice themes to emerge and be organised from the data and brought further comprehension to elements of the social practices involved in the conservation space. What practices exist, how they interconnect and how they can be organised into themes and within an ecological system model.

Using the social practice theories to frame this research brought new insights into the types and connectivity of the practices of colleagues within the social dimensions of conservation at the Zoological Society of London. It gave further understanding of the layers and constellations that connect conservationists to technical practices such as planning, policy, social research and social interventions; interactional practices including conflict, collaboration and communication; organisational practices; conservation disciplinary practices and global level social, cultural and political practices. This new insight helps to situate the social practices within these different themes, and further understanding the knowledge and skills required to perform these practices within this organisation.

Lastly, the findings from this thesis built on the literature that identified the research problem in section 1.3 in the following ways:

The literature identified that from a broad perspective, the drivers for biodiversity loss are largely anthropogenic in nature and that conservation is as much about people and society as it is about species and ecosystems. The findings from this thesis confirmed this position and added to the body of understanding around how people and their practices fit within the conservation landscape. The literature also identified that although conservation is highly social and pragmatic, there are a range of personal, professional and political barriers for conservationists to work effectively in the social dimensions. The research findings also supported the literature, and the data shows that conservationists are largely biological and ecologically trained but are asked to frequently work in the social domain. This thesis gathered the perceptions of ZSL colleagues and the findings confirmed these issues. In contrast to the literature, this research took a novel practice-based approach which enabled tangible practical recommendations to be located and shaped for the organisation and the wider conservation community. This brings a unique contribution to addressing some of the issues related to the social dimensions and helps address the issues raised by the literature. My research took a heuristic approach which was helpful to uncover themes associated with practices at different layers within the system. They eluded to how individuals interact and how social practices influence how conservationists conduct they work in this space. It contributes to the body of understanding around addressing issues of effective conservation action. Using a novel practice-based approach to address the issues identified in the literature has produced; a new definition of the social dimensions of conservation, a conceptual model of the layers practices in social dimensions system and

recommendations to improve both the theoretical thinking around, and practical recommendations to address these issues.

6.3 Addressing the research questions

6.3.1 Research Question 1:
What are the boundaries of the social dimensions within biodiversity conservation?

The social dimensions of conservation are an integration of both the social focus and social processes that exist in multiple layers within the conservation space. The boundaries span from the individual to the global, from practices to policy. In this system, each layer is interconnected with the others through constellations of social practices. Some practices are more explicit and immediate, whereas others are tacit and embedded in historical contexts. The social dimensions include six practice themes which help to situate both the social focus and the social processes in the different layers within system.

6.3.2 Research Question 2:
What practice themes can be identified within the social dimensions of conservation?

Using a practice lens for this research has enabled the practices within the social dimensions of conservation to be explored through the perceptions of colleagues. Practice themes emerged from data and were organised through a system to further understand how they interconnect with each other. This approach also helped to locate potential issues associated these themes

Six practice themes were identified within the social dimensions of conservation

1. Individual practices

2. Technical practices
3. Interactional practices
4. Organisational practices
5. Conservation Discipline practices
6. Global and Societal practices

Brofenbenner's (1992) ecological system model that was modified to help visually conceptualise these practices themes in the social dimensions of conservation system (see Figure 5). Nested within each practice theme there were several different subthemes that form clusters and constellations of practices within this system. Practices theme range from being focused on the individual conservationist to those which exist a Global and societal level.

6.3.3 Research Question 3:
What are the perceptions towards the social dimensions of conservation at the Zoological Society of London?

The main perceptions towards the social dimensions of conservation show that colleagues are interested in this dimension and they see it as an important and growing aspect of their work as conservationists. However, given the practice themes uncovered within the data, there is a clear perception that both individually and organisationally, there were gaps in knowledge, skills and confidence to adequately carrying out the full range of these practices connected to the social dimensions. As the social pressures within the crisis concerning biodiversity loss are likely to increase in the future, this deficit within colleagues' capacity is even more urgent to address.

6.3.4 Research Question 4:
How does using a practice lens provide a novel way to explore the social dimensions of conservation?

A practice lens gave a novel way to examine this phenomenon by giving the research a social and pragmatic frame. This lead the design of the research instruments to focus on uncovering the practices that happen day to day and the 'ways of doings and sayings' that exist within this research context. This enabled the data to give a depiction of what conservationists do recurrently in terms of practices, what knowledge resources they draw on and the perception they have towards operating within the social dimensions of conservation. This moves away from an essentialist stance to novel view which is interested in locating and describing interactions and constellations of practices to foster further understanding of, and support for, the social practices involved in conserving biodiversity.

6.3.5 Research Question 5:
To what extent can new knowledge about the social dimensions of conservation be embedded within the Zoological Society of London and the wider conservation community?

The implications for this work will be discussed in further detail in later sections, with specific refence to recommendations for both the organisation and the conservation community in terms of theory, policy and practices. From within the organisation, through personal communications with externals colleagues and in the literature, there is a wide interest in increasing knowledge and understanding, as well as practice skills and confidence in the social dimensions of conservation. As an insider researcher, I am in the advantageous position to be able to make recommendations, and strive to foster changes within my own practices, those of my team and in the wider organisation. This has occurred tacitly as my knowledge and practices modify because of this PhD process and the new

knowledge I have uncovered. Outside my organisation, it is realistically more problematic to embed new knowledge about the social dimensions within the conservation community. I have used and aim to use more structured and explicit dissemination routes such as publications, conference presentations and actively offering to share the findings and details of the methodological approaches with interested external parties.

6.4 Theoretical and research implications

This research is the first study that uses a practice lens to explore the social dimensions in a UK zoo-based conservation organisation. As part of this practice-based research process, a new conceptual model of the social dimensions of conservation was created. The need for this new conceptualisation was firstly initiated from an ambiguity in the language of how the 'social' was situated within the conservation space, secondly from a possible gap in how the social dimensions of conservation was theoretically framed.

Drawing on the theories of social practices (Nicolini et al., 2003, Reckwitz, 2002, Saunders, 2011, Schatzki et al., 2001), and the ecological system model (Bronfenbrenner, 1992), a new definition for the social dimensions of conservation concept, that included both the social focus and social processes involved in practices within the social dimensions of conservation. In the analysis of the data, the ecological model was populated with the practice themes that were uncovered in the research process.

The theoretical and research implications from this study are that firstly, a new definition of the social dimensions can be offered as a theoretical frame for future studies that explore the conservation, or organisational space from a practice position. Secondly, by locating

and situating different layers of interconnected practices themes, this serves as a platform for future research into the social dimensions.

6.5 Practice implications

On a personal level, the findings of this study have been extremely helpful to inform my own practise concerning offering support to colleagues regarding the social components within their projects. Furthering my understanding of both colleagues' current capacity towards the social dimensions has allowed me to shape my support and thinking concerning colleagues' capacity building needs. Within my departmental strategy, there is now a social dimensions of conservation strategic aim. The knowledge gained in this study will now be part of my department knowledge base to inform practices in these area, and in our work

Because of this study, several tacit, but notable changes have taken place in the organisation. Firstly, within the organisational conservation project database, there is now a 'social dimensions' check box, which colleagues have to tick if their projects contain social components. This helps to catalogue and locate projects by the social dimension topic. The person who manages this was involved as a participant in the study and decided after further conversation, that social dimensions was a more appropriate descriptor than the previous 'education' term used in the database.

Secondly, the organisation has gone through a process to create a new institution wide strategy. There were three signals that denoted practice and policy implications of my research. Because of the knowledge of the research I was undertaking, I was asked to present to the senior management team to discuss the possible social dimensions of the three focus areas for the new strategy: illegal wildlife trade, landscapes and seascape and

wildlife health. The concept ‘social dimensions of conservation’ been used in the strategic briefs. Not usual, except this term was not a widely used term internally or externally before the study began. Lastly, I was invited to participate in several workshops to hone these three strategic areas and contribute a social dimensions perspective.

This narrative depicts the fortuitous position I hold as a researcher, that many different and often tacit aspects of the study have had practical implications for myself, my department and the wide organisation. The concept of the social dimensions of conservation is now being imbedded in the language and strategic practices at different levels.

Lastly, there was strong evidence to support three modes of furthering the organisational capacity towards the social dimensions. These are:

- Improving the capacity (knowledge, skills and confidence) of organisational colleagues in planning practices, social research practices, social intervention practices, policy practices, collaborative, communication and social conflict resolution practices.

- Recruit specialist staff to the organisation, to broadly support colleagues in their practices within the social dimensions of conservation.

- Make new and sustain partnerships with external institutions who can provide support and expertise in the practices within the social dimensions of conservation.

These have already been made available to colleagues within various teams, and a further prioritisation exercise will hopefully enable some of these recommendations to be implemented in the future.

6.6 Policy implications

These findings could be of use for policy and decision makers. The findings from the research show gaps in the processes used for ethical and human rights considerations within the organisation's conservation projects. One possible implication is to examine the scope, further practices and issues connected to ethical considerations. Drawing on the data, a more systematic and explicit process was called for, and shaping policies for the organisation around this area could offer a large benefit in term of all projects meeting the moral parameters required by the ethical governance, and it would also give colleagues support on best practice and policy guidance for their projects.

Further to this, the research findings offer a new way of conceptualising the social dimensions of conservation and situate practice themes within an ecological system model. This information could be of use to policy makers, and they draw on evidence to shape their thinking around individual practices themes, but also further their understanding of the interconnections between the layers in the social dimensions of conservation.

6.7 Limitations and future research

One key limitation to foreground is that this research took place at a single site, with a limited number of participants. Questions concerning reliability and validity of the data and the findings are balanced with the perceived practical and logistical benefit from research from inside my institutions. To test this potential limitation, and to link to future potential research, the practice themes and social components could be tested against the perceptions of another similar conservation organisation. This would add to the body of knowledge around the social dimensions and if the practice themes uncovered are unique to the Zoological Society of London, or more generally observed.

This research took an early decision not to focus on unpacking individual projects and programmes but decided rather to explore a broad spectrum of projects, people and perspectives from within the organisation. Given the complex and undefined nature of the research problem, this macro approach was decided upon by the researcher to be the most appropriate to initially explore and locate practices associated with the social dimensions across the whole organisation. Taking the decision not to examine a worked case does not detract from others being able to understand the research findings. In fact, as the research is not bound to one specific species, location of conservation team, it could be argued the findings have the potential to be more widely accepted across the organisation as they are not bound to or have any 'political baggage' connected to a particular individuals or projects. Outside the remit of this thesis, but an area for possible future research is spending time examining a particular species programme or project team with ZSL to apply and test the practice themes. This will enable a deeper dive into the practice themes and draw out further nuances and aspects to consider.

6.8 A personal note on my research journey

In conclusion, undertaking a research project within my own organisation has been equally challenging and rewarding. The initial idea for the thesis came from recurrent conversations with colleagues and a realisation there was a real and urgent need for further understanding into the social dimensions within my organisation's conservation projects and programmes. Taking a position of an insider research allowed me to sensitively collect the ideas, perceptions and voices of my colleagues, and I have enjoyed being on this research journey with them over the last few years. As I progressed, building my own knowledge, skills and

confidence as a researcher, and around my area of study, I found it had a profound influence on my own work. My hope is that I can share both the findings and the methodological approaches with other conservation organisations who wish to explore the social dimensions within the wider biodiversity conservation community.

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Appendix 1:
Key Informant Interview Question Guide

*1. Can you give me details of the types of projects and programmes you are involved in at ZSL that involve social dimensions?

*2. How confident do you think you (and your team) are working on the social/human dimensions of their conservation projects

*4. Give some examples of the social aspects of working with different stakeholders

*5. Thinking about your projects, how do you this the social aspects will change in the future, (and how do you think you will meet that demand)

*6. What do you think are the challenges around the social aspects of this project?

*7. To what extent do you collaborate with other departments on your work?

*8. How do you think our organisation should change its approach to SDC?

*9. What are your views on how conservation NGOs work together?

*10. What is your understanding of social dimensions of conservation?

*11. How has funding changed during your time in conservation – more social?

Appendix 2:
Online survey

Social Dimensions of Conservation at ZSL - Sarah Thomas

1. Thanks for taking part in my survey

I'm Sarah Thomas, Head of Discovery and Learning at ZSL. As many of you know I'm completing a PhD with the Department of Educational Research at Lancaster University. The focus of the thesis is to explore the social dimensions of the science and conservation projects that take place at ZSL. This survey is part of my data collection and I would be grateful if you could spare 10 minutes to fill in the following questions.

You have been invited because you are an employee / student at ZSL and I would like to get as many different viewpoints as possible on this topic.

if you have any questions , or would like more information before completing the questionnaire, please contact me at - sarah.thomas@zsl.org or on ext 6499

Consent for Participation in this Study

* 1. I agree to participate in this research study. I understand the purpose and nature of this study and I am participating voluntarily. I understand that if for any reason I wish to withdraw, I am free to do so within 2 weeks of completing this questionnaire

- ◯ Yes
- ◯ No

* 2. I grant permission for the data generated in this questionnaire to be used in the researcher's PhD thesis, external publications and conference presentations

- ◯ Yes
- ◯ No

I grant permission under the following conditions

* 3. I understand that any information in connection with this study and that can be identified with me will remain confidential. I understand that my contributions to the questionnaire will be part of the data collected for this study, my anonymity will be ensured and that my data will be stored on a secure server. I give consent for all my contributions to be included and /or quoted in this study.

- ◯ Yes
- ◯ No

I grant permission under the following conditions

1

* 4. What is your gender?

- ◯ Female
- ◯ Male

* 5. Where do you work in ZSL?

- ◯ IOZ staff
- ◯ IOZ student
- ◯ CP staff based in UK
- ◯ CP in country staff
- ◯ Zoological - Animal Department
- ◯ Zoological - Discovery and Learning
- ◯ Zoological - Veterinary Department
- ◯ Other

Other (please specify)

* 6. How long have you worked at ZSL? (to the nearest year)

* 7. Please select which best represents your academic qualification history. If you are part way through a qualification, tick the discipline which best represents your current course.

	Sciences	Social Sciences	Mixed - social sciences and sciences	Other discipline	Not relevent (tick this is you have not completed, or are not part way through this qualification)
PhD	◯	◯	◯	◯	◯
Masters / Postgraduate Certificate	◯	◯	◯	◯	◯
Undergraduate Degree	◯	◯	◯	◯	◯

Please give details of your qualifications here (optional)

Lancaster University

Social Dimensions of Conservation at ZSL - Sarah Thomas

2. Part 1 - About your use of the social sciences in your work

8. Social science covers a broad range of disciplines which the ESRC lists in the following categories. Please rate how useful you find each one in helping you to complete your ZSL projects.

(ESRC - Economic and Social Research Council)

If you feel you need more details about each discipline, please visit - http://www.esrc.ac.uk/about-esrc/what-is-social-science/social-science-disciplines.aspx

	Very useful	Somewhat useful	Not very useful	Not at all useful	Not sure
Demography	◯	◯	◯	◯	◯
Social statistics, methods and computing	◯	◯	◯	◯	◯
Developmental studies	◯	◯	◯	◯	◯
Human geography	◯	◯	◯	◯	◯
Environmental planning	◯	◯	◯	◯	◯
Economics	◯	◯	◯	◯	◯
Management and business studies	◯	◯	◯	◯	◯
Education	◯	◯	◯	◯	◯
Anthropology	◯	◯	◯	◯	◯
Linguistics	◯	◯	◯	◯	◯
Law	◯	◯	◯	◯	◯
Economic and social history	◯	◯	◯	◯	◯
Politics	◯	◯	◯	◯	◯
International relations	◯	◯	◯	◯	◯
Psychology	◯	◯	◯	◯	◯
Sociology	◯	◯	◯	◯	◯
Science and technology studies	◯	◯	◯	◯	◯
Social policy	◯	◯	◯	◯	◯
Social work	◯	◯	◯	◯	◯
Philosophy	◯	◯	◯	◯	◯

* 9. Please tick how frequently you or your immediate team have used the following social science research methods on a ZSL project within the last 3 years. (a simple definition of each method is provided)

	I **often** use this method	I **sometimes** use this method	I **rarely** use this method	I **never** use this method	I am **unaware** of this method
Surveys *(A survey is defined as the process of gathering data about a group of people that could involve a wide variety of data collection methods)*	◯	◯	◯	◯	◯
Questionnaires *(A questionnaire is an instrument for collecting data usually as a set of printed or written questions with a choice of answers,)*	◯	◯	◯	◯	◯

	I **often** use this method	I **sometimes** use this method	I **rarely** use this method	I **never** use this method	I am **unaware** of this method
Focus groups *(A moderator facilitates a small group discussion among carefully selected people who discuss their perspectives on a specific topic.)*	○	○	○	○	○
Structured interviews (*interview follows a script*)	○	○	○	○	○
Unstructured interviews *(interviews involve questions that are not created in advance, & which allows for spontaneity and the developments of new questions over the course of the interview)*	○	○	○	○	○
Semi structured interviews (*Interviews follow a framework of specific topics but they are flexible, allowing and often enabling new ideas to emerge from the interviewee)*	○	○	○	○	○
Participant observations *(The researcher immerses him or herself in a group of people that he/she studies for an extended period of time.)*	○	○	○	○	○
Key informant interviews *(Key informant interviews are qualitative in-depth interviews with people who know what is going on in the community)*	○	○	○	○	○
Delphi method (*An iterative process of decision making where experts form a consensus on how to resolve a complex problem)*	○	○	○	○	○
Participatory methods (*Researchers work closely with non academic research partners to co- create research questions and co-produce knowledge relevant to the communities of the research partners and academia?)*	○	○	○	○	○
Case studies *(Case studies involve the use of one or more quantitative, qualitative or mixed method to explore, explain or describe a group, person, decision, project, institution, policy or other system)*	○	○	○	○	○

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	I **often** use this method	I **sometimes** use this method	I **rarely** use this method	I **never** use this method	I am **unaware** of this method
Programme evaluation (*Researchers collect, analyze and use data to determine if and to what extent policies, projects and programs are efficient and/or resulting in the intended effect)*	○	○	○	○	○
Use of secondary data *(Secondary data is information that someone other than the researcher created)*	○	○	○	○	○
Participatory mapping *(Researchers employ a wide range of tools to facilitate the participation of!community members as they map local knowledge)*	○	○	○	○	○
Mixed methods (*Focuses on understanding the real world context and cultural influences linked to the topic(s) under investigation. Researchers tend to employ quantitative and qualitative methods and integrate the results)*	○	○	○	○	○
Documenting local environmental knowledge *(researchers record factual observations, management systems, historical and current uses of ecosystem components, ethics and values, culture and beliefs and identity)*	○	○	○	○	○

If you have used any other social science methods on your ZSL projects in the last 3 years , please add them in here

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3. Part 1 continued

* 10. These statements are about your opinions of**social science research methods** at ZSL. Please state to what extent you agree or disagree with these statements.

	Strongly agree	Agree	Neutral - neither agree or disagree	Disagree	Strongly disagree	Not sure	Not applicable to me
I do not feel confident in my own ability to conduct the social science research element of my projects	○	○	○	○	○	○	○
As an organisation, I think that ZSL has the necessary staff capacity to meet the current need for social science research in its projects	○	○	○	○	○	○	○
If I don't know what to do, I feel that I know who to ask for help within ZSL about the social science research elements of my projects.	○	○	○	○	○	○	○
The social science research element of my projects are usually carried out by a ZSL person	○	○	○	○	○	○	○
For the social science element of my project, I usually seek external (non ZSL) support and advice before I carry out the work.	○	○	○	○	○	○	○
My own knowledge of appropriate social science research methods comes from my own lived experiences on projects rather than any formal training I have undertaken	○	○	○	○	○	○	○
As an organisation, I feel ZSL should employ specifically trained staff that could support all departments with the design and delivery of the social science research elements of their projects	○	○	○	○	○	○	○
I feel that having a social science component is an essential part of a successful conservation project.	○	○	○	○	○	○	○
In the future, I think there will be an increase in the amount of ZSL conservation projects that require a social science component	○	○	○	○	○	○	○

Please add in any comments about your response here

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* 11. When conducting social science research, how do you gain informed consent from your participants?

- ◯ Mostly written consent
- ◯ Mostly verbal consent
- ◯ A mixture of verbal and written
- ◯ I do not usually gain informed consent for the social science methods I use
- ◯ I'm not sure
- ◯ Other (please specify)

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4. Part 2 - Social Interventions

In this question, what I mean bysocial interventions are any planned activity which is delivered to individuals, communities and/or other stakeholders on your project.

* 12. Please tick as many of the activities below that you and your immediate team have undertaken on ZSL projects during the last 3 years.

- ☐ Held a community meeting
- ☐ Facilitated a workshop
- ☐ Delivered a structured (with learning outcomes) education programme to children
- ☐ Delivered an informal education session to children
- ☐ Delivered a structured (with learning outcomes) education programme to adults
- ☐ Delivered an informal education session to adults
- ☐ Given a Powerpoint presentation / talk about your project to stakeholders
- ☐ Given a Powerpoint presentation / talk about your project to the general public
- ☐ Had a 1:1 discussion with a stakeholder
- ☐ Given out project branded merchandise such as T-shirts etc
- ☐ Delivered a community based social marketing campaign
- ☐ Designed a training course
- ☐ Delivered a training course
- ☐ Produced infographics
- ☐ Created a project mascot
- ☐ Showed a film about the project
- ☐ Put up project posters
- ☐ Gave a demonstration to stakeholders
- ☐ Had stakeholders involved in making a project resource
- ☐ Set up a PES (payments for ecosystem services) scheme
- ☐ Produced leaflets and/or other reading materials
- ☐ Created a radio show
- ☐ Rolled out a social media campaign
- ☐ Held a celebration day
- ☐ Set up a project facebook group
- ☐ Delivered a 'train the trainer' course
- ☐ Sent an e-mailout to a list of interested stakeholders
- ☐ None of these activities

Other activites undertaken (please specify)

* 13. Please tick as many of the items below which reflect the goals of the social interventions you and your immediate team have undertaken in during the last 3 years.

- [ ] Share information
- [ ] Develop capacity
- [ ] Alleviate poverty
- [ ] Improve positive attitudes towards animals and nature
- [ ] Raise awareness
- [ ] Inform policy
- [ ] Develop sustainable livelihoods
- [ ] Educate children (under 18 years old)
- [ ] Educate adults (over 18 years old)
- [ ] Promote the values of nature
- [ ] Collaborate with the community
- [ ] Change behaviour
- [ ] Improve knowledge of participants
- [ ] Collaborate with businesses and industry
- [ ] Change values and beliefs
- [ ] Provide economic benefit to the community
- [ ] Collaborate with Government (local and national)
- [ ] Increase participation from stakeholders
- [ ] Foster sustainable behaviour
- [ ] Improve skills of participants
- [ ] Change attitudes
- [ ] Promote emotional connection with nature
- [ ] Empowerment of individuals
- [ ] Decrease consumer demand
- [ ] Decrease illegal actvitiy
- [ ] Develop governance
- [ ] I do not have any of these goals as part of my projects

Other - please specify here, any additional goals of your social interventions

* 14. These statements are about your opinions of social interventions. What I mean by social interventions is any planned activity which is delivered to individuals, communities and/or other stakeholders on your ZSL projects. Please state to what extent you agree or disagree with these statements.

	Strongly agree	Agree	Neutral - neither agree or disagree	Disagree	Strongly disagree	Not sure	Not applicable to me
In general , I feel confident in my knowledge to decide which social interventions are appropriate for the needs of my projects	◯	◯	◯	◯	◯	◯	◯
Please add in any comments about your response here							
Usually, I have an evaluation plan in place that will measure the success of the social interventions I have implemented on my projects	◯	◯	◯	◯	◯	◯	◯
Please add in any comments about your response here							
I feel that I need more training on the range of social interventions available and how to successfully implement them	◯	◯	◯	◯	◯	◯	◯
Please add in any comments about your response here							
I feel I need more training on the range of approaches to evaluate the success of the social interventions on my projects.	◯	◯	◯	◯	◯	◯	◯
Please add in any comments about your response here							
I do not think social interventions are an important part of my work at ZSL	◯	◯	◯	◯	◯	◯	◯
Please add in any comments about your response here							
In the last 3 years, I feel there has been an increase in the number of funding applications that require a social component (research and/or interventions) as part of the project outline	◯	◯	◯	◯	◯	◯	◯
Please add in any comments about your response here							

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5. Part 3 - Social Practices

In this section, by social practices I am referring to what usually happens to you ,on a day to day basis within your own working environment.

* 15. These statements are about your opinion of social practices at ZSL. Please state to what extent do you agree or disagree with these statements.

	Strongly agree	Agree	Neutral - neither agree or disagree	Disagree	Strongly disagree	Not sure	Not applicable to me
As an organisation, we are all working to a common goal of biodiversity conservation,	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
The species and projects ZSL works on are selected through careful analysis of global priorities	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
The main reason I started to work in this field was because of my interest in the biological side of animal conservation and science, not the human and social components	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
Conflicting interests between conservation organisations is a key barrier to success when working on a project with multiple partners.	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
I collaborate well on projects within my own team	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
Outside of my team, I'm not sure who would make a good collaborator on my projects (within ZSL)	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
ZSL has a workforce that have a diverse set of knowledge and skills appropriate for the needs of the organisation	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
ZSL as an organisation focuses on quality rather than quantity in the conservation work it undertakes	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
There is a good level of communication about my current projects within my own directorate	○	○	○	○	○	○	○

	Strongly agree	Agree	Neutral - neither agree or disagree	Disagree	Strongly disagree	Not sure	Not applicable to me
Please add in any comments you would like to make about your answer							
There is constant competition between conservation organisations for limited funding.	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
Projects ZSL takes on and the species they give priority to are often based on an individual's personal interest.	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
I collaborate well on projects with other teams in my directorate	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
I collaborate well on projects with teams in other ZSL mission (CP/IOZ/Zoological) directorates	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
I collaborate well on projects with teams from the other non mission ZSL directorates	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
Other conservation NGOs often have different priorities which make it difficult to collaborate together on projects	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
Collaborations with people outside my directorate often start from wider, cross departmental meetings	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
Collaborations with people outside my directorate often begins with conversations in informal settings (such as the staff canteen and the pub)	○	○	○	○	○	○	○
Please add in any comments you would like to make about your answer							
There are not enough opportunites for me to informally meet people from other directorates on a regular basis	○	○	○	○	○	○	○

	Strongly agree	Agree	Neutral - neither agree or disagree	Disagree	Strongly disagree	Not sure	Not applicable to me

Please add in any comments you would like to make about your answer

16. Name and current position (optional)

17. Please add in any addtional information that you feel is relevant to this study here - both in general and about ZSL.

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6. Thank You !

Thank you for taking the time to complete this survey.

If you would like to learn more about my work, or would like a copy of the results report from this survey - please email me on sarah.thomas@zsl.org