Open space or natural place?

The politics, perceptions and practices of place-making in the co-management of an urban nature reserve, Macassar Dunes, Cape Town.

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the politics, perceptions and practices of place-making in urban co-management, macassar dunes, south africa

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## LIST OF ACRONYMS

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<tr>
<td>BMB</td>
<td>Biodiversity Management Branch at City of Cape Town</td>
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<td>CoCT</td>
<td>City of Cape Town</td>
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<tr>
<td>CFN</td>
<td>Cape Flats Nature</td>
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<td>DEAT</td>
<td>Department of Environment and Tourism</td>
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<td>EEU</td>
<td>Environmental Evaluation Unit at University of Cape Town</td>
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<td>MDCA</td>
<td>Macassar Dunes Co-management Association</td>
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<td>MDCA-MC</td>
<td>Macassar Dunes Co-management Association Management Committee</td>
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<td>MDM</td>
<td>Macassar Dunes Management Plan (2001)</td>
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<td>MDNR</td>
<td>Macassar Dunes Nature Reserve</td>
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<tr>
<td>MEA</td>
<td>Millennium Ecosystem Assessment</td>
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<tr>
<td>NRM</td>
<td>Natural Resource Management</td>
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<tr>
<td>SAIRR</td>
<td>South African Institute for Race Relations</td>
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<td>UCT</td>
<td>University of Cape Town</td>
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This study uses sense of place and adaptive co-management theories to present a comparative analysis of co-management arrangements at Macassar Dunes Nature Reserve, Cape Town, and to broadly investigate the role of ‘place’ in ‘co-management’. Methods involved in-depth interviews with members of the main co-management body, the Macassar Dunes Co-management Authority, to determine their perceptions of ‘bridges’ and ‘barriers’ to co-management, and ‘place meanings’. Open-coding of these perceptions was based on analytical frameworks taken from the ‘faces’ of co-management (Berkes, 2009), and from sense of place theory, including place-making and politics of place. This comparative analyses show adaptive co-management relates more to co-management of processes and sense of place theory inherently relates to co-management of and in-place. I conclude adaptive co-management theory problematically incorporates ‘place’ into co-management understandings, and thus greater incorporation of place meanings in theory and practice could inform increased understanding of conflict in co-management arrangements, such as those presented at Macassar Dunes.

1 INTRODUCTION
1.1 Problem Statement and Thesis Aim

This thesis examines a case study of co-management arrangements instituted over one decade ago at the Macassar Dunes Nature Reserve (the Reserve) in south-eastern Cape Town, South Africa, and uses as its primary basis the perspectives of participants involved in the co-management process through the Macassar Dunes Co-management Association Management Committee (MDCA-MC).

Macassar Dunes Co-management Association was formalised in 2003 and consists of individuals and representatives of user and interest groups, interested in co-management of the Macassar Dunes. This variously includes individuals from local communities and community structures, activity groups such as wood collectors, traditional healers, fishermen and recreationists. It also includes City of Cape Town (CoCT) employees, as the responsible authority for the Reserve, and the Environmental Evaluation Unit of University of Cape Town (EEU), as joint instigators of the co-management process. MDCA-MC is the Management Committee of this group, and consists of six members as organisational representatives of the user or interest groups.

Co-management in theory and practice is a complex beast, the fundamental basis of which proposes various ‘stakeholders’ managing together a commonly valued resource or process, in this case a protected area. In practice, co-management of the Reserve is identified by past and present MDCA-MC participants as an inconsistent and fraught process, leading to long-term contestation over the processes and desired outcomes of co-management. At the same time, and in contrast, all interviewees reflect on the co-management framework as an invaluable component of Reserve management. In recognition of this complex perception of co-management, one objective here is to gain MDCA-MC perspectives on the perceived ‘bridges’ and ‘barriers’ to successful co-management of the Reserve, and to analyse these
through a co-management theory perspective - namely ‘adaptive co-management’ – to consider how the MDCA-MC perspectives may relate to the normative aspects of this theory.

Furthermore, at the heart of the co-management process, and fundamental to it, is the ‘place’, Macassar Dunes. It is theorised that questions of conflict in natural resource management (NRM) can often in actuality be questions of contested place meanings (Stedman, 2003). As such, a complementary objective here is to understand MDCA-MC perspectives on the place meanings attached to Macassar Dunes, and further, to analyse through a post-structuralist geographical approach the perceived ‘bridges’ and ‘barriers’ to successful co-management through a place theory - namely ‘sense of place’ -

These objectives inform the thesis aim: to critically consider the role of ‘place’ in co-management theory and practice, through a comparative analysis of adaptive co-management and sense of place theories. That is: i) considering how place has been used in co-management theory and practice to date, ii) considering the explanatory power of both these theories as regards the ‘bridges and barriers’ to successful co-management, and, iii) understanding if and how the utilisation of place theory may enhance adaptive co-management theory and co-management practice at Macassar Dunes Nature Reserve.

This analysis primarily utilises the perspectives of prominent members of the MDCA-MC, who have at some point been involved in the decade-long co-management process at the Reserve. Using this study scope, the analysis aims to explore the bridges and barriers throughout the length of the co-management process - from its inception at the very end of the last century, to its current status as at December 2009 - and further, to investigate the dynamics of place meanings and understandings throughout the co-management process. The temporal scope of this analysis allows for a greater understanding of contemporary co-management dynamics and, importantly, of how and through what mechanisms the sense of place dynamics in the co-management process may have changed over time.

I understand the concept of ‘place’ as an important and commonly excluded component (Cheng et al, 2003) for consideration in environmental resource management and beyond. As protected area co-management arrangements typically seek to bring different peoples, perspectives and understandings into a decision-making framework for place management, I hypothesise that considering the role of ‘place’ in co-management theory and practice may provide an important perspective on questions of conflict in co-management arrangements.

This comparative analysis between sense of place and adaptive co-management theories, using MDCA-MC as case study, provides a rich interpretation of the bridges and barriers to co-management. In effect, I find co-management theory helps explain many of the MDCA’s
identified bridges and barriers at Macassar Dunes, and further allows for examination of whether places are actually being ‘co-managed’ according to theory.

A sense of place analysis of place meanings and their relationship to the bridges and barriers finds place theory pays greater attention to underlying power-relations within the co-management process, as well as provides space to interrogate some of the values, methods and underlying assumptions of normative co-management practice. This includes the knowledges, practices such as conservation and education, and concepts such as ecosystem services and biodiversity, which are present in the Macassar Dunes co-management process. Further, an understanding of place meanings is not ‘framed’ by the co-management process, but by places and the meanings they evoke. In this way, sense of place theory provides a more nuanced and political reading of ‘place’.

On the basis of these findings I conclude adaptive co-management appears to place greater emphasis on co-management as process, while sense of place theory inherently places more emphasis on co-management in- and of- place. I find that adaptive co-management in theory and practice problematically incorporates questions of place. That is, place is largely not present, or referred to only vaguely, since adaptive co-management theory renders processes and understandings of place as largely silent.

In this way, sense of place theory thus can enhance co-management theory by incorporating place-specificity into co-management understandings. Thus sense of place theory provides an important examination of the role of place in co-management and reveals how relationships to places can inform co-management processes. I thus conclude here that incorporating understandings of place meanings in co-management theory and practice could provide an enriched understanding of conflict in co-management arrangements, such as those presented here in this case study of Macassar Dunes.

1.2 Research Questions

In line with the thesis aim several empirical research questions were developed iteratively during the course of the research process:

- What are the perceived ‘bridges’ and ‘barriers’ to the successful co-management of the Macassar Dunes Nature Reserve identified by current and previous MDCA-MC members?; and,

- What meanings and understandings of Macassar Dunes are identified by current and previous MDCA-MC members?

Utilising these results, and to meet the thesis aim of considering the role of ‘place’ in co-management theory and practice, these related Discussion questions are posed:
• How do the identified bridges and barriers to successful co-management of Macassar Dunes relate to adaptive co-management theory?
• What does sense of place theory tell us about the identified place meanings and the practices and politics of place-making in the co-management process, and how might these understandings relate to the perceived bridges and barriers to successful co-management of Macassar Dunes?
• Through examining the relationship between sense of place and adaptive co-management theories at Macassar Dunes Nature Reserve, what can be said about the role of ‘place’ in ‘co-management’?

2 THEORY
2.1 Place Literature Review

Place Matters

Place is an inherently complex phenomenon: it is conceptualised in diverse ways, theorised from various frameworks, and studied across an array of academic disciplines, ranging from computer science (e.g. Foley, 2003) to leisure studies. Copious amounts of theoretical and empirical material exists on human relationships to place, and the associated meanings, values, uses, conceptions, perceptions and emotions that humans generate toward ‘place’. Making sense of these theoretical and conceptual frameworks and the numerous methodologies for studying place relationships is therefore a fraught exercise, but is valuable nonetheless in imagining the complexity of human-environment relations.

What such conceptual and theoretical complexity might also demonstrate is that ‘place matters’. From the Human Geography discipline from which this thesis takes its groundings ‘place matters’ because place has “physical, geographical, architectural, historical, religious, social and psychological connotations” (Knez 2005, p208). As Rogan et al (2005, p147) surmise “[p]laces function as more than a mere backdrop to experience”: places are lived, experienced and created in relational and contingent processes (Hubbard et al, 2004). As result of these processes places and their meanings are dynamic, and they are experienced and understood differently by different people such that they are multiple, contested, fluid and uncertain (Hubbard et al, 2004).

Place and Place Meaning

It is theorised that we derive ‘place’ as the term used for meaning-invested spaces (Jones, 2008); as Stedman (2003) asserts: “space is transformed into place as it acquires definition and meaning” (p823). Cresswell (2009) argues place consists of three components, namely locale, location and sense of place. Location referring to an absolute point of space - that is, geographical coordinates, locale referring to the physical settings of how a place looks, and sense of place referring to “the more nebulous meanings associated with a place: the feelings
and emotions a place evokes” (p169). This is but one of many interpretations of ‘what is place’, yet, that places are centres of meaning remains a central component of place theory.

Whilst some scholars perceive social relationships as the driving force behind the evolution of place meaning, early on in place theory Relph (1976) argued that place is a fusion of human and natural order; that is, that the physical features of a place interact with social structures and processes to form ‘place’. Indeed, subsequent scholarly work identifies the importance of the physical setting or environment in the construction of place meanings and attachments, particularly studies in NRM, for example examining the effects of environmental change on place meaning (see Rogan et al, 2005).

Alternatively, Actor-Network Theory (ANT) renders the nature/culture dichotomy of modern epistemology obsolete through conceptualising the role of the physical environment as inseparable from the social realm, such that agency is a characteristic of both humans and non-humans too (Johannesson and Baerenholdt, 2009). ANT thus interprets the relationships between the natural and social orders as ‘networks’ of interaction between humans and non-humans, with places representing an articulation of these networks.

On considering the production of place meaning Massey (1993) suggests that places are better thought of as processes since: they are never static, but rather dynamic; their boundaries are fluid, interpretive, and socially constructed; they are defined in relation to other places, spaces and peoples; and, places and their identities are full of ‘internal kinds of conflicts’ that serve to render multiple place meanings. On relationality Massey (1991 p28) argues "the point is that there are real relations with real content - economic, political, cultural - between any local place and the wider world in which it is set". Because of these relations we would be mistaken to consider places and their meanings either as fixed or as generated solely in a certain portion of space, or from ‘internalised histories’ (Massey, 1991).

**Sense of Place and Interpreting Place Meaning**

Interpreting place meanings as well as the processes through which places come to be imbued with meanings has been an important aspect of place theory. Sense of place is one such interpretive understanding, and refers in general to the meanings, emotions, and affective relationships which people attach to place. The sense of place concept is widely credited to humanistic geographer Yi Fu Tuan, who developed the term during the 1960's and 1970's in response to what he perceived as the detached modes and methods of geographical thought and practice. This period marked a turning point in human geography thinking away from statistics, models and critical theories towards a human geography of personal encounter, feeling and emotion (Rodaway, 2004). This is reflected in the understanding of sense of place
as “based on thoughts as well as feelings; it involves the interplay between cognition and emotion” (Stedman, 2003 p823).

Jones (2008 p215) writes “[m]ore than simply a particular section or portion of space, in the eyes of social scientists, artists, writers, and many ordinary people, place tends to be associated with feeling, emotion or affect”. In response to these widely experienced notions of place Tuan coined the concept of ‘topophilia’, which refers to the emotions and sense of attachment that humans inherently have towards places, and he theorised that from our topophilic feelings a particular sense of place is derived. In Tuan's conception sense of place refers to the *unique* and *inherent* character and meaning of a place, suggesting there is a singular and authentic ‘sense of place’. This essentialist conception has duly come under fire in post-humanistic geographies (Cresswell, 2009). Such positioning of place 'authenticity' is considered a construct which privileges particular understandings of place, particularly the author's, and denies the politics behind different understandings of place (Shurmer-Smith, 2002). In fact Shurmer-Smith (2002, p24) plainly states "though sense of place is an enticing concept, it ought to be obvious that there is no single, genuine essence buried in any place to be mined by the trained cultural geographer".

We now understand that as people move through, experience and ‘know’ places differently (Massey, 1993) that places have multiple meanings and understandings. Further, Manzo (2005) shows how place meanings are not always individualised since they can also be shared perceptions. Empirical studies show for instance how places can be experienced differently by groupings of people, based for example on gender, ethnicity, sexuality, or colour. It is now also increasingly discussed that places may not elicit only positive meanings like Tuan’s ‘topophilia’ concept implies, but also more negative meanings such as a place of fear, vulnerability, anger, boredom, depression etc (Manzo, 2005). Feminist geographers for instance have explored place as experienced by ‘the other’ such as marginalised social groupings, showing for example how places can represent ‘gendered spaces’ since women can experience places differently to men.

Yet, despite these critiques and also the 'elusive' nature of the sense of place concept (Hubbard et al, 2004), the theory that places can and often do have unique character/s and meaning/s remains central to geographical understandings of place. The sense of place concept has concomitantly progressed to incorporate acknowledgement of the multiplicity of understandings, experiences and meanings associated with 'place'; that is, recognising multiple ‘senses of place’ (Massey, 1994). This theoretical maturation incorporates a more nuanced understanding of sense of place, so that it more generally refers to "the particular
ways in which human beings invest their surroundings with meaning” (Hubbard et al, 2004, p351).

In relation to this seemingly paradoxical interplay between the specificity and unique character of place/s, and the multiplicity of meanings that might be generated in place, Massey (1993, p68) shows "the specificity of place...derives from the fact that each place is the focus of a distinct mixture of more local and wider social relations, and further again, that the juxtaposition of these relations may produce effects that would not have happened otherwise", hence "what gives place its specificity is not its long internal history but the fact that it is constructed out of a particular constellation of relations, articulated together at a particular locus". A ‘place’ is therefore the result of the unique series of networks and relations that cannot be reproduced in exactly the same way anywhere else. At the same time, Massey (1993) shows that we all experience and ‘know’ places differently, such that it is the multiple experiences of this specificity which give rise to multiple senses of place. An important facet of place meanings is that they are shaped by the nature of the experiences we have in places, as well as by our prior body of experience and knowledge which we bring to such experiences (Stedman, 2003). As such, how we interact with landscapes can produce a multitude of place meanings. To this end, Massey calls for the realisation of what she calls a ‘progressive sense of place’ (1993, p70) which incorporates this understanding of places as relational, connected, multiple and fluid.

Sense of place is generally considered to encompass the breadth of complex meanings and emotions attached to place. However, this theory represents only one way of conceptualising and interpreting place. Place theorists have developed alternative analytical constructs to empirically analyse particular aspects of place meanings, and some of these are outlined in Appendix 1. To complement the more qualitative sense of place studies Stedman (2003) calls for greater use of these more quantitative analytical constructs in NRM studies. However, the exact meanings, attributes and relationships of and between these alternative terms have long been debated in the literature (Knez, 2005, Manzo, 2003), many displaying overlapping themes and definitional uncertainty. Additionally, they represent a reductionist approach to place meanings, thereby inherently reducing the complexity and nuances of place relationships that are more fully encapsulated through the sense of place concept (Stedman, 2003).

Politics of Place

Much theoretical work on place relationships understands the processes of place-making as inherently political undertakings, infused with power and knowledge relationships that
explicitly or implicitly work to direct the meanings and understandings of places. For example, Jones (2008) muses that articulating a particular sense of place is often triggered by change, negative or positive, that is perceived as infringing on or appropriating the character of place - as experienced by particular sets of people. Thus articulating a sense of place may work to delineate who and/or what does/does not ‘belong’ in place. Here, such articulation can be viewed as ‘reactionary’ (Massey, 1991), fused with political motivations and outcomes. A ‘politics of place’ investigates these processes and outcomes of place-making.

2.2 Co-management Literature Review

Putting the ‘co’ into management - history and development

Co-management’s ‘co’ prefix has multiple interpretations, with the literature referring to ‘collaborative’ (Pinkerton, 2003), ‘cooperative’ (Nadasdy, 2005) and ‘community-based’ (Singleton, 2000) managements. Still, these interpretations all understand the conceptual basis of co-management as collaborative sharing of resource management by stakeholders. This emergent idea gained significant momentum in the latter part of last century, such that co-management is now an oft-cited management tool espoused by various national and international agencies, institutions, non-governmental organisations, and governments (Singleton, 2000), including the World Bank, United Nations, and International Union for Conservation of Nature. The basis for this collaborative effort emerged in response to observed inadequacies of traditional modes of NRM, including:

- The perception of pitfalls in traditional single-agency, top-down policies in achieving environmental outcomes and the need to incorporate public-private-civil society partnerships to counter these shortcomings (Berkes, 2009);

- The ecological and socio-cultural complexity of natural resources cannot be governed effectively by a single agency, and thus requires wider knowledge bases and stakeholder involvement (Berkes, 2009)

- People whose livelihoods are affected by NRM should contribute to the decision-making process, thus increasing the legitimacy of such decisions (Berkes, 2009)

Co-management arrangements effectively serve to “democratise decision-making, foster conflict-resolution, and encourage stakeholder participation” (Armitage et al, 2007). They have since been implemented in relation to natural resources such as forests, fisheries, animals (‘wildlife’), mineral resources, and frequently in protected areas. Further, co-management arrangements have been attempted at various spatial scales, from local-scale resource use to ‘global commons’.

Normative Co-management - Who is represented by the ‘Co’?
The varied uses and contexts of co-management processes have resulted in the term acquiring a multiplicity of interpretations and meanings. Definitions vary regarding what constitutes ‘legitimate’ co-management and the requisite a) actors and role of the state; b) power-sharing arrangements; and, c) processes.

On the role of the state, some definitions utilise the generic term ‘government’ to indicate power-sharing at various levels of political engagement, ranging from the nation-state, to regional, provincial and local government. Berkes et al (1991) for example broadly regard co-management as ‘the sharing of power and responsibility between the government and local resource users’ (Berkes et al., 1991: 12). In contrast, Borrini-Feyerabend et al (2007) hold a much broader interpretation of legitimate co-management actors that is not predicated on governmental participation, but which sets a framework for what kinds of management arenas will be fairly shared in the co-management process: "Co-management can be understood as ‘a situation in which two or more social actors negotiate, define and guarantee amongst themselves a fair sharing of the management functions, entitlements and responsibilities for a given territory, area or set of natural resources” (p1). Alternatively for Jentoft (2000 p528) both legitimate co-management processes and actors are prescribed, representing “a participatory process of regulatory decision-making between representatives of user-groups, government agencies, research institutions, and other stakeholders”.

On the issue of power-sharing, the World Bank’s co-management definition refers to: “a decentralized approach to decision-making that involves the local users in the decision-making process as equals with the nation-state” (The World Bank, 1999: 11 in Carlson and Berkes, 1995). This definition is powerful in its placement of local users and the state as ‘equals’, however, it remains highly contested that such equality is ever realised in co-management practice. Singleton (1998) understands co-management as a form of decentralised state and local decision-making which “ideally, combine[s] the strengths and mitigate[s] the weaknesses of each”. This interpretation places co-management as a power-sharing tool which inherently provides checks and balances for highly politicised NRM decisions.

Adaptive Co-management

This wide breadth of co-management understandings and fundamental bases has resulted in various normative theoretical formulations defining specific conditions and elements under which co-management arrangements can best develop, evolve, and survive. For instance, Berkes (2009) writes that ‘maturing’ co-management arrangements incorporate adaptive modes of practice, and implies a degree of ‘success’ through longevity, such that “time-tested
co-management tends to become adaptive co-management” (Armitage et al, 2007 in Berkes, 2009).

Since these claims position adaptive co-management at the vanguard of co-management theory, it is used herein for theoretical analysis of co-management at Macassar Dunes. Berkes clearly states no framework currently exists for analysing the success or otherwise of adaptive co-management. However, several ‘faces’ of co-management are identified, representing the dominant normative ideas that infuse co-management literature and which “mov[e] towards an expanded notion of adaptive co-management that deals with complexity” (Berkes, 2007 p23; 2009). In the absence of an existing framework I am rather using these ‘faces of co-management’, summarised in Table 1, as a broad outline of aspects that might contribute towards adaptive co-management.

**Table 1 - Theoretical ‘Faces’ of Co-management - Framework for Moving Towards Adaptive Co-management.** NB: Berkes (2007) notes these distinctions are subjective since many of these themes overlap and intertwine. Source: Adapted from Table 2.2 in Berkes, 2007 and from Berkes, 2009.

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<th>‘Faces’ of co-management</th>
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<tr>
<td>Power-sharing</td>
<td>Effective power-sharing depends on the degree of authority held by the communities, and can range from consultation (weak) to effective control of the resource (strong). However, “power sharing can be made more equitable through state legitimisation and formalised arrangements...[and] it can be further strengthened by institution and capacity building and knowledge sharing.” The sharing of power and responsibility for management between actors in the co-management process can be fraught, since power inequalities can be both produced and/or reinforced through the co-management process.</td>
<td>Borrini-Feyerabend et al, 2004; Berkes, 2009</td>
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<td>Institution Building</td>
<td>A two-way feedback system between government policy and local institutions is required for the evolution of effective co-management institutions; this requires institution-building at the local scale, which rarely has a background of working with government, and institution-building for government authorities, which are rarely ready for local or cross-scale partnerships. A key feature of institution building in adaptive co-management is the creation of cross-scale linkages, both vertical and horizontal, in order to increase adaptive capacity.</td>
<td>Berkes, 2009; Pomeroy and Berkes, 1997; Armitage et al, 2007</td>
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<td>Trust &amp; Social Capital</td>
<td>The building of trust between co-management parties is deemed crucial since “[t]rust appears to be a determinant of success in many cases of co-management, as a prelude to building a working relationship.” Further, trust is linked to social capital and is articulated as an important prerequisite for collective action and social learning, which involves learning to respect worldview differences and integrating different knowledge systems.</td>
<td>Berkes, 2009 p1694; Singleton, 1998.</td>
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<td>Process</td>
<td>Rather than a fixed, upfront agreement co-management is better conceptualised as an emergent arrangement based on extensive negotiation and deliberation. In this sense, co-management is understood as a process, and further is a process which is path-dependent, and during which relationships constantly change. The recognition of co-management as processual and time-intensive</td>
<td>Berkes, 2009 p1694; McConney et al, 2007; Carlsson</td>
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<td>therefore requires commitment from all parties to co-management’s “long voyage on a bumpy road”. Due process means power sharing is conceived as the result, not the starting point, of co-management.</td>
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<td>Problem-solving</td>
<td>Co-management evolves adaptively as a result of deliberate problem-solving: “seen as collaborative problem-solving, co-management is task-oriented, concentrating on the function, rather than the formal structure, of the arrangement”. Traditional management decision-making implies choosing between alternatives, while in contrast problem-solving relates to the generation of these alternatives. Furthermore, problem-solving is dependent on the building of networks of partners, the inclusion of which can mean learning can be transferred from one situation to another, and to more complex problems over time.</td>
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<td>Governance</td>
<td>Good governance principles are premised on ideas of legitimacy and authority based on a democratic mandate. Co-management involves the sharing of rights and responsibilities in resource management and is based on these governance principles.</td>
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<td>Bridging organisations &amp; Leadership</td>
<td>‘Bridging organisations’ are those co-management organisations which bring together science and local knowledge through serving as facilitators between different levels of governance, and across resource and knowledge systems. Such organisations “provide an arena for knowledge co-production, trust building, sense-making, learning, vertical and horizontal collaboration, and conflict resolution”. Bridging organisations enable networks involving many coordinators and facilitators, and can help build trust, address conflict, access required resources, and build common and shared visions and goals. Further, bridging organisations are linked to the role of leadership or ‘key individuals’ in successful co-management arrangements, since these two elements enable dealing with knowledge issues and differing epistemologies in co-management systems.</td>
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<td>Social-learning &amp; Adaptation</td>
<td>Co-management requires iterative feedback and learning from experience. Social learning is collaborative or mutual development and sharing of knowledge by multiple stakeholders through learning-by-doing. Such learning by doing responds to social and ecological feedback and provides management flexibility.</td>
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Adaptive management has its basis in applied ecology and the adaptive component is related as ‘learning-by-doing’ (Berkes, 2009). Whilst not sharing histories, Berkes understands co-management and adaptive management as evolving towards common ground, emerging from the notion that “adaptive management without collaboration lacks legitimacy and co-management without learning-by-doing does not develop the ability to address emerging problems” (Berkes, 2009 p1698). In effect, co-management is combined with learning-based approaches to address the inherent uncertainty and complexity which characterises ‘natural systems’, such that a more flexible management approach can be administered (Berkes, 2009).
This flexibility is described in Olsson et al’s (2004, p75) definition of adaptive co-management systems as “flexible community-based systems of resource management tailored to specific places and situations and supported by, and working with, various organisations at different levels”. Folke’s (2002 p2) definition likewise relates this flexibility and is structured around a specific ‘type’ of knowledge: “a process by which institutional arrangements and ecological knowledge are tested and revised in a dynamic, ongoing, self-organised process of learning-by-doing”.

These authors understand adaptive co-management systems as developing from a bottom-up ‘self-organising’ process, which has the ability to “expand desirable stability domains of a region and make social-ecological systems more robust to change” (Olsson et al, 2004 p75). It appears a gap in this literature revolves around the constructs of the ‘desirable’ stability domain vs. ‘undesirable’ change, since it is not explicit what kinds of assumptions underpin what is deemed ‘desirable’ nor, conversely, what kinds of change are deemed ‘undesirable’. Given adaptive management’s basis in applied ecology (Berkes, 2009), and the use of an ‘ecosystem management’ framework (see Olsson et al, 2004) it might be assumed that the notion of the ‘desirable state’ revolves around this ‘ecological’ understanding of the world. However, this important point requires clarification and greater articulation since the inherent assumptions in any framework represent highly subjective and value-laden approaches to resource management.

Co-management and Protected Areas in South Africa

Since 2002 in the South African context co-management has gained much momentum in post-apartheid NRM as a legitimate tool for redressing uneven resource use, access and rights (Kepe, 2008). In fact, it has become the most popular approach for reconciling land claims and conservation (Kepe, 2008), and has also been particularly popular in fisheries and coastal management (Hauk and Sowman, 2003), and on contractual national parks on government owned land (Reid et al, 2004).

As with most co-management processes the South African context of co-management implementation has not been without difficulty. Some examples of the issues in this national context are outlined next in the review of co-management critiques.

Co-management Critiques

Both the theoretical underpinnings of co-management and the practical application in protected areas have been critiqued by various authors. On co-management’s assumptions Nadasdy (2005) argues in his experience in northern Canada there is little academic engagement in critical analysis of co-management’s underlying assumptions, perhaps as result
of the central role academics play in the foundations and implementation of co-management arrangements. Thus, the idea of co-management as ‘positive’ remains uncontested, despite the realities for marginalised groups such as indigenous peoples consistently presenting counter to this claim.

Some critics of co-management see the concept’s basis in conservation as serving to frame the process with pre-determined normative values, rather than allowing space for the creation of a shared vision of ‘co-management for what?’. In the aim to reconcile land restitution and conservation in South Africa Kepe (2008) argues co-management's "unimpressive performance" (p311) results from the concept's origins in high value natural resources, rather than in or including concerns for resource rights.

Another frequent criticism aims at the failure of co-management regimes to deliver the purported benefits to local communities that are suggested at the outset of co-management arrangements. On community conservation initiatives in protected areas Igoe (2006: 76) writes “the negative impacts....vary from place to place, but they are far more common than large conservation organisations and other vested interests would like other people to believe”. Community conservation initiatives are commonly premised as a ‘practical problem’ that conservation initiatives will fail unless conservation organisations garner local community support (Brockington, 2004). Brockington (2004) controversially refutes this claim by arguing local peoples in reality are in fact not necessary for protected area conservation objectives to succeed: “[r]ural poverty and injustice do not undermine the foundations of conservation. Indeed, they can underpin them”. He therefore sees this ‘practical problem’ premise requires transformation into a moral necessity argument, whereby local communities must be included in community conservation initiatives such that the injustices of community conservation efforts can be addressed, rather than being involved just to ‘advance’ conservationists goals.

On power relations, Kepe (2008) understands South African co-management as frequently reinforcing unequal state-local power relationships. Indeed, Kepe (2008) argues co-management has "represented a camouflage for the continuation of state hegemony regarding the protected area or national park idea in post-apartheid South Africa" (Kepe, 2008 p 312). Further on controversial issues of co-management power relations, Singleton (2000) argues co-management can enforce existing unequal power-relations within communities if the arrangements either create new structures or strengthen traditional structures of authority which serve to perpetuate these existing relations.
In sum, despite claims co-management of natural resources moves towards more socially equitable modes of NRM, such critiques highlight fundamental issues regarding co-management theory as informed by co-management practice.

2.3 **Place and Co-management Review**

Following the thesis aim, the question arises of how issues of place - including place meanings and understandings, politics of place, and sense of place - are represented in co-management theoretical frameworks.

Place specificity is a common sentiment in much co-management literature; as Cheungpagdee and Jentoft (2007 p31) relate: “[o]n the whole, co-management requires more than the simple transfer of ideas from one place to another”. Adaptive co-management theory for example understands the need to tailor co-management theory and practice to the specific places and contexts in which it is practiced. However, there remains little prescription or articulation of how to incorporate these place-specific understandings into practice, nor how to differentiate which parts of theory and which practices relate to place-specificity from those relating to more generalised aspects of co-management.

The most significant incorporation of issues of place in co-management frameworks, particularly in adaptive co-management, is inherently tied to place-based knowledges and understandings, most commonly rendered as ‘Traditional Ecological Knowledge’ (TEK), and Local Ecological Knowledge (LEK). These constructs rely on defining particular user groups based on the length of their use of particular resources ‘in place’. These are differentiated between the ‘indigenous’ in TEK - representing indigenous peoples - and ‘local peoples’ in LEK - representing those who have lived in a particular place and utilised the place resources for an unspecified but ‘long’ period of time (though not as long as indigenous peoples). Adaptive co-management theory seeks to incorporate these place-based knowledges so that ‘complex adaptive systems’, e.g. ecosystems, might be better managed (see Olsson et al, 2004 for an overview of these issues in adaptive co-management frameworks).

Despite the plethora of literature postulating the important role of place-based knowledges in co-management frameworks, such incorporation of diverse knowledges is not unproblematic. Nadasdy (2002) for instance argues a focus on the political dimensions of knowledge integration is essential for understanding co-management, since integration ‘success stories’ are a perspective espoused by the scientific community. The legitimacy of Indigenous stakeholders in co-management frameworks is largely through the implication of an inherent and sustainable ‘indigenous’ ability to ‘work with’ nature, derived from a long-standing association of care and stewardship for specific places (Nadasdy, 2007). Through processes such as co-management, Agrawal (1995) argues indigenous knowledges are used in
‘political strategies’ of classification, misrepresentation, verification and translation through scientific frameworks, serving to differentially benefit particular social groups and enforcing a false dichotomy between ‘western’ and ‘indigenous’ knowledge.

‘Sense of place’ is also apparent in adaptive co-management theory, tied to these place-based knowledges. The assumption is cultural maintenance of TEK and LEK is conducive to maintaining a positively associated and ‘strong’ sense of place; Houde (2007 p34) for example refers to an ‘aboriginal sense of place’. Sense of place has also been represented as an inherently positive component associated with management strategies that align with normative conceptions of ‘ecosystem management’: Elmqvist (MEA, 2005) writes: “informal management of local green areas has important functions...[including] attributes which may complement conventional biodiversity management, such as local ecological knowledge, sense of place, and norms and rules that serve to protect functional groups of species.”.

The use of TEK and LEK here is tied to romanticised notions of ‘authentic places’, that is, the ‘traditional’ and the pre-industrial. Houde (2007 p34) writes “it has further been noted that rapid transformation of the land can break historical connections with the past, thus changing its meaning for current generations. This has in turn eroded the sense of place, which is a central feature of aboriginal identities”. In this way, sense of place is represented primarily as the essentialist conception, whereby a ‘true’ sense of place exists, infringed upon by processes of ‘modernity’.

Place-specificity and theory are used in co-management theoretical understandings, but are not well articulated in terms of how specificity can be incorporated in practice, why such specificity might be important, and for whom. A further gap in this literature is how place-based knowledges that are not based on long-term association in place can be incorporated into co-management arrangements.

2.4 Thesis Contribution
In a place-specific context this thesis can potentially contribute to (co)management of Macassar Dunes Nature Reserve through:

• Facilitating co-management partner’s access to varied understandings and perspectives of the co-management process to date, given the wide array of stakeholders and perspectives gained and the political nature of the research topic;

• The sense of place analytical perspective of the co-management process may represent a new perspective for (co)management partners, opening up new insights on individual stakeholder's values of the dunes area, its uses, and how they feel these have or have not
been reflected in the co-management process to date. Perhaps enabling reflection on partner’s own practices and assumptions.

The thesis also has the potential to contribute to co-management theory from several different perspectives, including:

- Protected area co-management studies centre on the pivotal role of indigenous peoples, addressing issues of power relations, rights and knowledges enacted through co-management processes. Such work is rightfully grounded in recognition of historically disrupted or displaced indigenous rights through colonial and post-colonial practises (including co-management), and seeks to examine how co-management framework/s work to positively address or negatively perpetuate these rights abuses.

- This thesis focuses on a less developed field of co-management theory, whereby stakeholders include ‘informal settlers’ as legitimate and central actors in the co-management process. Here, issues of power, rights and knowledges are also fundamental, yet to date have been largely ignored in co-management literature. The role of informal settlers in the co-management process is explored herein, examining if and how place-based knowledges and senses of place are able to gain legitimacy through co-management frameworks that are underlined by science-based NRM practices such as conservation and biodiversity management.

- The study of protected area co-management focuses predominantly on non-urban protected areas, and this thesis may therefore contribute to the growing area of research in co-management of urban protected areas and, as above, with the inclusion of informal settlers as part of this urban co-management context, many of whom are rural-urban migrants.

In a broad sense the thesis may contribute to widening the scope on NRM discourse and objectives through taking a critical geographical stance on assumed modes of practice and normalised ideas, including the concepts of co-management and adaptive co-management, ecosystem services, and urban/non-urban spaces. This contribution draws on the works of human geographers, whom in their theoretical constructs pay particular attention to understanding human-environment relationships and the situatedness of knowledge and meaning production.

And finally, Humanistic geographer Yi Fu Tuan in his theory and practice was controversial in his implication that geographic discovery is about self-discovery (Rodaway, 2004). This sentiment has been derided because it speaks of the ‘self’ as an unstable and relational entity and to emotion and feeling. The inclusion of such infringes on deeply held positivist philosophies of science, such as the principle of objectivity through forced
detachment from the ‘subject’ and the use of repeatable modes and methods of knowledge production with universalistic foundations (see Davidson and Smith, 2009). However, geographical thought progresses such that contemporary feminist geographers explicitly echo Tuan’s insistence on the need to incorporate emotion and self-discovery into geographic practice (see for example hooks) on the premise that geography as a discipline through its failure to represent emotion, therefore lacks a fundamental component of how humans perceive, reproduce and interact with the world (Davidson and Smith, 2009). The approach used herein recognises that although I, the researcher, carry the epistemological and ontological modes of interaction required as a social scientist into the research process, the process itself is nevertheless an interaction between people, between humans, and is as much about emotion as it is about other theoretical modes of understanding human interaction such as through culture, society, environment and cognition. Therefore, a key and fundamental contribution of this thesis is to my own personal development as ‘myself’, which inherently includes my role as ‘a researcher’.

2.5 Theoretical Framework

In line with much contemporary geographical thought, this thesis takes its theoretical basis in post-structuralism. Post-structuralist thought shows great concern for multiplicity of meaning, and recognises positivist and structuralist methods and understandings not as representations of the ‘truth’, but as “historically situated interpretations that come laden with their own personal limitations” (Murdoch, 2006). The post-structuralist stance derives from a critique of the positivist philosophy of science demonstrating how positivist renditions of the world, despite their intentions, contain inherent images, subjectivities and reproductions of culturally-specific understandings of ‘reality’ which “privilege the production of situated knowledges” (Davidson and Smith, 2009 p440).

In reference to the research process, post-structuralist thinking understands that ‘to research’ is to engage in an embodied experience with places and peoples. This approach problematises the positivistic notion that we can ‘do research’ in a purely objective manner whilst bearing no influence on the research process or outcomes. It further questions the idea that ‘the researcher’ is somehow a stable, definable entity - divorced and distinct from ‘the self’.

In light of these understandings of the research process, the theoretical framework of this thesis in relation to ‘the self’ relies on endeavouring to be aware and critical of one’s position and role as ‘researcher’ and ‘self’ in the research process, and in representing as explicitly as possible the situatedness of one’s knowledge and knowledge production processes (Hubbard
Such awareness creates space for understanding alternative ways of ‘seeing, doing and thinking’ in the world (Howitt, 2001), for me an important value.

This awareness extends not only in relation to the understanding and interpretation of texts (verbal, written, artefacts) which I produce through research, but also those that are encountered through the co-management process. As Murdoch (2006 p iix) asserts “[r]elationships are hidden within the various arguments or descriptions that are mobilised in the text: they are embedded into the narrative in ways that make it difficult to discern. It is these ‘hidden’ or personal relations that need to be ‘disembedded’ and brought out into the open”. And while post-structuralist thinkers understand the multiplicities of meaning that places and spaces may entail, they also understand such meanings not as endless, but as constrained through the constant process of ‘closing down’ (Derrida in Murdoch, 2006) particular meanings in order that others gain prominence (Murdoch, 2006).

To address the ways and practices that particular places become imbued with particular meanings and representations, analysis through sense of place theory is a strategy attempting to disembed such relations and consider how particular place meanings and understandings are utilised and come to prominence in the co-management process. These relations and the processes of representation and meaning production in place-making are discussed as the ‘politics of place’. In her critique of the sense of place concept Shurmer-Smith (2002) pushes the concept to situate it within the role of ‘valuable’ research: "simply to describe the various human senses of place is to leave the important part of the cultural work undone; one's task must be to show how they ravel together, support and undermine one another, and constitute a dense fabric" (p26). Seeking to understand the sense of place fabric in the MDCA co-management process presents an important opportunity for understanding how (and why) ‘places’ are managed, and for whom, that is, understanding the politics of place.

Berkes (1997) describes a co-management research strategy that includes examining reasons for successes and failures in co-management. This strategy is explored herein through seeking to understand MDCA-MC stakeholder perceptions of ‘bridges’ and ‘barriers’ to co-management of Macassar Dunes, and analysis of these perceptions through adaptive co-management theory. On the appropriateness of understanding perceptions in NRM conflict, Adams et al (2003 p) write “[c]onflicts...are not simply material. They also depend on the perceptions of the protagonists. Policy to improve management often assumes that problems are self-evident, but in fact careful and transparent consideration of the ways different stakeholders understand management problems is essential to effective dialogue.” Further, Stedman (2003) argues conflicts over management of resources are essentially conflicts over place meanings, and Cheng et al (2000 in Stedman, 2003) assert sense of place can be an
important tool for reconciling opposing viewpoints over management objectives, a sense of place analysis here performs an important comparative component of understanding the perceived bridges and barriers to successful co-management at Macassar Dunes.

2.6 **Key Terms**

Table 2 clarifies the key terms and definitions used in this thesis.

**Table 2 - Key Thesis Terms and Definitions**

<table>
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<tr>
<th>Key Term (and definition)</th>
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<tr>
<td><strong>Bridges and Barriers to Successful Co-management</strong></td>
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<td>Bridges may refer to elements or aspects of the co-management process which contribute to the success of the co-management, or it may refer to actual successes themselves. Conversely, barriers may refer to the elements or aspects of the co-management process which have detracted from the success of the co-management process, or which have resulted in the perceived failure of this process, or it may be the actual perceived failures themselves. These are of course subjective perceptions linked to individual assessments of ‘successful co-management’. As such individual interpretations of ‘successful co-management’ are also explored.</td>
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<td><strong>Sense of Place</strong></td>
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<td>&quot;[T]he particular ways in which human beings invest their surroundings with meaning&quot; (Hubbard et al, 2004, p351). This simple sense of place definition thoughtfully encompasses the dynamics and multiplicities of various senses of place, since it refers not only to the actual place meanings but also to the ways that meanings are invested in places, capturing the important understanding of the modes and methods of meaning production.</td>
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<td><strong>Adaptive Co-management</strong></td>
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| Olsson et al’s (2004, p75) definition of adaptive co-management systems is “flexible community-based systems of resource management tailored to specific places and situations and supported by, and working with, various organisations at different levels”, and is used here since it explicitly refers to place specificity and provides an important avenue for exploring ‘place’ in ‘co-management’.

| **Co-management at Macassar Dunes** |
| In addition, and for analytical purposes, it is important to define how co-management is conceived of in the MDCA co-management process by the co-management actors, the definition of which is enshrined in the MDCA’s Constitution. This Constitution sets out the framework for the Association’s practice, powers, structure, membership, aims and objectives and was developed in collaboration with members of the Association in 2002/03, but has since been revised as new individuals and entities enter the co-management process and determine new meanings, processes and directions for the co-management arrangements. At present the Constitution is a work-in-progress as a newly elected Interim Management Committee will meet in an Annual General Meeting in mid 2010 to formalise the Management Committee status and determine the Constitution’s exact wording and framework. However, the definition used herein is reflective of the Constitution as of December 2009, which defines co-management as "the sharing of responsibility and authority between the government and local community in order to manage natural resources, [and] is an alternative approach to management that shows promise for addressing many of the issues of sustainability, equity and efficiency of natural resource management” (MDCA, p1). |
| **Institution** |
| “The formal (rules, laws, constitutions, organisational entities) and informal (norms of behaviour, conventions, codes of conduct) practices that structure human interaction” (Armitage et al, 2007 p329) |
3 METHODS

3.1 Study Design

An audit trail and reflexive journal (Rogan et al, 2005) were utilised from the beginning of the study period in order to document the research process and to provide clarity in the decisions made during the research process. This trail begins from the development of the research outline, to developing research questions, selecting of the research frameworks and methods for collection and analysis, and up to the finalisation of this thesis.

An in-depth qualitative study design (Rogan et al, 2005) was used to gain as much context and understanding as possible of the Macassar Dunes area and the people and groups who might use or value this area, and if and how they may be involved in the co-management process. At the broader spatial and contextual scales this required gaining an understanding of the historical, political, racial, environmental and socio-cultural issues of Cape Town and of South Africa, and interpreting in what ways these issues might relate to Macassar Dunes. This involved reading academic literature, government and organisational reports and websites, and literary accounts, as well as observing South African and international media.

My understanding was also facilitated through my being situated for three-months in Cape Town, based at UCT, and during which time I spent collecting information such as published local government and organisational reports (for example from the City of Cape Town, MDCA, EEU and CFN). In addition, to gain personal perspectives on the co-management process the study design primarily involved interviewing current and previous members of the MDCA Management Committee, as the primary and most formal body for the co-management process at Macassar Dunes.

3.2 Study Participants

Participants were selected for their current or prior involvement with the MDCA-MC and as ‘prominent’ members of such. I based ‘prominence’ on members’ active participation in MDCA-MC for a substantial period of time, usually in the matter of several years, and/or on their perceived instrumentality in the co-management process. Appendix 2 outlines MDCA-MC membership guidelines in accordance with the MDCA Constitution. Actual interviews were based on the accessibility of each contact and their willingness to participate in the interview process. As such, the participants are not necessarily representative of all users of Macassar Dunes, rather they represent those personal narratives, perspectives, values and meanings associated with the Macassar Dunes area and the co-management process.

Two key participants in the co-management process were initially sourced through my supervisor at Stockholm University. Thenceforth further participants were recommended by these and other participants met through this web of association, and also through access to
UCT’s Macassar Dunes Co-management files. Motivation for participation was directed at the potential benefits such an analysis might have for the future of co-management arrangements – understanding stakeholders’ perceived bridges/barriers in the process; examining the process from a new analytical perspective; and, the potential for the study to open new insights into how the process might be more inclusive of differing value and meaning frameworks. Another un-proclaimed motivation attributed to me by several interviewees, was through my being on the ‘outside’ I presented an opportunity as a ‘neutral’ or ‘unbiased’ external reviewer of the co-management process to date.

3.3 Data Collection

Interviews were used to elicit individual perceptions of, and responses to, co-management processes and senses of place, and to the intersection of these. Open-ended, semi-structured interviews were utilised in order to foster a narrative mode of communication. As Czarniawska (2004 p650) asserts: "[n]arrative knowledge, all modernist claims withstanding, is the main bearer of knowledge in our societies. Although it's main competitor, the logico-scientific kind of knowledge, has a higher legitimacy status in modern societies, the everyday use of the narrative form is all-pervasive". Narrative communication positions well with sense of place analysis in that it allows for individual stories, feelings, emotions and meanings to be communicated in a familiar and relatively relaxed format. Appendix 3 contains a sample of interview questions asked during the interviews.

At the same time, the perspective of this study is that all interactions, including (and in particular) the interview, are a negotiated text between interviewer/interviewee, and influenced by place, space and time. With this in mind, I posit the results of this research as specific to my modes of interaction and I therefore open the results of this study up to (re)interpretation and alternative explorations (Willig, 2001 in Rogan et al, 2005).

All 23 formal interviews on place meanings and the co-management process were voice-recorded and later transcribed in full. Informal, ad hoc and unstructured interviews whereby I was seeking contextual information (e.g. such as seeking possible interview participants, or during 'activity weeks' at the dunes) were not recorded. In these situations brief notes were taken and later filled in after the end of the interview. During the interviews six distinct ‘groupings’ involved in the co-management process became apparent. While I make no claim these groupings are either correct or representational\(^1\), since they were frequently referred to by the interviewees they were deemed useful categories to use in this analysis. As such, I tried

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\(^1\) Indeed, the issue of representation and also the concept of ‘community’ in the co-management process are examined in the Discussion section of this thesis around issues of ‘constructing actors’.
to ensure each ‘grouping’ was adequately represented in the interview process. These rough groupings include:

- Environmental Evaluation Unit of the City of Cape Town (EEU);
- City of Cape Town Environmental Management Branch (BMB) (including the Biodiversity Management Branch and Nature Conservation);
- City of Cape Town planning authorities (referred to herein as ‘Planning’) (covering various branches within the City);
- Cape Flats Nature (CFN)
- Members of the Macassar community; and,
- Members of the Khayelitsha community.

Planning, BMB and planning staff are sometimes collectively referred to in this text as ‘government authorities’, since they are CoCT bureaucrats or, in the CFN case, a partnership consisting of several government authorities, including CoCT.

3.4 Data Analysis

The method of axial open-coding was used to analyse the transcribed interview responses and dealing with the large amounts of data was facilitated through using Atlas.ti software to organise the codes. Axial open-coding refers to coding excerpts of text through an iterative and emergent process whereby the codes and themes are constantly addressed and redressed in the analytical process (Crang, 2005). This process relies on negotiating the blurred line between defining and interpreting emic and etic codes. Emic codes refer to themes explicitly identified by the speakers themselves, while etic refers to the codes utilised by the analyst to denote themes used to describe events, attribute meanings and which relate to the theoretical framework (Crang, 2005). The line between these code forms is blurred because many themes overlap and intersect between these forms, and neither can emic codes be justified as an absolute representation of the interviewees’ response, since all the codes are always an interpretation by the researcher. As Bailey, White and Pain (1999, in Crang, 2005) muse, codes are essentially 'creative' since “they rely on you making sense of material using the knowledge you have developed through research and reading the literature” (Crang 2005, p224). However, despite these issues the coding process is still highly valuable primarily since categorisation of the text can help to organise the materials such that interesting relationships can be seen (Crang, 2005), whilst making the process of analysis coherent for other interested researchers.
The analytical frameworks utilised for understanding place and adaptive co-management theories are described in Table 1 and in the Sense of Place literature review.

3.5 Limitations

This study is limited by the short three month period of my stay in Cape Town. The tacit knowledge of being in place and space which could take a lifetime to accrue cannot be achieved in three months, so some readers may find my understanding of both Macassar Dunes and its context as lacking and/or underdeveloped.

MDCA over time has constituted a large and varied number of individuals, organisations, authorities and user-groups in the co-management process. This study encompasses only those represented in the MDCA-MC, and then only those who were deemed ‘prominent’ by me, and of these, those who were available for interviewing. Thus a limitation of this study is it does not include perspectives of a significant portion of people involved in the co-management process, and is representative only of those who were committed to the process for some length of time.

Further, the conscious decision not to interview people outside of the co-management process means no understanding is gained regarding perspectives of the co-management from people external to the process. It might be assumed those individuals or organisations not engaged in the co-management may have dismissed the co-management process early-on or altogether, and as such their perspectives of the bridges and barriers would provide an important contribution to this analysis, and furthermore to investigating sense of place dynamics. However, the time frames of this thesis did not allow for such a comprehensive scope since making appropriate contacts and associations for such an assessment was not practicable.

3.6 Critical Reflection of Methods and Data

This thesis is deeply informed by geographical thought, through which “place lies at the centre of geography’s interests” (Cresswell, 2009 p169). Place theories gain their legitimacy through their situation within this theoretical framework of ‘geographical thought’, which is situated in the wider knowledge framework of ‘scientific thought’. ‘Problems’ and the understandings of such are framed through culturally interpretive frameworks (Gutting 2001, in Murdoch, 2006). Here it is through these geographical and scientific frameworks. In the process of problem-framing, particular understandings, assumptions and worldviews can become normalised, often rendering silent alternative accounts of peoples, places and environments. With this important observation in mind, I recognise the positionality of ‘place’ knowledge in these culturally interpretive frameworks, and I use this concept with the
understanding that the value and importance of ‘place’ is not universal, and indeed I do not claim it to be.

Reflexivity is an important component of any research process. On geographical enquiry, Howitt and Suchet-Pearson metaphorically use a hall of mirrors to demonstrate how what we find in geographical practice is essentially a reflection of our own ways of seeing, knowing and doing, such that we are looking back on ourselves rather than seeing beyond our theories and ways of knowing the world. Since place and co-management frame the scope of this study the results and conclusions reached herein are a reflection of my own modes of interaction and interpretation based on these theoretical constructs. Another approach would undoubtedly have gained different answers to the same questions.

Cross-cultural issues associated with conducting research in unfamiliar spaces are many. Firstly, my unfamiliarity with the social, historical and political context of Cape Town and South Africa presented a huge personal and academic learning experience, and after three months there I can say I have a tiny sliver of understanding about these things. Trying to piece together my interpretation into a framework for understanding the case study was immensely difficult and this thesis represents an interpretation of these processes and places.

Secondly, verbal and non-verbal communication barriers arose stemming from English being my first and only language, whilst for many interviewees it is their second or third. I am therefore indebted to them for willingly conducting interviews in English, and recognise that this represents communicating on ‘different terms’. For instance, this may have presented an obstacle to their understanding of me and vice versa, and a limitation in their ability to respond.

There are many issues involved with the interview process and how the researcher’s embodied experience may influence the process and outcome of the interview, not least of which being the implicit or explicit power dynamics which feminist geographers have demonstrated may be experienced between ‘researcher/researched’ (Sin, 2003). In order to sensitively deal with these power issues I utilised England’s (1994 p82) approach of researching as ‘supplicant’, with its “potential for dealing with asymmetrical and potentially exploitative power relations by shifting a lot of power over to the researched”. Here “the researcher explicitly acknowledges her/his reliance on the research subject to provide insight into the subtle nuances of meanings that structure and shape everyday lives. Fieldwork for the researcher-as-supplicant is predicated upon an unequivocal acceptance that the knowledge of the person being researched (at least regarding the questions being asked) is greater than that of the researcher”.

27
However, on occasion I understood I was perceived by some interviewees as a privileged and educated person in a relative position of power and influence, enabled through this position to create links and establish inaccessible contacts that might help respondents with their personal or community causes. I often agreed to assist people, if after on-the-spot deliberation I deemed that any possible action I might take to assist would not interfere with the research process. But in all honesty separating ‘the field’ from ‘not the field’ is most probably a fruitless and misleading exercise since we exist in the “blurry space of everyday life that...is also the field” (Katz, 1994 p67).

At the same time, I was self-motivated by these acts in that through engaging with the respondents outside of the formal interview process then I would be gaining an insight into their lives and places, and in fact in most cases I was actively trying to make friends on a lonely and lengthy trip away from home. This admission is undoubtedly frowned upon in positivist traditions, but as England (1994) writes “those who are researched should be treated like people, not like mines of information to be exploited by the researcher”, and since the supplicant researcher often seeks “reciprocal relationships based on empathy and mutual respect, and often sharing their knowledge with those they research” I perceive these acts as an important part of the research process, and I wouldn’t do anything differently if I had the chance to do it all again.

Another issue I feel may have influenced the outcome of the interviews is on the method of interviewing. Although my aim was to interview single respondents in order to gain personal insights and perceptions and create a relaxed one-on-one atmosphere, respondents often requested to do the interviews in groups of two people such that they felt I could get a more holistic picture of their organisational or community perspective. This may mean responses were tempered by the inclusion of a second person, and perhaps are more reflective of an ‘organisational’ response rather than an individual interpretation.

The appropriateness of recording interviews is a debated methodological approach considering it is assumed the effect of being recorded changes the way people interact and formulate responses, particularly if they are representing an organisation or deliberating on a controversial subject. I sought to ameliorate such concerns through informing people of the anonymity of their interviews. However, I also sensed respondents were not troubled by being recorded (in fact all respondents agreed without hesitation) and many of them claimed to not care for the anonymity of their responses, given they were happy to get their perspective across. On the other hand, recorded interviews for me provided an invaluable source of freedom to interact and think on my feet, and facilitated the narrative analysis format which note-taking could not allow, given the disjointed and stressful nature of that task.
Transcribing recorded interviews verbatim is much debated since this method inherently misses essential verbal and non-verbal communication cues. Some researchers have devised complex systems for notating such cues in order to better render respondents communication, however, the scope and duration of this study did not allow for learning and utilising this approach. On the other hand, when I read the transcribed interviews I am not interpreting them as just words on a page devoid of context; rather, I have an image and memory in my head of the interviewer and what they were trying to communicate, and in cases where I cannot conjure this memory or understand the context then I refer back to the recording. Given I am the only person so far to read and analyse my interviews the problems associated with transcribing the interviews pose less of a problem than if they were to be read by a non-participant.

Grounded Theory suggests interviews are best conducted ‘in place’, for which you are trying to discern place meaning, in order to elicit the spontaneity and richness of place meanings and understandings which being-in-place may inspire. However, due to safety reasons I never once set foot inside Macassar Dunes Nature Reserve with the interviewees, as most people, particularly those from the adjoining areas of Khayelitsha and Macassar, were reluctant to accompany me to the dunes for fear of our personal safety, and as such the perceptions of sense of place meanings may be impoverished as a result. On the other hand, this sense of fear represents an important aspect of senses of place within the MDCA-MC.

My own sense of personal safety when visiting the townships was a factor determining interviews methods. Much information outlines the violence and threats posed by life in the townships, and on the perceived danger of ‘white’ people entering them. While I did not want to blindly run with and hence perpetuate stereotypes of township life, I also was keen to ensure my own personal safety. To this end I always left the townships before sunset and occasionally was accompanied by a second researcher or friend to the interviews, and another two interviews were conducted by phone when I felt the specific areas were unsafe for me to travel to. These methods would undoubtedly have bearing on the interview process, including on respondents and their responses, of which I am highly aware. On this matter I am indebted to the kind people from the MDCA-MC who helped me out with these issues and who facilitated my safe interactions in the townships of Khayelitsha and Macassar.

Lastly, utilising government and organisational reports and mass media communications as data for analysis required taking a critical approach to the sources of information regarding their authorship and motivations for communication and this issue is explored further in the Theoretical Framework.
4 Case Study

The information in this section represents my personal interpretation of the Macassar Dunes area and its context. In this respect this Case Study constitutes an important part of the ‘Results’ of this thesis since it is not objective historical information, but rather effectively a synthesis and analysis of the primary and secondary materials and varied sources of information gathered during this research process. The Reserve and surrounding areas are shown in Figure 1. Khayelitsha can be seen to the north-west of the Reserve, and Macassar is located on the eastern side of Macassar Road, which is located in the right hand side of the reserve area in this map.

4.1 Macassar Dunes

Due to the large diversity and endemism of plant species in the Cape area it is classified as one of only six ‘floral kingdoms’ on Earth. Cape Town city lies within this ‘Cape Floral Kingdom’ and is itself a biodiversity hotspot “without parallel” (CoCT, 2008b p4). The city contains eleven of South Africa’s twenty-one ‘Critically Endangered’ vegetation types, with three of these occurring nowhere outside the city borders (CoCT, 2008b).

The Cape Flats lie east of the city and are recognised as under-conserved to date, the area containing 1460+ plant species, 203 of which are threatened with extinction (CoCT, 2008b). The Cape Flats have faced much urban sprawl due to apartheid planning, and minimal conservation management by any of the three spheres of government until relatively recently. Macassar Dunes border the Cape Flats, essentially representing the point where the Flats meet the False Bay coast, divided in large by the primary coastal road Baden Powell Drive. The dunes are acknowledged as ‘biodiversity rich’ given their habitat and species representation. Macassar Dunes are identified as a core conservation site for the Cape Flats area (CoCT, 2007) in the City’s Biodiversity Network, which includes those areas that represent “the viable minimum needed to conserve a representative sample of Cape Town's unique biodiversity and thus promote sustainable development” (CoCT, 2008a).

Prior to 2006 no specific mammal, reptile, amphibian or invertebrate studies had been conducted for the Macassar Dunes fynbos area specifically. Accordingly, in 2006 a three-day observation study concluded the Dunes support a varied animal population, with 27 bird species, 14 mammal and 6 reptile species recorded, and a further 15 mammals and 17 reptiles that were not recorded may also occur in the study area (Langley, 2006). In addition, the coast off the dunes provides habitat for marine life such as fish, seals, great white sharks, and for the seasonal migration and calving of several species of whales (EEU, 2001).

Though little written historical record abounds specifically of the dunes area, given its high resource value and archaeological evidence found in the 1960s and more recently, including
the uncovering of several San burial sites (EEU, 2006 App4), it is assumed the Macassar Dunes area is representative of a hunter-gatherer settlement in pre-colonial times, a pattern that is well represented along the South African coastline (EEU, 2006 App4).

Despite being un-guarded and quite dangerous, the beaches and pavilions of Strandfontein, Monwabisi and Macassar are frequently used for swimming, and specific portions of the dunes are used for recreational activities such as quad-biking, horse-riding, fishing and braaing (barbecuing). Further, the dunes today are used for some subsistence hunting of small game, often utilising dog packs (pers. comm.), firewood gathering, and for collection of medicinal plants by ‘sangomas’ or traditional healers. It is reported initiation ceremonies for young Xhosa initiates are frequently held in the dunes area (EEU, 2006), which requires the construction and post-ceremonial burning of a small, makeshift hut (pers. comm.). The area is also frequently used by members of the eNkanini informal settlement as a latrine since sanitation services in the settlement are inexistent at the time of writing (Nkuna in Cape Argus, 13/6/2008) (though plans for installing these are believed to be under way – pers. comm.). The dunes are reportedly a spot for illegal and anti-social activities such as theft, hold-ups, rape, murder and/or the dumping of bodies, and as a hangout for local gangsters. Many of the interview respondents verified their knowledge of the existence of these activities, some of which the respondents had been witness to or victims of.

Sheik Yusuf Kramat (mosque) lies on the north-eastern side of the Reserve and is respected as the site of the birthplace of Islam in South Africa (Bangstad, 2007). Sheik Yusuf
was captured by the Dutch in Macassar, Indonesia and in 1693 banished along with his followers to live on the Cape, close to what is now the contemporary township of Macassar, a namesake in reference to the Sheik’s homeland. From such beginnings grew the first Muslim community in South Africa (EEU, 2001).

In the north-eastern section of the dunes, bordering the Nature Reserve and the Macassar township, open-cut sand-mining occurs, based on twenty-year permits granted and administered by the federal Department of Minerals and Energy which are due for expiration around 2020.

4.2 Macassar Dunes in Context

Apartheid and its Legacies

Under South Africa’s racist and divisive apartheid system which was formally instituted in 1948 with the election of the National Party, South Africans were formally registered and classified in accordance with their ‘race’, which was defined in relation to skin colour and arbitrary measures of ‘race’. These four classifications were ‘African’, ‘Coloured’, ‘White’ and ‘Asian/Indian’ (Besteman, 2008). Such classification sought to systematically segregate the population in all aspects of public and private life and to control South African’s interactions, livelihoods and identities. The series of policies which mandated peoples’ lives and controlled their interactions with spaces, places and peoples fundamentally and explicitly breached numerous human rights. As Besteman (2008 p.6) relates such policies effectively: “determined where one could live, travel and work, how much one could earn, the subjects one could study, and whom one could marry”.

The apartheid system’s human rights inflictions resulted in mounting international political pressure and sanctioning of South Africa during the 1970’s and ’80’s. Despite the South African government’s long-standing dismissal of such pressure, appeasement was sought through weakening some apartheid laws during these decades, and culminated eventually in the official end of apartheid policy in 1994 and South Africa’s first democratic elections (Besteman, 2008). While it remains to be seen what legacy such oppressive policies will have on South African society (Besteman, 2008), what is certain 16 years into the democratic transition is the perpetuation of huge disparities in wealth and in access to services, resources and employment. Measures of national income inequality based on the Gini co-efficient, for

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2 “African” or ‘Bantu’ referred to those of black African descent; ‘Indian’ to those of Indian descent, ‘White’ to those of European descent, and ‘Coloured’ to those of mixed heritage, in particular in the Cape Town context to descendents from South Africa’s slave trade e.g. Malays and Indonesians ‘mixed’ with European and/or African descendents, for instance with Cape Town’s original inhabitants, the indigenous KhoiSan (Besteman, 2008).
example, consistently rate South Africa among the most unequal countries in the world, with gaps widening over time and between racial groups (SAIRR, 2008).

It is in light of such disparity and in reference to the legacies of apartheid policies of racial classification that the subject of ‘race’ is highly problematic. It is fraught simultaneously with the simplification and consequent misrepresentation of cultures, identities and meanings apartheid categories enforced, and at the same time the often strong sense of identity that such classifications instilled in South Africans, which are still felt and lived today.

**The Cape Flats**

Macassar Dunes were formerly part of an extensive dune system which stretched several kilometres inland from the False Bay coast. During apartheid people classified ‘African’ and ‘Coloured’ were not allowed to dwell in the city centre and from the 1950’s onwards people were often forcefully moved to designated areas that are referred to as ‘townships’ in common parlance. Townships in general in the Cape Town context were devised on the outskirts of the city in order to supply a steady and cheap labour force supply for the city. In response to such policies and in order to establish a township area for Cape Town’s burgeoning legal and illegal ‘African’ and ‘Coloured’ settlers the majority of the dune system was flattened to create the area which is now referred to as the Cape Flats. Today the Cape Flats estimatedly house between 450,000 and one million inhabitants (Skuse and Cousins, 2007), representing the majority of Cape Town’s population.

Access to housing for South Africa’s post-apartheid township inhabitants is unequivocally a contentious national subject given the country’s history of dispossession, and since the Constitution ensures provision of adequate housing for all (Skuse and Cousins, 2007). In 2007 Cape Town’s 240 informal settlements estimatedly housed over half a million people, in 110,000 shack dwellings (Williams, 2007). Consequently, housing demand is high and construction and state finances struggle to meet demand. The formal process for housing allocation involves registering on a waiting-list with the CoCT. At present there are an estimated 260,000 Capetonian families on the waiting-list (CoCT, 2008). The government houses are referred to by community members as ‘matchboxes’ given their size, repetitive rectangular style, and flimsy quality.

Unfortunately space here does not allow for a more nuanced and therefore respectful interpretation of apartheid policy in these pages. However, for a comprehensive and thoughtful ethnographical overview of South Africa’s apartheid and post-apartheid history and the implications for Capetonian peoples, environments and futures see Besteman, C (2008) *Transforming Cape Town*, University of California Press, California.
The largest of the Cape Flats’ townships is Khayelitsha or “new home” in isiXhosa, and was established by the apartheid government in the early 1980’s to accommodate all ‘Africans’ living in existing Capetonian townships into one centralised township. Almost thirty years on Khayelitsha consists of a patchwork of more established residential areas consisting of government housing and a formal town centre, and informal settlement in backyards and in large areas such as eNkanini which borders the Macassar Dunes, consisting of small shacks constructed from corrugated iron and timber cuts.

Khayelitsha’s outlying areas bordering the Macassar Dunes are relatively new living spaces, and include Makhaza, Kuyasa, and eNkanini. Kuyasa and Makhaza are relatively new housing estates developed by CoCT, while eNkanini is an informal settlement on an area that had been earmarked by the CoCT as a future residential development, Kuyasa 2 (Skuse and Cousins, 2007). eNkanini sprang to existence in the holiday period of December 2003 when some settlers initiated a land claim movement by ‘invading’ this open space. Today there are an estimated 16,000 residents in shack dwellings living in this area (see Skuse and Cousins, 2007 for an overview of the eNkanini land claim) which lies directly opposite the reserve, separated only by Baden Powell Drive (see Figure 1). Media perceptions of eNkanini life are highly negative, citing “appalling poverty and social degradation” (Williams, 2007 in Cape Argus), high crime and prostitution, and ‘lawlessness’ (Mail & Guardian, 9/2/2007).

On the eastern border of Macassar Dunes lies the apartheid-established township of Macassar. In 1964 the small seaside village of Macassar was declared an area for ‘Coloured’ residents, with 500 houses subsequently built for 3,000 residents (Nasou, 1970). StatSA does not yet generate exact statistical data at the spatial scale of towns, however, the approximate population of Macassar is around 38,000 persons (Wikipedia, 2010). The Macassar community is estimated to have long-term unemployment levels of 75% (pers. comm.), and faces many of the same poverty issues as other ‘previously disadvantaged communities’ in Cape Town. However, community and local authority discourse commonly refers to Macassar as a safer place than Khayelitsha, with lower crime levels and a more spatially stabilised community.

Adjacent to Macassar and on the Reserve’s borders are substantial sand-mining operations. For Macassar residents the mining poses a hotly contested issue, since the industry is perceived as generating little benefit to the community in terms of employment or economic development. Also, the visual effect of the mining is very apparent from Macassar and represents what one interviewee refers to as ‘a huge scar on the face of the dunes’.
The contemporary Macassar community is believed to have a long history of interaction with the dunes (EEU, 2006) including historical usage stemming from agricultural practices such as stock grazing, and recreational practices such as horseriding and fishing.

Management of Macassar Dunes

MDNR is 1016Ha and represents the last remnant of strandveld vegetation on Cape Town’s False Bay Coast. Macassar Dunes provide a significant and interesting case study in terms of ‘place’ and co-management since they are rich in both natural and cultural heritage (EEU, 2001), are used for many different purposes, and have been subject to a co-management process since the late 1990s.

The dunes consist of a nature conservation area which since 2001 has been formally managed by the CoCT, however, prior to 2004 no nature conservation field staff were located at Macassar Dunes (pers. comm.). In response to this management gap, and catalysed by the perceived threat of environmental degradation of the dunes by informal settlement and unsustainable use, in 2001 a formal local government spatial planning framework in the form of the Macassar Dunes Management Plan (MDMP) suggested the initiation of a co-management regime in the Macassar Dunes area (Recommendation A5 in Chittenden, Nicks, De Villiers, 2001). This flowed on from an earlier project (1999) regarding a portion of the Dunes, initiated by the CoCT and University of Cape Town’s Environmental Evaluation Unit (EEU-UCT), aimed also at reducing perceived environmental degradation threats through local stakeholder awareness-raising activities and engagement in the management of the dunes.

In 2000 a formalised one-year co-management project was constituted in the form of the Macassar Dunes Co-management Demonstration Project (MDCDP), based on a one-year trial basis and funded by the national Department of Environment and Tourism (DEAT), in response to that Department’s White Paper for Sustainable Coastal Development.

EEU was contracted to manage the MDCDP process, instigating co-management workshops in 2001 with ‘interested and affected parties’ identified previously during the community consultation process in the development of the MDMP. This formalised process involved EEU conducting a series of environmental education and co-management training for government authorities and community members involved in the MDCDP. These workshops resulted in an initial draft vision for the reserve area:

“to acquire conservation status for the entire area allowing appropriate and compatible activities within a co-management framework. We envisage the sustainable use of local
resources by local people as well as the sustainable use of the area for educational purposes, tourism and recreation. We support activities which will directly benefit local users and communities through job creation and skills development” (DRAFT VISION presented at Community Workshops, 2001).

Several plans were thence developed for the western portion of the Reserve only, which in brief included 1) the construction of a set of ‘eco-trails’ or walking trails to facilitate access to the dunes, 2) the construction of an environmental education centre, and 3) the training of local peoples from the Macassar and Khayelitsha communities in removal of alien vegetation and in the necessary skills to become visitor field guides (EEU, 2006). After the initial year-and-a-half of funding, from mid-2002 the MDCA operated unfunded. In order to legally administer funds to implement these proposals in 2003 the MDCA was formalised as a legal entity by registration as a Voluntary Organisation. Accordingly, the first MDCA Constitution was thus negotiated and finalised, and the rules for engagement and decision-making outlined therein.

Following these initial years of co-management engagement and planning was a period of over three years during which the EEU on behalf of the MDCA unsuccessfully applied for funding from many national and international donors so as to fund the identified projects. During this time interest and membership in the MDCA waned since movement around the project proposals had faltered in response to the lack of funds to instigate them.

Also, in 2004 with the CoCT placing field staff at Macassar Dunes (in conjunction with Cape Flats Nature) a new regime of management was instated at Macassar Dunes. This new regime was soon instated as the CoCT’s Biodiversity Management Branch (BMB), taking responsibility for the CoCT’s nature reserves and for the conservation of biodiversity within the City's boundaries (CoCT, 2010). The intention of the BMB is to undertake the process of ‘upgrading’ the reserve status of MDNR to that of a provincial proclaimed reserve, in order to establish more formalised and steadfast protection for the Reserve (interviews). This lengthy process of proclamation has taken several years to date and is still underway as of December 2009. BMB staff since 2004 have been engaged in the MDCA-MC in varying capacities and to different degrees.

The land claim ‘invasion’ (as it is termed in South African discourse) at eNkanini in 2003/04 appears to play a pivotal role in the co-management process. In response to the perceived threat of the invasion jumping Baden Powell Drive and entering the Reserve, concerned people formed an action group to educate the eNkanini residents around the environmental degradation such a jump would incur. In 2005 this group sparked the first
‘revitalisation’ of the MDCA, and simultaneously positioned the act of halting the threat of invasion of the reserve through education as one of the fundamental goals of the co-management process. However, this revitalisation movement faded when funds were still not forthcoming to implement the MDCA’s project proposals.

Then in the latter half of 2006 a series of funding was granted to the MDCA via the EEU as the responsible implementing organisation. Funding from USAID, the South African Lotteries Board, and DEAT totalled around ZAR6million. In response, the MDCA here underwent a second revitalisation process so as to start preparation of scoping reports for the MDCA proposals developed previously, and for which the funding had been specifically allocated. This revitalisation was fraught since many people engaged in the process had changed, new ideas were initiated that diverged from the previous proposals, and in response a campaign of re-examining the original proposals was initiated by EEU, and scoping reports were eventually prepared.

In early 2007 the BMB raised objections to the MDCA’s scoping report proposals based on issues of economic and environmental sustainability and relating to concerns about the financial and ecological management of the proposed constructed features in the Reserve and the responsibility and capacity of both the MDCA and the BMB to manage these. In particular, the land MDCA proposed for the siting of the environmental education centre was not owned by the CoCT, rather the Department of Public Works, and this raised several statutory maintenance and funding issues. This move appears to have caused much controversy in the co-management process since CoCT staff, from either Planning or BMB, had always been engaged in the MDCA and so their support of the proposals was assumed.

A lengthy disruption to the MDCA’s proposals ensued, causing another faltering in membership and waning interaction in the MDCA. Since 2007 there have been several MDCA-MC revitalisation attempts, often initiated in response to approaching funding deadlines, and to conduct small-scale education campaigns such as 2008’s ‘Intelezi’ Door-to-Door campaign in eNkanini, and education/awareness ‘days’ at Macassar Dunes for local school children. However, the failure of the MDCA parties to reach agreement on the proposals for MDNR has resulted in much of the funding being returned to donors.

It is within this brief framework of the history and context of the MDCA and the Reserve that I have explored the bridges and barriers to the co-management, and the senses of place perspectives of prominent previous and current members of the MDCA.
5 FINDINGS

A vast amount of bridges, barriers and place-meanings were identified during the research process, and a full description of each of these components is at Appendix 4. Whilst all of these components are highly important and relational, due to the density of findings, here for comprehension purposes I have identified the three most significant bridges and barriers for each of the two different analytical frameworks of ‘sense of place’ and ‘adaptive co-management’. Similarly, due to the richness of data I have included only six of the twelve most significant place meanings, based on their relationship to sense of place theory. Table 3 and Table 4 describe identified bridges and barriers, respectively, to successful co-management, as identified by MDCA-MC interviewees, and Table 5 represents the various place meanings identified. The findings in each table are represented as ‘themes’, grouped together loosely according to emic-codes identified in the narratives. I have then tried to describe the range of emotions, thoughts and understandings that were expressed in relation to these common themes. The themes used are essentially arbitrary since all articulated meanings are complex and relational, in that they overlap and intertwine with each other, such is the experience of perception, cognition, and emotion which sense of place entails. Where possible I have included identified cross-referenced themes and meanings as some indicator of this relationality, but am aware that much of the complexity is lost or left out in the process. Where appropriate an indicator is included of which of the co-management 'groupings' has articulated particular meanings or understandings, based on collectively articulated and therefore analytical significance.

5.1 Research Question 1 – MDCA-MC Perceived Bridges/Barriers to Co-management

Table 3 - MDCA-MC Interviewee Perceptions of Bridges to Successful Co-management

<table>
<thead>
<tr>
<th>Bridges – Themes (and description)</th>
<th>Related Themes</th>
<th>Relevant Theory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>Awareness Raising; Communication &amp; Networks; Changing Attitudes &amp; Values</td>
<td>AC</td>
</tr>
<tr>
<td>Communication &amp; Networks</td>
<td>All</td>
<td>SoP</td>
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Most feel that public education through the MDCA about the dunes and the role they play in the communities' lives is a successful component of the co-management, particularly education of the local communities. The particular educational techniques and methods are also viewed as very effective, for instance, the eNkanini Door-to-Door campaigns and the regular school children education activities, and also the EEU’s environmental education given to MDCA participants early on in the co-management process. In addition, the BMB staff feel that the currently proposed position of the MDCA’s environmental education centre in eNkanini is optimal since it will mean the MDCA can have the greatest effect on the community in terms of educating them about the dunes.

Some feel MDCA’s particular make-up, consisting of representatives of community organisations,
means the work of the MDCA is able to filter into these community organisations, providing an effective communication and networking tool which authorities would otherwise not have access to. Likewise, MDCA through their networks effectively elicit enthusiasm and volunteers for dunes activities.

A Macassar community member also feels EEU’s involvement in the initiation of co-management as a ‘neutral party’ meant they were able to bring differing groups together, something that could not have been achieved by any other single party.

<table>
<thead>
<tr>
<th>Changing Attitudes &amp; Values</th>
<th>Education; Changing Attitudes &amp; Values</th>
<th>SoP</th>
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<tbody>
<tr>
<td>Many perceive the MDCA has played an important role in changing attitudes and values regarding the dunes. For example many feel eNkanini’s residents are now more engaged with the reserve and have learned how to value nature and the role it plays. Further, successful education campaigns have changed attitudes in eNkanini about crossing Baden Powell Drive and settling on the reserve. EEU’s initial education campaign was also a success in teaching about the value of the dunes.</td>
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<table>
<thead>
<tr>
<th>Establishing Linkages</th>
<th>Communication &amp; Networking</th>
<th>SoP</th>
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<tbody>
<tr>
<td>Some authorities feel that co-management has allowed authorities to establish linkages with communities and user-groups which were not in place before. Furthermore, some feel the MDCA has opened space for the historically divided ‘Coloured’ and ‘Black’ communities to work together and collaborate on projects and management.</td>
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<thead>
<tr>
<th>Commitment</th>
<th>Involving People; Establishing Linkages</th>
<th>AC</th>
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</thead>
<tbody>
<tr>
<td>Some CFN, EEU and community people feel that despite all the historical and technical challenges, there are still deeply committed and passionate long-term MDCA members whom are dedicated to the co-management concept. Additionally, some community members feel MDCA is committed to making co-management work for the communities’ benefit, which is how it was intended, since the MDCA has the communities’ interests at heart. Also some community people understand the communities are committed to the MDCA’s Eco-trails plan, e.g. the eNkanini community is enthusiastic about the environmental education centre and the benefits it will have for the community. Some EEU and Planning members feel the EEU has shown enormous commitment and support in implementing the co-management arrangements and educating stakeholders.</td>
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<tr>
<th>Halting Settlement</th>
<th>Changing Attitudes &amp; Values; Education;</th>
<th>AC</th>
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<tbody>
<tr>
<td>Some feel that through the MDCA the threat of eNkanini residents settling on the dunes has been virtually halted, which is a huge success.</td>
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### Table 4: MDCA-MC Interviewees’ Perceived Barriers to Successful Co-management

<table>
<thead>
<tr>
<th>Co-mgmt Barriers (and description)</th>
<th>Related Themes</th>
<th>Relevant Theory</th>
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</thead>
<tbody>
<tr>
<td>Representation</td>
<td>Resources; Capacity,</td>
<td>SoP</td>
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Some perceive during the formative years of co-management the correct community structures failed to be included in the process, resulting in a long-term barrier. CFN and BMB staff feel co-management was imposed from above by CoCT and EEU and should rather have been a bottom-up community initiated process. Some feel it is difficult to know who 'speaks' for communities, and who or what individuals are representing when they engage with the MDCA-MC, making decision-making legitimacy difficult. In addition, some feel the MDCA is not currently representative of all the users of Macassar Dunes, missing for example representatives from sand-mining, 4x4 and business. Also, previous representatives from these groups have been 'lost' along the way somehow.

Some feel MDCA-MC is being unacceptably used for self-interest purposes e.g. to gain employment or opportunities, rather than for community interests. Some feel MDCA lacks representation from all three tiers of government to cover all the appropriate issues e.g. the provincial Dept of Public Works as owners of the disputed land, and the national Dept of Minerals and Energy to represent sand-mining issues.
## Discontinuities in Process & in Participants

<table>
<thead>
<tr>
<th>Decision-Making; Power; Motivation</th>
<th>SoP</th>
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<tr>
<td>Some feel the long lag time between initially exploring projects in MDCA and EEU sourcing funding meant momentum and motivation were lost at MDCA’s inception. Others feel the high turnover of CoCT and EEU staff on MDCA-MC has reduced the capacity of the MDCA-MC and the discontinuity creates trust issues. Similarly, high turnover of MDCA's community members has resulted in lost capacity and constant revisiting of issues and processes. Some feel the MDCA membership has been erratic and at times becomes virtually non-existent, each time requiring a revitalisation process which has been a barrier to effective co-management. This also has created confusion and frustration since new ideas are constantly instituted into the process, stalling progress on existing projects. Also, CoCT’s changed stance from support to rejection of the Eco-trails project, and failure to work with MDCA-MC to find viable alternatives, is identified by EEU, Planning and community members.</td>
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## Shared Co-Management Understandings

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<th>Decision-Making</th>
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<td>Some feel at the inception stage co-management as a concept confused community members and raised false expectations regarding income generation and the dunes' future. Some feel there is currently a lack of community understanding of the goals and processes of co-management, and lack of a clear and shared vision of what is the purpose of co-management and what it means to 'co-manage' amongst all parties e.g. some perceive conservation is the main objective for EEU and the authorities for engaging in co-management, while ‘getting ahead’ in terms of employment, skills and opportunities is the main objective for communities, thus creating tension. Similarly, some planning and EEU staff feel biodiversity is meaningless to marginalised communities seeking employment and skills opportunities so this makes co-management at Macassar Dunes problematic. For some this lack of common understanding relates also to fundamental premises of co-management e.g. while CoCT believes the Eco-trails project will promote land invasion, the MDCA believes the project will work to halt land invasion through education, changing values and creating community ownership of the process and projects. Also, some community members feel the process has been overly bureaucratic and can't understand why a project that will benefit their community and which has gained community support is facing unnecessary opposition from authorities such as BMB.</td>
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## Commitment & Issues of Trust

<table>
<thead>
<tr>
<th>Motivation; Discontinuities; Decision-Making</th>
<th>AC</th>
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<tr>
<td>Some feel the CoCT and/or EEU are not committed in the long-term to making co-management sustainable, in particular the CoCT’s perceived unwillingness to help the MDCA come up with viable alternatives when the Eco-trails proposal was rejected is mentioned as an indicator of this lack of commitment. Thus some feel adequate time and resources need to be put in by all levels of government to accommodate the co-management process, not hinder it. At the same time, some CoCT, EEU and CFN staff feel the CoCT’s and EEU’s lack of commitment is based on the MDCA’s own perceived lack of commitment, given the historical ‘revitalisation’ processes required to get the organisation back up-and-running. This has created distrust that the organisation is sustainable, as demonstrated by the fact the MDCA appears to be run and committed to really by only one community member. Additionally, EEU does not trust MDCA-MC members to carry out their functions and responsibilities given low organisational capacities. Some community members feel this distrust is unwarranted.</td>
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## Decision-Making

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<tr>
<th>Funding; Commitment &amp; Trust; Decision-Making; Discontinuities</th>
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<tr>
<td>Many feel there are not correct decision-making processes or structures set in place for the MDCA-MC, meaning that issues are repeatedly deliberated without resolution. Some feel the MDCA has not been working according to its Constitution, while others feel there needs to be</td>
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much clearer roles and responsibilities set out for how the co-management process should work between all parties. The EEU feels that without a formalised co-management agreement at Macassar Dunes there essentially is no co-management, and this has contributed to undermining the initial work of the co-management process.

<table>
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<tr>
<th>Power</th>
<th>Local Communities; Funding; Voluntary Status; Trust; SoP</th>
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<tr>
<td>The process brings together different partners with unequal power and some feel the balance is tipped in favour of the authorities, meaning community voices are not heard. For instance, some feel that while the community has had to bend to realise the needs of biodiversity, the CoCT’s biodiversity concerns will not bend to accommodate the communities’ development and use needs. Some EEU, CFN and BMB staff feel that people in the MDCA-MC incorrectly perceive their organisations as being 'in-charge' of the co-management process. CFN for instance understand their role as 'supporting' the MDCA-MC in their projects and organisation, the BMB understands their role as 'facilitators' to the co-management process, and the EEU understands their role effectively as a 'bank' for the MDCA-MC as administrators of the MDCA's funds. However, all these organisations do not perceive themselves as holding 'power' in the co-management process, and believe the MDCA-MC needs to motivate and organise themselves from within so as to implement their projects.</td>
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5.2 **Research Question 2- MDCA-MC Place Meanings**

**Table 5 - Place meanings attached to Macassar Dunes identified by MDCA-MC**

<table>
<thead>
<tr>
<th>Place Meaning Themes (and description)</th>
<th>Related Themes and Place Meanings</th>
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<tbody>
<tr>
<td>Local communities Sense of Ownership; Co-management; Under Threat.</td>
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<tr>
<td>While much of the understandings of Macassar Dunes are inherently tied to the local communities, this theme relates specifically to community-centred meanings. The dunes are tied in many understandings as a potential community economic development source. For many community people this development meaning is tied to the co-management process as a vehicle for community development and empowerment, and as a tool for education on dune awareness. This meaning is also expressed in terms of local natural and cultural heritage, for instance in the Macassar community’s long association with the area, and particular cultural uses like horse-riding, grazing, and the Kramat. A common assumption is this community has a greater sense of the dunes’ importance than the Khayelitsha community due to these historical links. All these meanings also relate to the communities’ ‘sense of ownership’ of the dunes, since the dunes, and co-management, are related as being ‘for the benefit of the community’. Many Planning, CFN, EEU and BMB staff reiterate this latter point also.</td>
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<tr>
<td>Under Threat Biodiversity, Conservation.</td>
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<tr>
<td>A commonly espoused place meaning across all 'groups' is a sense of the dunes under threat. This sense of threat is to the positively associated place meanings such as high biodiversity, species endemism, conservation, nature, and environmental values. The source of threats include land ‘invasions’; unsustainable usage by informal settlers and local communities e.g. from hunting and collection of plants and wood; inappropriate development of the dunes and of Cape Town; 'alien' vegetation that dominates water sources and space in the dunes; and, the 'developmental agenda' of unsustainable modern life: &quot;So for me, Macassar is two things it's conservation, it's like so, so important because if we lose that I mean it's a huge area, then we've just lost so much. The other thing that really worries me is that if we must carry on developing the way we are, and I mean we're losing areas every day, you know: it's an absolute&quot;. This 'under threat' meaning is related to high biodiversity and uniqueness, and to...</td>
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### Sense of Safety | Local Communities, Tourism/Recreation Potential
--- | ---
The issue of safety, or lack-thereof, is one of the most commonly featured place meanings attached to Macassar Dunes. Most relate this as a sense of fear or discomfort associated with going into the reserve in small numbers, particularly for BMB staff fearful of working in the field when there is a risk of being held-up or assaulted. The degree of safety and fear associated with Macassar Dunes varies between interviewees, some indicating it is an important part of their sense of place, and others indicating it is only occasionally an issue to be considered, for instance when entering the reserve in small numbers. For people representing eNkanini and local residents, the safety fears are expressed in terms of fears for the community, for example, what the lack of safety means for women entering the reserve due to risk of rape, or for children crossing busy Baden Powell Drive. This meaning is strongly linked to the need to create a safer environment at Macassar Dunes so that people can enter the area without this sense of fear.

### High Biodiversity | Requiring Protection/Conservation; Uniqueness; Under Threat
--- | ---
The dunes’ meaning is strongly tied 'high biodiversity'. This meaning extends relationally in many understandings to incorporate intergenerational and larger spatial scales, and the need to conserve the biodiversity: "the Macassar Dunes to me come very linked to biodiversity and conservation and linked to the fact that we really seriously need them, because we are seriously running out of that vegetation type to meet the national targets". For some high biodiversity of the dunes relates to the fixed Reserve area, whilst others perceive a wider association, for instance incorporating the sand-mining areas and nearby privately conserved land. In addition, many community people, Planning, CFN and BMB interviewees relate these meanings to the local communities, since the reason for conserving the biodiversity is for the communities' benefit.

### Providing Protection, Ecological Services | High Biodiversity, Local Communities, Education Potential, Ownership
--- | ---
The 'providing protection' to local communities meaning is apparent in many understandings. Many describe the ecological role the dunes play in the communities (some pointing out even though the communities may remain unaware of such). This meaning is frequently described in terms of the wind protection the dunes offer from the blowing sand and high, strong winds from the False Bay Coast. The dunes are also mentioned as sustaining coastal regulation processes, providing protection for the communities by acting as a barrier from the ocean. Additionally, many community members in particular also express the dunes' meanings in terms of the ecological services they provide, e.g. for the collection of fuelwood for personal and commercial use, and for the collection of medicinal plants by sangomas and Rastafarians.

These meanings are often expressed as relational to the 'under threat' and 'requiring protection' meanings, such as conservation. For instance, place narratives often include an understanding that removal of native vegetation, unsustainable flora and fauna harvesting, and the cutting of vegetation in the incorrect manner can all contribute to the degradation of these ecological and protective services. The meanings are also linked to an understanding of the likely consequences of dune degradation, such as coastal inundation, houses filled with (even more) sand, and windy(er) townships.

### Ownership | Biodiversity/Conservation, Local Communities
--- | ---
A sense of ownership of the dunes area is expressed by several different interviewees. One BMB staff member refers to this sense on an authoritative level, referring to the area as "my reserve" and underlining State ownership: "in a lot of our areas the community groups help us really well, but it's our reserve, you know". This sense is tied to meanings of high biodiversity and conservation, and as a consequence the dunes being under threat and requiring protection. Also refers to this sense on a community level: e.g. a Macassar...
interviewee insisted they are "part of Macassar" and two others pointed out the deliberate distinction of "Macassar's dunes". The former understanding of ownership. This sense is related to meanings such as conservation, community development and tourism potential. The Khayelitsha and Macassar communities tie this sense of ownership to the co-management process as a vehicle for realising community aims for the dunes.

6 DISCUSSION

6.1 Discussion Question 1

How do the identified bridges and barriers to successful co-management of Macassar Dunes relate to adaptive co-management theory?

The various ‘faces’ of co-management identified by Berkes and others (2007; 2009) serve here as the analytical framework of co-management attributes which may contribute to working towards adaptive co-management (see Table 1) and are discussed here in relation to what they might tell us about the MDCA-MC perceived bridges and barriers to co-management at Macassar Dunes.

Co-management as Power-Sharing

Some MDCA-MC interviewees identify issues of power inequalities tilted in favour of government authorities as barriers to effective co-management. Power imbalances are also reflected in some of the 'Capacities' barriers, which identify the perception that communities struggle to act accordingly to the organisation's needs, based on low organisational and financial skills capacity. In addition, issues identified under the 'Resources' barriers indicate some community members feel they do not receive the appropriate institutional, organisational and financial support from partners in order to carry out the MDCA-MC's roles and responsibilities. Since effective power-sharing depends on the degree of authority held by communities in the partnership (Borrini-Feyeraband et al, 2004 in Berkes et al, 2007), and since experience in Caribbean co-management examples show building stakeholder capacity can be essential for participant’s engagement in co-management, (see McConney et al, 2003 in Pomeroy, 2007), on the basis of these identified barriers, power-sharing in MDCA-MC might be viewed as relatively 'weak' (Borrini-Feyeraband, 2004).

An identified bridge relates to ‘Involving People’, i.e. creating space for community citizens to be involved in activities and management at the dunes. At the same time, many understand the MDCA-MC as failing to implement the majority of their projects and desired futures for the dunes over the course of their ten year existence. Berkes (2009, p1693) notes "[m]ost authors do not regard mere consultation or ad hoc public participation as co-management". In this sense, the MDCA process appears somewhat more like 'consultation' rather than actual collaborative power-sharing, or devolved power to communities (Berkes et
al, 2007). This power imbalance is perhaps most starkly reflected in the identified barrier whereby some authority staff feel community sense of 'ownership' of the Reserve is negative, since in their experience communities will then wish to take on management responsibilities, leading to power disputes between official resource managers and local communities. On this, Pinkerton (2007 p159) notes "[g]overnment agencies tend to protect their power preserves at all costs", and this 'ownership' barrier understanding may serve to indicate this reticence to devolve power to communities. This sense of the agency desire to retain power is demonstrated by one BMB staff member: “in a lot of our areas the community groups help us really well, but it's our reserve, you know. So there's that model, ok, and you can't have too many bosses” (interview).

**Co-management as Institution-Building**

Berkes et al (2007) note a condition of success in co-management lies in seeking to understand rules and definitions of group membership, as well as making sure institutional design includes all 'key players'. Identified barriers relating to 'Representation' resonate with these conditions, since many feel the MDCA-MC is not representative of all the appropriate actors and issues required to participate in co-management. This includes a failure to represent all the users (e.g. 4x4 drivers), activities (e.g. sand-mining), communities and community structures, and appropriate government authorities (e.g. Dep't of Public Works as owners of the disputed land on which the MDCA’s proposed environmental education centre was to be set, outlined in the Eco-trails Report (2006)). As result, institution-building within the MDCA-MC in this respect is somewhat low, given this perceived failure of adequate representation.

Adaptive co-management theory suggests building on existing institutions, particularly at the local level, rather than designing them from scratch (Berkes et al, 2007). This approach was attempted in the foundations of co-management at Macassar Dunes through basing appropriate community representation on those organisations identified earlier during the CoCT's 1999 MDMP planning process. Berkes (2007) also notes that often neither local scale institutions nor government authorities have a history of working with each other. Indeed, this notion is particularly relevant in the South African context, given the recent apartheid past. It might therefore be assumed those community parties identified early on were not entirely representative of the Macassar and Khayelitsha communities, and this foundational issue may inform some of the contemporary barriers relating to appropriate representation on MDCA-MC.
On the issue of formal co-management arrangements, Berkes (2009 p1693) notes "[m]ost definitions of co-management require some institutionalized arrangement for intensive user participation in decision-making". Formalised agreements are further deemed important for learning, social capital and integration of knowledge (Berkes et al, 2007). While the MDCA has a work-in-progress Constitution, the lack of a formal agreement between management parties is identified by EEU as a major barrier to co-management, serving to undermine the process. This perceived gap echoes these theoretical stances in this regard, since no formalised framework exists for the inclusion of MDCA in decision-making at the reserve. At the same time, some identify barriers of MDCA either not working according to its Constitutional mandate, or as requiring more definitive understandings of the roles, responsibilities and formal processes of co-management arrangements. It could be assumed that without such formalised co-management arrangements establishing specific roles and responsibilities for co-management partners, the MDCA-MC faces institutional barriers to acting out their Constitutional mandates. These issues are also strongly related to the idea of co-management as power-sharing, since lack of formal agreements, roles and responsibilities highlights the ad hoc and consultative nature of co-management at Macassar Dunes. Further, the barriers identified under ‘Raising Expectations’, relating to failed community expectations regarding the benefits of co-management, may be a reflection of the lack of appropriate institution-building between communities and authorities during the foundational stages of co-management arrangements.

On this, co-management experience shows that benefits need to exceed costs (Pomeroy, 2007) for all partners. Yet how to determine and motivate individual benefit from ‘community’ benefit is problematic, since the notion of coherent group actors is problematised: “[r]arely is ‘the state’ or ‘the community’ a monolithic actor” (Armitage et al, 2007). The barrier identified relating to co-management being used for self-interest purposes may relate to these understandings, since co-management may be seeking to engage with representatives of coherent groups which may not, in effect, exist. Additionally, theory concludes real ‘benefits’ in adaptive co-management arrangements are realised in the mid- to long-term, including trust, cooperative relationships and mutual respect (Berkes, 2007). Meanwhile however, the high-transaction short-term costs can prove prohibitive for many participants. This problematic appears to be the case in MDCA-MC, with authority partners expecting ‘returns’ on their capacity-building efforts with MDCA-MC to date, and becoming frustrated when communities fail to independently run the MDCA without authorities’ help.
and guidance. These ideas are also related to understanding co-management as processual, and are explored next.

*Co-management as Process*

Conceiving of co-management as process requires extensive negotiation and deliberation, with experience indicating effective arrangements may take over a decade to evolve (Berkes, 2009). The identified barriers of 'Discontinuities in Process and Participants' may be representative of this failure to engage in co-management as process, since lulls are evidenced throughout MDCA's co-management history, and are accompanied by perceived high-turnover of both community and authority participants. These lulls and processual discontinuities are then associated with participant motivational losses, as described under the 'Low Motivation' barriers. Olsson (2007) demonstrated in a maturing co-management arrangement in Sweden how strong leadership efforts worked to develop values and build motivation among actors. As such, these processual difficulties and low motivation may be linked to a lack of strong leadership in MDCA-MC. Further, Berkes et al (2007) note an enabling policy environment needs to be created with some level of commitment from higher order institutions. In MDCA-MC failure to engage in a processual understanding of co-management is further underlined in the 'Commitment' barriers, which demonstrate a perceived lack of commitment to the co-management process, for both community members and authorities.

Co-management is path dependent, meaning co-management futures are premised on preceding processes (in Berkes, 2007). This path dependence is evidenced in the identified barriers of 'MDCA's Focus', since some feel the scope of MDCA is narrow and not representative or inclusive of the Macassar Dunes area and users. In relation, Chuenpagdee and Jentoft (2007 p664) also note "[w]hen governments initiate co-management programs they also tend to dictate the process and decide on who should participate". As such, these barriers pertaining to MDCA’s narrow focus may be resultant of the processes' formative stages, and the framing of issues and processes by the EEU and CoCT at that time. This includes their framing of understandings of appropriate actors, processes, issues, strategies, and projects (such as the Eco-trails project), on which co-management was premised.

Chuenpagdee and Jentoft (2007) further recognize co-management as requiring particular attention to a 'step-zero' approach, or the pre-implementation phase, since this phase is pivotal to the future process. They write "taking the time to understand situations in a local context, researchers can avoid premature and hasty attempts to embrace co-management schemes" (p657). In the MDCA-MC context there are many perceived barriers relating to the
foundational and initiation processes of co-management, since it is perceived by some as variously imposed from the top-down, raising false community expectations, and as ‘monetising’ a disadvantaged community.

On top-down initiated co-management Berkes writes "[i]deally, co-management should start from a heartfelt problem at the community level and not from some conceptual problems perceived at a higher level". It appears co-management at Macassar Dunes was not premised on this ideal, since MDCA was initiated through top-down co-management processes, based on ‘higher-level’ perceptions of community environmental degradation of the dunes area, and a gap in on-ground management arrangements. The framing on community environmental degradation is a persistent conceptualisation in the co-management arrangements, however, the framing of MDCA as filling an on-ground management ‘gap’ proves conflictual, as some BMB staff feel MDCA ‘management’ is redundant since formal CoCT management has now been instated through BMB. The problematic of these foundational co-management processes may serve to inform other perceived barriers, such as those pertaining to failed community expectations and monetising disadvantaged communities. Importantly, though not surprisingly, experience shows unmet expectations can result in unwillingness to participate in co-management (Sverdrup-Jensen and Nielsen, 1998 in Pomeroy, 2007).

**Co-management as Trust & Social Capital**

Trust between partners is considered crucial to co-management success, particularly as prelude to creating working arrangements (Berkes, 2009). Issues of trust as result of these processual difficulties are prevalent in the MDCA-MC identified barriers - indeed, it could be concluded trust in general between MDCA co-management partners appears low. This lack of trust in the co-management arrangements occurs both between authorities, EEU, and community members and is often expressed in relation to the notion of 'commitment' to co-management. In particular the changed stance by CoCT on their support for the MDCA’s Eco-trails project has served to decrease trust between all partners, since this move represented to EEU and community partners a brazen lack of commitment to co-management goals and processes.

It is theorised the links between trust and social capital are important prerequisites for collective action and social learning (Singleton, 1998). The perceived bridges 'Communication and Networking' and 'Establishing Linkages' show how co-management has facilitated links and associations between formerly segregated communities, and between said communities and government authorities. These bridges imply increased social capital through the MDCA-MC due to co-management. In this sense, this increased social capital
facilitates other bridges identified relating to education, increasing awareness and changing values, since it is through the networks, linkages and communication that these other bridges are made possible.

However, some barriers identified under 'Representation' indicate social capital may also be quite low since authorities remain unsure of who 'speaks' for communities. Similarly, some feel there is a persistent lack of community understanding regards the intra- and inter-departmental roles and procedures within the CoCT, and within and between the three tiers of government, expressed by some as a general lack of community understanding regarding bureaucratic processes. Additionally, the identified communication barriers between MDCA-MC members and between MDCA and community members also indicate social capital may overall be quite low.

Co-management and Bridging Organisations

Bridging organisations are those that serve as facilitators to co-management processes and partners, and “provide an arena for knowledge co-production, trust building, sense-making, learning, vertical and horizontal collaboration, and conflict resolution” (Berkes, 2009). In this respect, all of the partners in MDCA-MC might in some respects be considered as performing potential bridging organisation roles, since they each serve to facilitate co-management and the bringing together of diverse partners, as represented by the 'Involving People' bridge. Further, these organisations facilitate learning processes through environmental education and capacity building programs, and by CFN and EEU's presence and persistent efforts to keep community development needs on the co-management agenda, all of which are identified by many as bridges to successful co-management.

Berkes (2009) also notes bridging organisations are linked to the idea of leadership and 'key individuals' in co-management arrangements. For MDCA historically weak leadership is an identified barrier consistently perceived by many in the co-management process, and may indeed be linked here to the role of these bridging organisations. Many MDCA partners perceive their own organisations as inappropriate for acquiring a leadership role, since they do not see perceive their organisation as ‘central’ to co-management arrangements. They thus rather undertake the important facilitative functions of the ‘bridging organisation’, and this stance in effect has presented a leadership 'hole' in the co-management process. Exactly who is responsible for providing leadership to MDCA-MC remains contested within the identified barriers. Some feel EEU and CoCT Planning as co-management instigators are responsible for filling this apparent hole. Others perceive such leadership must come from within MDCA-MC community membership, because for EEU, COCT Planning and CFN the premise of their
co-management engagement was to ‘let go’ of these leadership functions as community capacity to run a community organisation increased over time. Here the links between the role of bridging organisations in MDCA and the lack of shared understandings of co-management become apparent.

Co-management as Governance

Understanding co-management as governance sees processes of legitimacy and authority in co-management arrangements embedded within a democratic mandate (Berkes, 2009). Negative perceptions of decision-making legitimacy and appropriate processes are identified barriers under 'MDCA Decision-making', and these appear related to this conception of co-management as governance. In particular the recurrent deliberative processes embedded in the governance arrangements seem here to be overwhelming the MDCA’s ability to make decisions and progress with plans and projects. Berkes et al (2007) note conditions for successful co-management require ensuring "clear objectives, accountability, enforcement, and adequate fiscal support". Many of the barriers outlined under 'Shared Understandings of Co-management' indicate MDCA partners have differing ideas and understandings of the roles and responsibilities of co-management partners, and the processes and objectives of co-management. These understandings lead to perceptions that the MDCA lacks formal governance processes and procedures for ensuring decision-making accountability. Here we might conclude these varied and often conflicting co-management understandings inform these perceived decision-making barriers.

The issue of adequate fiscal support to sustain co-management governance arrangements (Berkes, 2009) relates to some barriers identified under 'Funding' and other themes. These barriers include limited CoCT conservation funding, EEU controlling MDCA access to donor funding, and MDCA-MC pressure to make decisions based on approaching funding deadlines. These all indicate MDCA faces considerable stress in relation to financial support, and this issue dominates much of MDCA-MC’s administrative capacity, and further appears to create mistrust between partners. This stressor consequently indicates MDCA governance around this issue is rather poor, particularly since it is informed by perceived lack of community capacity to generate, sustain and manage funds appropriately, and since it leads to another identified barrier of MDCA being solely focussed on particular projects simply because funding is available for these. In short, adequate fiscal support for co-management arrangements seems to be lacking in the case of the MDCA and results in much co-management effort focussing on this controversial issue.

Co-management as Problem-Solving
Co-management as problem solving requires working together to not just choose between, but rather generate solutions for solving perceived problems (Berkes, 2009). The 'Events and Programs' such as Heritage Day and Door-to-Door campaigns in eNkanini are identified as bridges, and these are recognised as distinct instances whereby the MDCA-MC has effectively worked together to generate specific approaches to address perceived problems, such as the need to educate communities on the importance of the dunes.

However, such events appear rather isolated. The identified barriers of MDCA's perceived failure to plan ahead and generate project and strategic alternatives when faced with obstacles, and CoCT's perceived failure to work with the MDCA to generate alternatives, indicates limited problem-solving capacity in MDCA co-management arrangements. Additionally, barriers identified such as the repetitive deliberative processes, the constant instituting of new ideas into the co-management process given the Voluntary status nature of MDCA, and the high turnover of people involved with the MDCA-MC, indicate problem-solving has become problematic on the whole, stalling both the generation of, and choosing between, alternatives.

**Co-management as Social-Learning and Adaptation**

Social learning is collaborative or mutual development and sharing of knowledge by multiple stakeholders through iterative processes and ‘learning-by-doing’. Since 'Education', 'Awareness Raising' and 'Changing Attitudes and Values' are all identified as bridges by many participants, this may indicate some level of social-learning is occurring in the co-management process. In particular the idea that co-management has contributed to halting the eNkanini ‘land invasion’ into the dunes is indicative of such learning.

At the same time, education is perceived also as barrier, since some feel education initiatives in communities have failed to be sustained, and to reach all the people who impact on and use the dunes. Also, appropriate skills and capacity to engage in co-management are perceived as lacking, despite attempts to educate community members, whilst authorities’ skills in managing social needs are also recognised as lacking. The barriers identified under the “Shared Understandings of Co-management’ are paramount here, as they imply social-learning to reach shared visions and values regarding fundamental co-management meanings appear to be absent. Indeed, on delving into this question of what it means to be ‘successful’ co-management, we find very different interpretations and meanings of the co-management concept, and differing considerably from the MDCA’s Constitutional definition. These range from understanding co-management where the state inevitably retains decision-making power (BMB interviewee), to ideas of equal power-sharing (Khayelitsha interviewee), to the concept of co-management for community (eNkanini interviewee).
On adaptation Berkes understands the learning-by-doing approach responds to social and ecological feedback and provides management flexibility. However, the ability to respond is not necessarily inherently desirable, rather “an ability to respond appropriately - in terms of timing, intensity and resources” (Fabricius in Leach, 2008). On this, adaptation is hard to quantify, however, the ‘Discontinuities’ in the co-management process and participants barrier indicate MDCA may struggle to deal with social and ecological change, and other processual barriers indicate management flexibility may be quite low. On the other hand, the barrier ‘Halting Settlement’ onto the reserve by informal settlers shows MDCA has managed to negotiate the complex social and ecological situation of the highly transient and increasing population of eNkanini.

6.2 Discussion Question 2
What does sense of place theory tell us about the identified place meanings, and the practices and politics of place-making in the co-management process, and how might this understanding relate to the perceived bridges and barriers to successful co-management of Macassar Dunes?

Place-making and Senses of Place

The most significant finding in this place analysis of the Macassar Dunes is the presence of seemingly active and directed processes of place-making (Stokowski, 2002), enacted through the co-management process. This is perhaps most visibly evidenced by MDCA community residents noting how their understandings and meanings of the dunes have changed over time due to their interaction with the co-management process. It is further highlighted through interviewees’ perceptions of eNkanini residents’ changes to place-meaning through the work of co-management educational programs. Broadly speaking the changing conceptions of the dunes have evolved from meaning ‘nothing’, ‘open space’, ‘land for settlement’ and ‘unsafe’, to meanings of ‘biodiversity’ ‘provision of ecological services’, ‘requiring protection’ and ‘conservation’, though the unsafe meanings has largely persisted. As one Khayelitsha interviewee notes on their pre-co-management understanding of the dunes: “I didn't know a thing! That I can say. But UCT has tried so hard to workshop us, those trainings, so that we understand the importance of the dunes. So we can plough back into our communities”.

The perception of eNkanini residents’ changed place-meanings is demonstrated through the bridges identified relating to halting further informal settlement on the reserve area and ‘changing attitudes and values’. On the changed understanding and meaning of the dunes for eNkanini residents through door-to-door education campaigns, one Khayelitsha interviewee remembers: “they couldn't even understand what is the purpose of [the dunes]! They just saw an open space where they can build houses for them, their shacks. But we managed to educate them [on] the importance of the dunes”. And, as one eNkanini resident explains: “I am
providing myself to be a protector of nature. Because nature is a part of our life; it's a beautiful part of our life. The [eNkanini] people are always talk[ing] about that - they know about that place because nature is a part of our life. You can see people who dump and [light] fire, but they come from another place. The [eNkanini] people are already a part of that place, because we've got our culture for initiation. Now we protect that place because most of us now know about that place, so we try only to protect that place. We try to clear our places (shack areas) so that piece of nature is not affected".

Sense of place refers to "[t]he particular ways in which human beings invest their surroundings with meaning" (Hubbard et al, 2004, p351). On place meanings, the question arises of whether such meanings represent individual or collectivised meanings and senses of place. On this, Stokowski (2002 p372) understands “the creation of a sense of place can be seen as a social (not merely individual) task, since much of what we know, feel and do in places is initially mediated by others” (p372). Since this study gains personal perspectives on place meaning we cannot know whether such meanings represent individual or collectivised meanings beyond MDCA-MC. In this sense they represent individual senses of place, based on and created through social processes. We can thus identify some MDC-MC collective senses of place.

The BMB explicitly aims to educate people to conserve biodiversity and change public perceptions of ‘natural remnants’ to a positive one (CoCT, 2008), through educating community people about the ‘biodiversity benefits’ (interview CFN) and ecosystem services (interview BMB). As place meanings identified by most interviewees include the value and necessity for conserving biodiversity and protecting ecosystem services, we might conclude these ‘ecologised’ place meanings, initiated and perpetuated through the co-management process, have successfully been incorporated into a collective MDCA sense of place at Macassar Dunes.

Attributing the evolution of these meanings to the co-management process, one Khayelitsha interviewee understands that without it: “obviously there would be shacks all over the dune, I'm telling you! That is the work of co-management - that there is no shacks on those dunes as we speak.” Yet at the same time there is an understanding that these place meanings enacted through co-management are only provisionally stable, liable to change and appropriation, particularly within the eNkanini community since it is understood as highly transient and open to newcomers, seemingly unaware of the dunes’ importance. As result, many identified a barrier of ‘education’, meaning wider, more focussed and systematic co-management education programs are required in order to stabilise these place meanings in
local communities. This barrier highlights the fundamental role the co-management process plays in changing place meanings, through such educational programs.

Also at the same time as these ‘ecological’ meanings are provisionally stabilised, there exist alternative place meanings which have been perpetuated through the co-management process, and which persist in some MDCA senses of place of Macassar Dunes, particularly for some community and EEU members. These meanings are more differentiated between co-management partners, and revolve around the role of identified ‘community’, ‘tourism, and ‘development’ meanings. These differentiations create contestation in the co-management process, and hence demonstrate Massey’s (1993) understanding of places as full of ‘internal kinds of conflicts’.

The issue then arises of how such alternative place meanings interact in the co-management process with these ‘ecologised’ ways of framing place. On this intersection between community-based and ecological-based meanings one CFN employee notes: “I've been involved in a number of these projects where we try and get communities to buy into biodiversity, and it hasn't been easy. You get a lot of like your fringe groups, which is quite easy for them 'cause they're already converted...to the message of biodiversity. For instance, if you go in the southern suburbs it's very easy to engage with the public there around biodiversity issues 'cause they understand the value and importance of biodiversity. Whereas when you go to, say this community just across the road from me...with precious wetlands, with precious birds, and try and convince them that it's necessary for us to preserve this for future generations and for [the] importance of these particular plant species, you're probably going to be talking to people who are not going to understand that. And at the same time are not going to quickly, easily buy in on that, and at the same time are going to ask you 'what am I going to benefit from this?' And then if your questions, your answers, are not gonna say ‘jobs’ or some ‘poverty alleviation’ or ‘skills’ or ‘training’, then you're talking to deaf ears”.

These ‘community development’ meanings are also inherently tied in sense of place relationships to community ‘sense of ownership’ of the dunes. However, BMB staff also claim this sense of ownership to Macassar Dunes and are enacting this ownership through seeking proclamation status for the Reserve, since this status will provide further ‘protection’ for Macassar Dunes, and ostensibly for the place meanings they wish to promote.

The place meanings identified also show how conceptualisations of what is ‘Macassar Dunes’ vary widely; and these meanings may or may not be relational to co-management. For instance, BMB staff conceive of Macassar Dunes as ‘nature reserve’, and also as part of the adjoining Wolfgat Reserve, into which they will soon be agglomerated. They thus criticise the
co-management process as not incorporating all of the nature reserve area since the Eco-trails project focuses only on the Western part of the dune. Macassar community members on the other hand conceptualise their community as part of the dunes, likewise, the MDCA-MC eNkanini community member. Additionally, many people feel Macassar Dunes incorporates the sand-mining areas on the fringes of the reserve, and that co-management either already does or should incorporate the sand-mining areas. On this subject, many contemporary members are unaware the co-management process in its earlier days of existence engaged with the sand-mining industry. Thus, by removing the context of ‘co-management’ from ‘place’, we can see how conceptions of Macassar Dunes are varied and often do not match the conception prescribed through co-management.

These varying understandings of what is ‘Macassar Dunes’ show an understanding of place as ‘relational’ (Massey, 1991) in a relatively ‘localised’ spatial sense, since they focus on local communities and areas. However, this relational conception of Macassar Dunes also extends to greater spatial scales and temporal scales in MDCA-MC place meanings. For instance, on the place meaning of ‘conservation’ for some BMB staff this is related to the need to conserve particular portions of vegetation types in order to comply with national conservation targets. Also, they and others consider understand this conservation meaning in the context of ‘global biodiversity’ and biodiversity loss, and in relation to the ‘developmental agenda’ of modern society. Similar temporal relationality is depicted, ranging from understandings of Macassar Dunes as related to the immediate economic benefit of local jobs through the co-management process, to understandings of inter-generational equity through conservation, or in the case of many MDCA-MC community understandings, both of these.

These varied spatial and temporal understandings of place relate to the confluence of identified barriers of ‘Representation’, ‘Power’ and ‘MDCA-Decision-Making’, and the various place meanings of ‘sense of ownership’ of Macassar Dunes, since these all point to the differentiated understandings of who has the ‘right’ to speak for place in co-management, and what kinds of meanings are able to be heard and progressed in and through the co-management process.

In addition to the ‘ecological’ meanings, some meanings do appear to be collectively held by MDCA-MC. Informal settlers and township residents in Khayelitsha are viewed as having a largely negative relationship to natural spaces, conceiving of such areas as unsafe crime havens (CoCT, 2008). This sense of place of Macassar Dunes as unsafe and threatening is evident in many MDCA-MC place narratives, and are expressed by interviewees across all co-management partners, representing therefore another more stabilised place meaning.
Whilst the majority of place studies have to date examined positive experiences of the residence, Manzo (2005) has sought to show how place meaning develops from a wide array of experiences and emotions, both positive and negative. This example of the MDCA serves as an important contributor to understanding how more negatively associated place meanings can become part of the dense sense of place fabric (Shurmer-Smith, 2002).

Some MDCA-MC authority staff understand the experience of being ‘in-place’ as crucial for understanding the value of the dunes; for instance: “you see it as a drive-past but you have no idea what's inside. And once you actually get in there, walk or you know that kind of thing, you realise Wow! And not many people see that. I mean I'm talking about my managers who [say] 'oh Macassar Dunes, I know it's important etc, etc' - but they haven't actually been in there. In the last year, year and a half, we've managed to take them out, show them, and they're astounded by the fact that...the vegetation that's found there is endangered strandveld” (BMB interview). However, the negative sense of place as ‘unsafe’ provides a distinct barrier to engaging people ‘in-place’. For co-management arrangements, this means a considerable management conundrum has arisen of how to create safe ‘natural spaces’ without perpetuating practices of social exclusion in already socio-economically marginalised communities, e.g. through fencing of the Reserve, payment of entry fees etc. This is particularly problematic when funds for policing and safety monitoring are drastically limited. In this sense, the co-management process struggles to deal with a collectively held negative sense of place.

There is also a wide perception that local communities hold an as yet undeveloped sense of ‘natural beauty’ in aesthetic terms, since issues of daily survival serve as higher priorities; e.g. on beauty: “poor people don't value that, they want to see bread on the table. The beauty, you cannot eat it, so they want to see bread on the table - unaware that if they destroy the dunes the very same plant that they're looking for will be destroyed as well” (EEU interviewee). Interestingly, changing conceptions of aesthetic ‘beauty’ does not appear to be a place meaning promoted through the co-management arrangements.

Politics of Place

Yung et al (2003 p855) understand a “politics of place is attentive to different and potentially conflicting meanings, and how senses of place may be connected to larger political struggles”. Further, Stokowski (2002) understands both places and senses of place as open to processes of discursive manipulation towards desired (individual or collective) ends. On the assumedly positive values associated with sense of place, she writes: "critics point out that places are more than simply geographic sites....they contain overt and covert social practices
that embed in place-making behaviours notions of ideology, power, control, conflict, dominance and distribution of social and physical resources" (p368). It is to these practices and notions which we now turn for critical analysis of the place meanings identified at Macassar Dunes, to consider where these meanings are derived, and what they include and exclude in their understanding of ‘place’, that is, a ‘politics of place’.

On Actor-Network-Theory, Murdoch (2006, p58) notes "it is not power per se that is important but the various materials, practices, discourses in which power relations are embedded and transported". Since many respondents site the co-management process as the catalyst for their changed understandings and meanings of the dunes, this process and the materials, practices and discourses in relation to place-making at Macassar Dunes are examined herein. Materials which serve to delineate the types of activities and meanings which are excluded/included ‘in place’, and in particular framing the value of Macassar Dunes in terms of ecosystem services, can be traced back as early as 1989 to *The Macassar Dune System and its Utilisation Report* (Low, 1989): “it was noted that natural areas in and around communities need to be considered for the direct benefits they can impart to the community. As opposed to the material benefits more housing and less environmental amenity unchecked development can offer.” This report is appendaged to, and serves as foundation for, the MDMP (2001), in which co-management of the dunes is premised.

In this document we also find the initial framing of local communities as ‘threat’ to the dunes system. This place meaning of the dunes as ‘Under Threat’ from informal settlement, unsustainable community uses, and developmental agendas is very persistent. Cresswell (2009 p176) relates perceptions of threat to the construction of a specific place identity: “[p]eople connect a place with a particular identity and proceed to defend it against the threatening outside with its different identities”. The ‘ecological’ place identity which some co-management partners such as the BMB, CFN and EEU value is perceived as under threat. Thus the ‘defence’ strategy to stabilise these values is enacted through connecting place identity to self- and community identities: “the vision is to make my reserves so important that no one would ever question why they should be there, you know” (BMB interviewee).

In particular, the strategy involves the important role of co-management education in shaping place meanings, as evidenced by the identified education ‘bridges’. EEU’s Integrated Coastal Management training at the initial stages of co-management served to direct the dunes’ meanings away from ‘nothing’ and ‘open space’, towards these more ecological understandings of the dunes. These understandings were later perpetuated through the door-
to-door campaigns in eNkanini, and the education of school children in ‘theme weeks’ such as ‘Water Week’, ‘Weedbuster Week’ and so on.

At inception of co-management EEU also held ‘co-management training’, which in addition to ecological understandings, simultaneously served to shift community understandings of the dunes towards the ‘vision’ of co-management and sustainable community development through tourism and skills creation (DRAFT Vision, MDCDP, 2001). Importantly, these co-management meanings persist in today, the co-management process itself tied to some MDCA-MC place meanings of Macassar Dunes, especially for EEU and community residents. In particular, many MDCA community members remain committed to the Eco-trails proposals and the idea of constructing an environmental education centre, as the ‘Commitment’ bridge represents. Indeed, the Eco-trails Scoping Report appears to represent a formalised articulation for the realisation of these community development goals.

These persistent place meanings of co-management, community development and tourism create contested understandings within the co-management process, since the Eco-trails proposal was later rejected by CoCT, and these plans interrupted. As such, some community members are exasperated by these place meanings not finding expression in the co-management process: “for me sometimes I don't see why people object, you know, [to] something that will benefit the community, something that comes with the community. We don't ask them [agencies] for funding here, we just ask them for a piece of land where we can make something that will benefit the community. Because for me I don't see why it's ....just a hassle...to assist. How can I put it....it’s a small, small, small idea that would really, you know, not only benefit the community, even the future generations will benefit out of this” (Khayelitsha interviewee).

Examining issues of power in the co-management process indicates power-relations are of course not one-way, since power is manifested in divergent ways. Weak and insecure property rights for black South Africans are a key legacy of apartheid in both urban and rural areas (Kingwill et al, 2006). Land invasions are thus a tool used in a bid to secure such rights and access to adequate shelter, based on the South African Constitution and legal precedents which effectively mean “informal structures that have stayed in place for longer than 48 hours cannot legally be destroyed without the state taking responsibility for the maintenance or provision of basic shelter and other services (water and sanitation)” (Skuse and Cousins, 2007). Skuse and Cousins (2007) thus argue the politically charged ‘land invasion’ of eNkanini in 2003 is underlined by local appropriation of basic human rights legislation, which
informed community action and claims to residential formality. In this sense, the local communities themselves hold a different type of power in the co-management process. This understanding of differentiated co-management power dynamics frames the identified place meaning of the dunes as ‘Under Threat’ from land invasion and perceived unsustainable community uses. This understanding also differentiates from Fabricius et al’s (2007 p1) understanding of community power dynamics in adaptive co-management literature. Here, the eNkanini community in their conception would be deemed ‘powerless spectators’ in resource management, since they have neither “financial or technological options, and lack natural resources, skills, institutions, and networks”.

**Place and Value Assumptions**

Stokowski (2002, p374) notes “[e]ach effort to create a place becomes an elaboration of the beliefs and values of some collection of people, expressed and fostered in their promotion of a preferred reality”. Here we seek to critically interrogate the beliefs and values underlying some of the place meanings promoted through the co-management process. Place meanings such as ‘ecosystem services’, ‘biodiversity’, and ‘native/non-native’ are in focus here, since these values are seemingly shared and promoted through (co)management at Macassar Dunes.

The ecosystem services concept is broadly defined as the "the benefits people obtain from ecosystems" (MEA, 2005), and is conceived of as an effective way to highlight the ‘value’ and role of ecological processes and ecosystems in sustaining human life (see Appendix 5 for an overview of ecosystem services and ‘types’, as defined in MEA, 2005). This conception has historically come under fire for serving to undermine the intrinsic value of natural spaces through processes of economic valuation and quantification. More recent work has also critiqued this notion of 'human benefits’ from a number of angles. For instance, non-cultural services are often presented as existing objectively ‘out there’ for humans to benefit and hence calculate (monetarily or otherwise) through this conception. More recent theoretical articulations understand all ecosystem services are in fact rather defined by human activities and needs (Haines-Young and Potschin, 2009), rather than existing in isolation from human valuation systems. Ernstson (2008 p1) further theorises ecosystem services are in fact produced through social processes; that is, society: “moderates and decides to a large extent not just the generation of ecosystem services but also who in society that gets to benefit from them, i.e. the distribution of ecosystem services”.

This latter understanding is particularly pertinent at Macassar Dunes since ecosystem services are promoted as a normative place meaning, yet only particular types of services are promoted. For instance, regulating services such as climate and water regulation are actively
promoted, while other types are not actively promoted, such as provisioning services like food for hunting and fuelwood.

Articulating the value of these particularised ecosystem services in this way serves to define which types of practices and values are excluded and included ‘in-place’. At the same time, on-ground BMB and CFN staff relate how they have acquired their knowledge of how to manage and interact with Macassar Dunes through being ‘in place’. Through this place understanding these staff express great sensitivity to the needs of communities, aware that it is difficult to enforce conservation laws that exclude people from practices that may contribute to daily survival, such as fuelwood picking or hunting. This represents the problematic disjunct between management strategies that define specific understandings of ‘place’, such as particular ‘types’ of ecosystem services as here, and the in-place realities of management in the context of poverty, which involves the messy confluence of people, values, and practices that may destabilise these normalised value conceptions.

It is an increasingly normalised populist understanding the functioning of ecosystem services is underlined by high biodiversity (MEA, 2005), and thus require conservation efforts to protect both these social constructions (e.g. CoCT, 2008). Indeed, this high biodiversity value is intimately linked to conservation in many of the place meanings identified at Macassar Dunes. The alignment of high biodiversity, ecosystem services and conservation agendas is a politically and emotively powerful tripartite since it both justifies protected areas and creates a circular argument for sustained conservation efforts. Yet Haines-Young and Potschin (2009) review the slippery concept of biodiversity, pointing out much remains to be understood about these links, and what it actually means to be ‘biodiverse’. For instance, they outline several studies that empirically question the links between high biodiversity and ecosystem functioning (e.g. Aarssen, (1997), Grime, (1997), Huston, (1997) and Wardle et al., (1997)), including Schwartz et al (2000) who, based on a range of studies, concluded “few studies supported the hypothesis that there was a simple, direct linear relationship between species richness and some measure of ecosystem functioning like productivity, biomass, nutrient cycling, carbon flux or nitrogen use” (p7 in Haines-Young and Potschin et al, 2009). While these findings are controversial in their undermining of these strong links between biodiversity and ecosystem services, and hence, conservation, it is worth considering exactly what values the co-management process seeks to direct, and on what basis.

The place meanings of ‘uniqueness’ pay particular attention to the notion of native and endemic species. Haines-Young and Potschin (2010 p13) note that “complementary functional relationships between species or species groups do not normally arise by chance,
but come about through some kind of co-evolutionary process. Thus it is hardly surprising that the introduction of alien species might undermine such relationships and potentially disrupt service output”. However, Jones (2008) reflects on this native/non-native dichotomy from a critical geographical perspective, pointing out the distinctions motivating what it means to be native/non-native are often blurred, with depictions of an ‘authentic’ ecosystem assemblage based on essentially arbitrary notions of geographic time. This native/non-native understanding is questioned by one Macassar interviewee, who was unsure removal of native vegetation was inherently ‘good’ since it simultaneously removed large swaths of animal habitat. Jones here perceives a shift is required in questions of the native/non-native away from a dichotomous question of ‘do they belong’? to a more sensitive questioning of “‘Can they belong?’ and ‘On what terms?’ - with the fundamental proviso that we keep questioning what belonging means” (Jones, 2008 p244).

On the use of this dichotomy in relation to Macassar Dunes it is important also to look at the implications of language on place meanings. The use of native/non-native vocabulary here appears to present a language and thence practice of ‘othering’. The non-native in Capetonian conservation praxis are variously referred to as ‘feral, aliens, invader or invasive species, colonisers and invader aliens (see for example CoCT, 2008b), whilst the native is referred to as the indigenous and natural. These common-usage terms elicit ‘disturbingly xenophobic associations’ (Warren, 2007), and present “the ethical disjunction between the promotion of a multicultural human society and the persecution of ‘foreign’ species” (Warren, 2007 p427). This is particularly pertinent given the parallel vernacular reference to ‘land invasions’ by informal settlers, the history of race relations in South Africa, and the highly multi-cultural nature of contemporary informal settlements such as eNkanini (Skuse and Cousins, 2007). Indeed, Head and Atchison (2009) note “[q]uestions of belonging and identity are particularly fraught in postcolonial contexts where the question of settler belonging is itself still unsettled”. In sum, the language of conservation at Macassar Dunes may be unwittingly perpetuating xenophobic attitudes through conservation practice.

*Place and Knowledge*

Different kinds of knowledges exist in relation to the Macassar Dunes. This ranges from scientific knowledge such as ecological and biological knowledge relating to ecological functioning, and more experiential knowledge, garnered from being ‘in place’. This latter in-place knowledge covers many understandings.

Adaptive co-management understands local knowledge and experience as equal in status with experts and expert knowledge (Cardinal and Day, 1999 in Armitage et al, 2007).
However, in practice Howitt (2001 p374) notes: [m]ost co-management seeks to incorporate indigenous and other local groups into a system of resource management in which resources are defined and managed consistently with the dominant management paradigm”, underlined as it is by logico-scientific knowledge which has a higher legitimacy status in ‘modern societies’ (Czarniawska, 2004). Such understanding may be displayed in (co)management of Macassar Dunes, where ‘expert’ ecological knowledge is deemed the only knowledge appropriate for managing biodiversity, and co-management as concept is undermined and mistrusted: “the trouble with a lot of the areas I manage is they are so, so, so important that they have to be managed by experts. And we are the experts. But we're not saying the community shouldn't be involved with the ‘vision’ for the area, and shouldn't be involved in the activities or whatever we do, but the actual ensuring that the biodiversity is sustained, we do that because there isn't anyone else who can”....“I manage my reserves in a really specific way, and none of my reserves are managed under [a] co-management thing...I also think that co-management is somebody's good idea but in practice... you know it sounds like a good idea but it often doesn't function” (BMB interviewee).

On the other hand knowledge and experience ‘in place’ is valued by many partners, since Macassar Dunes represents a relative ‘unknown’ for practitioners given its relative inaccessibility for safety reasons, and the relatively unknown socio-economic context in post-apartheid townships and informal settlements. For instance, two Khayelitsha community members felt they were being ‘mined’ by authority partners for their place-based knowledge of the dunes, relating to knowledge of traditional medicinal herbs, and first-hand knowledge of safety issues at the dunes, respectively. The role of knowledge of informal settlers such as the people of eNkanini appears largely absent in the co-management process. It is assumed new migrants, generally coming from the Eastern Cape, have not developed strong attachments to or understandings of Macassar Dunes. At the same time there is an acknowledgement that such people interact with the dunes on a daily basis, even if it is just through using the reserve as a latrine or for hunting, and thus hold varied types of place experience and knowledge.

So whilst local knowledges are not deemed ‘official’ management knowledge, they nonetheless are important resources in the co-management process. For instance, the role of the MDCA-MC in gaining access to community groups in eNkanini provides an invaluable source of local knowledge, as it is through the MDCA’s networks and linkages to local communities that these processes are made possible, since authorities otherwise have limited access to community structures and workings.
Through examining the relationship between sense of place and adaptive co-management theories in the previous analyses, what can be said about the role of ‘place’ in ‘co-management’?

On considering the role of place in co-management, this comparative analysis has shown that place plays a central role in co-management, since co-management arrangements in practice involve both processes and places. The broad understanding gained herein using the case of Macassar Dunes is that adaptive co-management theory places greater emphasis on examining co-management mechanisms and processes. Place theory, including sense of place, place-making and politics of place, inherently places emphasis on examining co-management in and of place, and as such contributes to a fundamental examination of the role of place in co-management. Further, this analysis of bridges and barriers at Macassar Dunes reveals how relationships to places can inform co-management processes, and as can inform issues of conflict in co-management arrangements. That is, the place meanings, senses of place and processes of place-making, can serve to inform bridges and barriers to the processes of co-management. This finding reflects sense of place theorising, which understands conflict in NRM is essentially conflict over place meanings (see Stedman, 2001).

By reflection, this study shows adaptive co-management and sense of place theories entail very different analytical modes and premises. On one hand, adaptive co-management theory provides a framework for exploring the normative ‘faces’ of co-management, and thus creates space for analysing how the actual practice of co-management ‘in-place’ may or may not ‘fit’ according to these normative theoretical constructs. We can see how in relation to these ‘faces’ of co-management, management of Macassar Dunes Nature Reserve appears more like ‘consultation’ of communities, rather than ‘co-management’, if placed on a continuum of government-community-participation (Borrini-Feyeraband, 2004 in Berkes, 2007). Adaptive co-management theoretical analysis thereby allows us to delve into the mechanisms and processes of how places are managed, based around broad normative understandings derived from co-management experience. It is the understanding of this thesis that such analysis reflects emphasis more on processes of co-management, as enacted through for example processes of power-sharing, institution-building and education. This emphasis on process is demonstrated through the barriers and bridges most relevant to an adaptive co-management analysis, including ‘education’, ‘commitment’ and ‘halting settlement’ bridges, and ‘shared co-management understandings’, ‘commitment and trust’ issues, and ‘MDCA decision-making’ barriers.

On the other hand, a sense of place analysis is inherently framed by ‘place’, and the meanings, understandings and emotions which places entail. A sense of place analysis thus
involves delving into the politics, processes, framing and making of places. At the same time, a sense of place analysis is not inherently framed by ‘co-management’, nor by the value-based assumptions underlining co-management frameworks, such as ‘ecosystem-based management’, ‘conservation’ or ‘protected areas’, for instance. Thus the utility of a sense of place analysis lies in the examination of underlying issues of politics, meaning, assumptions and values related to place, and enacted through co-management processes. In this way, sense of place theory can explore how co-management is inherently framed by its NRM context, and through the use of these value-laden understandings, enlist an a priori framework defining ‘legitimate’ values and place-meansings within the co-management framework. By examining the processes and practices of place-making enacted through co-management processes we can also see the place meanings and understandings which fall out of this pre-conceived framework and value-assumptions.

MDCA’s differentiated understandings of Macassar Dunes show us how place meanings do not entirely match conceptions of place as prescribed through the co-management process. This includes differentiated conceptions of spatial scales, activities, futures and ownership understandings of ‘Macassar Dunes’, all of which fall outside of co-management’s scope and framing, for instance of ‘Macassar Dunes as Nature Reserve’, and ‘Macassar Dunes as Eco-trails project’. Further, the various senses of place in MDCA-MC inform the differentiated understandings of co-management identified through adaptive co-management theory. The difference in these two theoretical approaches, and sense of place theory’s greater emphasis on co-management in and of place, can be demonstrated through the barriers and bridges which serve to highlight the place analysis. These include ‘communications and networks’, changing attitudes and values’ and ‘establishing linkages’ bridges, and ‘representation, ‘power’ and ‘discontinuities in process and participants’ barriers.

Based on these understandings of place, what is of import here is the notion that adaptive co-management purports to include issues of place-specificity in theoretical conceptualisations (see Armitage et al, 2007). Despite such claims, we find that the inclusion of such becomes highly problematic when co-management as ‘theory’ is premised on universalistic scientific foundations, i.e. the tension between defining and enacting simultaneously universalistic and place-specific theories. In effect, while much is said of the need to engage place-specificity in adaptive co-management theory, little emphasis is placed on how specificity is practiced and incorporated into co-management frameworks, and what does it mean to be co-managing ‘in-place’ whilst simultaneously prescribing to normative co-management theory?
In most co-management arrangements resources are defined and managed consistently with the dominant management paradigm (Howitt, 2001). Thus, the idea that adaptive co-management arrangements posit experts and expert knowledge on equal status with local knowledge and experience (Armitage et al, 2007) becomes highly suspect. Herein exists another disjunct between co-management in practice and adaptive co-management theory. It appears more likely co-management arrangements in practice use, appropriate, and incorporate into existing dominant scientific management frameworks those components of local knowledges deemed as valuable – such as TEK and LEK.

Social learning and adaptation in adaptive co-management theory are used as tools for reaching shared understandings and value positions and for learning-by-doing, respectively, so as to deal with the notions of place specificity and knowledge co-production between these different types of knowledge. However, these concepts are also enacted through the co-management process, with its inherent NRM framing and set of assumptions and values. This framing thus serves to limit what kinds of learning and adaptation is possible, and what kinds of values and strategies are legitimate ‘in-place’.

The case of Macassar Dunes shows how the Reserve is managed by experts, with expert knowledge of biodiversity and conservation practices (BMB interview), since it is assumed no other types of knowledge or knowledge-holders can perform this role. Local knowledge does not appear to have an official standing in the (co)management process, since it is derived from people who assumedly do not have formalised knowledge ‘in place’, given their informal settler status. Local knowledge is nonetheless used by these expert managers as a tool to learn more about ‘place’, and indeed, to gain access to ‘people in place’, which otherwise couldn’t be accessed without these local links. Local knowledge is also used a tool for directing place meanings and values through the co-management process.

The role of place in co-management, using the case of MDCA-MC and adaptive co-management and sense of place theories, shows us that place is an integral component of co-management practice, since it is co-management of processes and place. However, both co-management theory and practice struggle to incorporate the nuances and complexity of place. Greater incorporation of place meanings and understandings in theory and practice could inform increased understanding of conflict in co-management arrangements, such as at Macassar Dunes.

**6.4 Recommendations**

In a pragmatic sense, a more detailed study of the co-management arrangements at Macassar Dunes, using participants from both within the MDCA and MDCA-MC, as well as
participants external to the co-management process, e.g. eNkanini, Khayelitsha and Macassar residents and community groups, would provide a more nuanced understanding of perceptions of co-management and of Macassar Dunes. This would serve to highlight whether perhaps the perceptions represented herein are more collective or individualised notions and experiences of co-management and place.

From the conclusions based on the perceptions of this limited amount of participants in MDCA-MC, I have found Macassar Dunes does not appear to be ‘co-managed’ in terms of equal power-sharing, and many other aspects of the ‘faces’ of co-management (Berkes, 2007; 2009), with the balance of power seemingly in favour of government authorities and EEU. Yet the co-management process is being used to direct place meanings and senses of place towards understandings of ‘ecosystem services’, ‘biodiversity’, and ‘conservation’, whilst alternative place meanings espoused by community groups in the MDCA-MC, such as for ‘community development’ are silenced through this same process. If indeed co-management partners are committed long-term to a ‘true’ co-management process, then many aspects of current co-management arrangements require addressing in order to change the current inequalities and instabilities. Least of which is the formalisation of the co-management process, through establishing agreed roles and responsibilities, and sourcing of adequate funding for co-management through the state.

This move would also require working with community groups to determine whether the MDCA, given its controversial foundational premises and persistent historical problems, is in fact the best structure on which to build sustainable co-management arrangements. However, considering some level of community momentum and commitment has been established through MDCA must be taken into account. As outlined in adaptive co-management theory, such a move would take much time, effort and commitment in the long-term to ‘co-management as process’, particularly in re-establishing trust between community partners. Furthermore, and most fundamental, initiation of such a process requires a recognition that values, meanings and understandings of ‘place’ will be contested and thus negotiated, possibly at the expense of some of these deeply held place meanings such as biodiversity and conservation.

On the other hand, co-management partners such as government authorities and EEU may not in actuality be committed to co-management of Macassar Dunes as according to the prescriptive ‘faces of co-management’. These partners may in fact prefer to continue to use the MDCA-MC as a tool for gaining access to local communities, and for disseminating information and education, and hence place meanings. In such case, I recommend these
partners be more explicit about these motives, and desist engaging the MDCA under the pretence of ‘co-management’, since this practice is at present leaving the MDCA-MC in a seemingly perpetual state of limbo - unable to make decisions, access resources, or implement projects. Whether MDCA-MC would remain interested in this kind of relationship would remain to be seen.

6.5 Summary of Findings

MDCA members identified many different kinds of ‘bridges and barriers’ to successful co-management at Macassar Dunes. The bridges relate to the role of education and awareness raising in changing values and understandings of the dunes; commitment and enthusiasm for co-management; the utilisation and formation of networks and linkages among and between communities and authorities, and others. The barriers ranged from issues of trust, commitment, power-sharing, leadership, and representation, to discontinuities in the co-management process and participants, low community and authority capacity and resources to engage in co-management, and others.

Analysing these bridges and barriers based on the ‘faces’ of co-management (Berkes, 2007; 2009), which serve as a broad outline for aspects that might contribute towards adaptive co-management, I found many of the bridges and barriers identified by MDCA are represented in these faces of co-management. From these it might be largely concluded that Macassar Dunes is not being ‘co-managed’ per se, since many of the barriers identified point to low power-sharing and institution-building, and the process may better be referred to as ‘consultation’ rather than co-management. Also the failure to conceptualise of co-management as process has contributed to discontinuities in the co-management process, and consequently low motivation to participate for all parties.

There are many and varied place meanings attached to Macassar Dunes. Analyses of these meanings using sense of place theory, including examining place-making processes and politics of place, were then also related to the identified bridges and barriers. I found there active processes of place making at Macassar Dunes, enacted through the co-management process. These processes promote the value of meanings such as ‘high biodiversity’, ‘conservation’, ‘ecological services’ and ‘educational potential’, and these represent shared senses of place across MDCA interviewees. However, other unshared place meanings are enacted through the co-management process, and might be understood as the crux of conflict at Macassar Dunes. These meanings relate to ‘local communities’, ‘sense of ownership’ and ‘tourism and recreational potential’.
This comparative analysis between sense of place and adaptive co-management theories, using MDCA-MC as case study, finds co-management theory helps explain many of the MDCA’s identified bridges and barriers at Macassar Dunes, and further allows for examination of whether places are actually being ‘co-managed’ according to theory. A sense of place analysis of place meanings and their relationship to the bridges and barriers found place theory pays greater attention to underlying power-relations within the co-management process, as well as interrogating some of the values and methods of normative co-management practice. This includes the knowledges, practices such as conservation and education, and concepts such as ecosystem services and biodiversity, present in the co-management process. Understanding of place meanings is not ‘framed’ by the co-management process, but by places and the meanings they evoke. In this way, sense of place theory provides co-management theory and practice with a more nuanced and political reading of ‘place’ than this theory currently incorporates. The role of place in co-management theory is largely not present, or referred to only vaguely, since it renders processes and understandings of place as largely silent. Sense of place theory thus can enhance co-management theory by incorporating place-specificity into co-management understandings.

7 CONCLUSIONS

Adaptive co-management theory relates to many of the MDCA’s perceived bridges and barriers to co-management at Macassar Dunes. I found that when these perceptions are analysed in terms of the various faces of co-management, MDCA-MC co-management represents ‘weak’ power-sharing, perhaps more ‘consultative’, and largely fails to engage in co-management as process, governance, or as problem-solving, and furthermore entails low trust between partners, all of which undermine co-management at Macassar Dunes. Further, there exists no shared understanding of what co-management means, or who has responsibility for what in the arrangements, indicating a lack of leadership and of social learning and adaptation to social and ecological change. Thus, MDCA-MC co-management might be viewed as largely ‘symbolic’ (Hauck and Sowman, 2003).

The sense of place analysis investigated the politics, practices and value assumptions of place and place-making, and on which co-management arrangements at Macassar Dunes are premised. I found active processes of place-making are used in the co-management process to direct place meanings toward more ‘ecologised’ understandings. This analysis entailed a more political reading of the co-management arrangements, and relates to more fundamental conflict over place meanings and values, which were shown to serve to inform the bridges and barriers to successful co-management.
The comparative analyses enrich the study of MDCA-MC bridges and barriers, providing an understanding of co-management of processes and co-management of and in place. The analysis also showed the fundamental role of place in co-management practice, and adaptive co-management theory’s problematical incorporation of questions of place. I conclude greater incorporation of place meanings and understandings in theory and practice could inform understandings of conflict in co-management arrangements, such as at Macassar Dunes.


Environmental Evaluation Unit University of Cape Town. (n.d.). *Macassar Dunes Nature Reserve - Conserving a unique coastal area while ensuring benefits to people*.


http://www.capeargus.co.za/index.php?fArticleId=4453501>


Rodaway, P. Chapter 47: Yi Fu Tuan. In P. Hubbard, R. Kitchin, & G. Valentine (Eds.), *Key Thinkers on Place and Space* (pp. 306-310). London: SAGE.


Appendix 1 - Human-Place Relationship Theoretical Conceptions

Theoretical concepts used to measure human-place relationships, from the literature. Sources: as adapted from Rogan et al, 2005, Manzo, 2003, and Stedman, 2003

<table>
<thead>
<tr>
<th>Place Term</th>
<th>Definition</th>
<th>Authors using this concept</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sense of place</td>
<td>Meanings, attachment and satisfaction of place (Stedman, 2003)</td>
<td>e.g. Buttimer, 1980; Tuan, 1980; Steele, 1981; Hay, 1998</td>
</tr>
<tr>
<td>Place identity</td>
<td>The beliefs about the links between identity of self and place; these may relate to individual or shared identities.</td>
<td>e.g. Proshansky, 1978, Sarbin, 1983; Proshansky, Fabian, &amp; Kaminoff, 1983; Twigger-Ross &amp; Uzzell, 1996</td>
</tr>
<tr>
<td>Place attachment</td>
<td>Emotional connections to place; often studied by investigating how, why and to what extent people are attached to a particular place</td>
<td>e.g. Altman and Low, 2003; Hidalgo &amp; Hernandez, 2001, Hummon, 1992</td>
</tr>
<tr>
<td>Place satisfaction</td>
<td>Degree to which one is satisfied by the place they live (e.g. you could be attached to where you live, but not satisfied with it, and vice versa)</td>
<td>e.g. Stokols &amp; Shumaker, 1981</td>
</tr>
</tbody>
</table>
Appendix 2 - MDCA Membership (MDCA Constitution)

Macassar Dunes Co-management Association (MDCA) and MDCA Management Committee guidelines for membership and representation, as taken from the MDCA Constitution, Articles 7.1, 7.2 and 11.2.

7.  MEMBERSHIP

7.1  The membership of the MDCA shall consist of the following categories:

7.1.1  Representatives from Community organizations, (NGO’s and CBO’s)
7.1.2  Representatives from Research organizations, and Resource users
7.1.3  Representatives from Government organizations,
7.1.4  Representatives from Private/business organizations, and
7.1.5  Representatives from Schools
7.1.6  Individuals who become, in their own capacity, Associated members

7.2  The criteria for membership are as follow:

7.2.1.  The applicant must be an established legal entity which will subscribe to the objectives of the MDCA; or
7.2.2.  The applicant may be an individual who has a personal interest in the MDCA, and is in alignment with the objectives of the MDCA
7.2.3.  Comply with the procedural and other requirements as laid down by the MDCA from time to time.

11.  TERMS OF OFFICE AND OFFICE BEARERS

11.2  Office Bearers

There shall be 6 (six) office-bearers, five (5) of them that reflect the categories described in Section 7 entitled “Membership”, Subsection 7.1, describes the categories for membership in the MDCA. This allows for specific allocation of responsibilities for each category (categories listed in section 7.1.1 to 7.1.5), the 6th office bearer, who may be a representative from any category, is anticipated to serve as - a ‘floating member’ - such that they provide support where needed. -It should be noted that, regardless of the category representation all the members have equal responsibility.

The portfolios (Chairperson, vice-Chairperson, Treasurer, Secretary, Additional Member 1 and Additional Member 2) shall be decided amongst the committee members.
Appendix 3 - Sample interview questions

How long have you been/were you involved in the co-management process?

What is/was your role on MDCA?

What motivates/d you to be on the MDCA?

What is your relationship to the co-management process now?

What does ‘co-management’ mean to you?

Do you think there are/were any ‘bridges’ to the co-management process: things you think have contributed to its success, or that were successful? If so, what are they?

Do you think there are/were any ‘barriers’ to the co-management process: things you think have detracted from its success, or that were unsuccessful? If so, what are they?

Is/Was the MDCA representative of all the users of Macassar Dunes?

What do the Macassar Dunes mean to you?

Are they an important place for you? If so, how or why?

Have these meanings changed over time? If so, how and why?

Do or did you use or interact with them? If so, how?

How long have you known about their existence?

Do you have much knowledge about the dunes? What kind? How did you learn this knowledge?

Has this knowledge changed over time? How?

How do you think other people (e.g. MDCA members, communities) might value the dunes? Do you think they have much knowledge about the dunes? What kind? Why?

Has this meaning changed over time? If so, how?

What is your ideal future of the Macassar Dunes (in perhaps 50 or 100 years)?

Is/Was your idea of the ideal future represented on the MDCA?
Appendix 4 - Complete Synthesis of MDCA Interviewees' Perceptions of Bridges, Barriers and Place-Meanings

MDCA-MC’s Interviewees’ Perceived Bridges to Successful Co-management

<table>
<thead>
<tr>
<th>Bridges - Themes (and description)</th>
<th>Related Themes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Education</td>
<td>Awareness Raising; Communication &amp; Networks; Changing Attitudes &amp; Values</td>
</tr>
<tr>
<td>Most feel that public education through the MDCA about the dunes and the role they play in the communities' lives is a successful component of the co-management, particularly education of the local communities. The particular educational techniques and methods are also viewed as very effective, for instance, the eNkanini Door-to-Door campaigns and the regular school children education activities, and also the EEU's environmental education given to MDCA participants early on in the co-management process. In addition, the BMB staff feel that the currently proposed position of the MDCA’s environmental education centre in eNkanini is optimal since it will mean the MDCA can have the greatest effect on the community in terms of educating them about the dunes.</td>
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<tr>
<td>Awareness Raising</td>
<td>Education; Communication &amp; Networks; Changing Attitudes &amp; Values</td>
</tr>
<tr>
<td>Many perceive the MDCA has played an important role in raising awareness amongst local communities of the existence of the dunes and the nature reserve, and the idea that something is 'happening' there in terms of co-management and projects. Additionally, some Planning and CFN members feel 'external' groups such as CFN and EEU have played important roles through consistently trying to keep community development a central issue on the co-management agenda, thereby creating an awareness of this issue for CoCT and other authorities. Others feel the MDCA has provided the space for the Macassar and Khayelitsha communities to become aware of each others' cultures, values and ideas in relation to the dunes area.</td>
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<tr>
<td>Communication &amp; Networks</td>
<td>All</td>
</tr>
<tr>
<td>Some feel MDCA’s particular make-up, consisting of representatives of community organisations, means the work of the MDCA is able to filter into these community organisations, providing an effective communication and networking tool which authorities would otherwise not have access to. Likewise, MDCA through their networks effectively elicit enthusiasm and volunteers for dunes activities.</td>
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</tr>
<tr>
<td>Involving People</td>
<td>Establishing Linkages</td>
</tr>
<tr>
<td>Some feel the MDCA provides an important opportunity for people from the community to get involved in activities and management at the dunes.</td>
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<tr>
<td>Changing Attitudes &amp; Values</td>
<td>Education; Changing Attitudes &amp; Values</td>
</tr>
<tr>
<td>Many perceive the MDCA has played an important role in changing attitudes and values regarding the dunes. For example many feel eNkanini’s residents are now more engaged with the reserve and have learned how to value nature and the role it plays. Further, successful education campaigns have changed attitudes in eNkanini about crossing Baden Powell Drive and settling on the reserve. EEU’s initial education campaign was also a success in teaching about the value of the dunes.</td>
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<tr>
<td>Establishing Linkages</td>
<td>Communication &amp; Networking,</td>
</tr>
<tr>
<td>Some authorities feel that co-management has allowed authorities to establish linkages with</td>
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communities and user-groups which were not in place before. Furthermore, some feel the MDCA has opened space for the historically divided 'Coloured' and 'Black' communities to work together and collaborate on projects and management.

Programs & Events | Education; Changing Attitudes & Values
--- | ---
Particular programs and events are viewed by many as successful components of co-management, including the 'Intelezi' Door-to-Door campaign in eNkanini, and the 2009 Heritage Day which was successful in bringing various community stakeholders together to share information about their respective cultures. Many perceive this day was also an organisational success for the MDCA. Some community members feel early alien vegetation removal programs were a success in creating jobs for some community people.

Commitment | Involving People; Establishing Linkages
--- | ---
Some CFN, EEU and community people feel that despite all the historical and technical challenges, there are still deeply committed and passionate long-term MDCA members whom are dedicated to the co-management concept. Additionally, some community members feel MDCA is committed to making co-management work for the communities' benefit, which is how it was intended, since the MDCA has the communities' interests at heart.
Also some community people understand the communities are committed to the MDCA’s Eco-trails plan, e.g. the eNkanini community is enthusiastic about the environmental education centre and the benefits it will have for the community. Some EEU and Planning members feel the EEU has shown enormous commitment and support in implementing the co-management arrangements and educating stakeholders.

Halting Settlement | Changing Attitudes & Values; Education;
--- | ---
Some feel that through the MDCA the threat of eNkanini residents settling on the dunes has been virtually halted, which is a huge success.

Voluntary Status | Involving People
--- | ---
Some community members feel MDCA's Voluntary Association status means they are recognised as a legal entity by the CoCT, which enables greater footing in negotiating. Additionally, some community members feel this status means people are not motivated by making money, only by helping their communities.

**MDCA-MC Interviewees' Perceived Barriers to Successful Co-management**

<table>
<thead>
<tr>
<th>Co-mgmt Barriers Themes (and description)</th>
<th>Related Themes</th>
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<tbody>
<tr>
<td>Plans and Planning</td>
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<tr>
<td>In the early stages the EEU tried to accommodate all perspectives in the co-management process, and there were no boundaries for involvement, which made the planning process difficult. Some EEU, BMB, Planning and CoCT staff perceive planning issues in the 2006 Eco-trails study as a barrier, including a lack of conservation and reserve management experience in the study, thereby leaving out essential ownership, maintenance, financing and sustainability issues. CFN identified MDCA's inability to plan ahead for known future obstacles, resulting in constant deliberation and failure to move forward, e.g. how to resolve the issue of ownership of land at the proposed construction environmental education site. At a broader scale, some authority staff perceive a barrier stems from different sectors having different understandings and plans for how the dunes should be utilised in the future, since these are conflicting e.g. sandmining industry vs Khayelitsha Development Forum's residential development plans vs MDCA's Eco-trails vs BMB's proclaimed conservation area.</td>
<td>Capacity; Shared Co-mgmt Understandings; Power</td>
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<tr>
<td>Leadership</td>
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<tr>
<td>Most interviewees across all groups feel the lack of leadership in MDCA-MC has been a long-term barrier. The leadership is identified as being historically weak and lacking clear direction. CFN feel</td>
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this leadership gap needs to be filled by the EEU and CoCT since they were the co-management instigators. Some people feel this leadership issue is heightened by the internal politics within the MDCA-MC.

<table>
<thead>
<tr>
<th>Communication</th>
<th>Resources; Capacity</th>
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<tbody>
<tr>
<td>Some feel the MDCA-MC does not communicate well between each other, and with stakeholders. The communication is viewed as ad hoc and unreliable. It is also difficult to know how to get in contact with MDCA-MC since there is no formalised work space or mode of communication.</td>
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<tr>
<th>Expectations</th>
<th>Funding; Shared Co-mgmt Understandings</th>
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<tbody>
<tr>
<td>During the formative years of co-management some feel EEU was reckless in going to the communities and saying 'we have money' since this monetises the communities, and some feel they did not manage well the communities' expectations of co-management's opportunities. As result, some feel the communities have been let-down over time regarding expected co-management outcomes. Others feel the EEU did not have the authority to raise these expectations on CoCT conservation reserve land. A Khayelitsha interviewee felt that people trained by the MDCA lost interest in participating since they expected to gain employment and income, which didn't materialise. A Macassar interviewee feels the co-management process has failed to conserve the dunes according to its constitutional mandate, since the sand-mining still occurs un-checked.</td>
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<tr>
<th>Representation</th>
<th>Decision-Making; Power</th>
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<tr>
<td>Some perceive during the formative years of co-management the correct community structures failed to be included in the process, resulting in a long-term barrier. CFN and BMB staff feel co-management was imposed from above by CoCT and EEU and should rather have been a bottom-up community initiated process. Some feel it is difficult to know who 'speaks' for communities, and who or what individuals are representing when they engage with the MDCA-MC, making decision-making legitimacy difficult. In addition, some feel the MDCA is not currently representative of all the users of Macassar Dunes, missing for example representatives from sand-mining, 4x4 and business. Also, previous representatives from these groups have been 'lost' along the way somehow. Some feel MDCA-MC is being unacceptably used for self-interest purposes e.g. to gain employment or opportunities, rather than for community interests. Some feel MDCA lacks representation from all three tiers of government to cover all the appropriate issues e.g. the provincial Dept of Public Works as owners of the disputed land, and the national Dept of Minerals and Energy to represent sand-mining issues.</td>
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<tr>
<th>MDCA’s Focus</th>
<th>Representativeness; Funding</th>
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<tr>
<td>Macassar residents feel the Khayelitsha community has been the primary focus of the MDCA, neglecting the Macassar community. Some feel MDCA is too narrowly focussed on the Eco-trails project, thus missing large portions of the dunes, nearby communities and alternative projects. In addition, some feel the MDCA-MC is only focussed on the Eco-trails study since there is funding to spend. As consequence, some feel MDCA need to think more broadly and holistically about co-management of the dunes area.</td>
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<tr>
<th>Discontinuities in Process &amp; in Participants</th>
<th>Motivation; Commitment &amp; Trust</th>
</tr>
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<tbody>
<tr>
<td>Some feel the long lag time between initially exploring projects in MDCA and EEU sourcing funding meant momentum and motivation were lost at MDCA’s inception. Others feel the high turnover of CoCT and EEU staff on MDCA-MC has reduced the capacity of the MDCA-MC and the discontinuity creates trust issues. Similarly, high turnover of MDCA’s community members has resulted in lost capacity and constant revisiting of issues and processes. Some feel the MDCA membership has been erratic and at times becomes virtually non-existent, each time requiring a revitalisation process which has been a barrier to effective co-management. This also has created confusion and frustration since new ideas are constantly instituted into the process, stalling progress on existing projects. Also, CoCT’s changed stance from support to rejection of the Eco-trails project, and failure to work with MDCA-MC to find viable alternatives, is identified by EEU, Planning and community</td>
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<tr>
<td>MDCA Voluntary Status</td>
<td>Decision-Making</td>
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<tr>
<td>This status means the MDCA must accept new members, who bring new ideas and try to change plans, resulting in confusion and older members leaving. The voluntary status of MDCA means that many people have their own jobs to attend to and can’t dedicate the required time and resources to the MDCA-MC.</td>
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<tr>
<th>Land Ownership</th>
<th>Power; Sense of Ownership</th>
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<tr>
<td>Many perceive the issue of the Dept of Public Works' ownership of the land proposed for the Eco-trails education centre has been a persistent barrier, since agreed alternative land is still in negotiation. Other CFN and BMB staff members feel the communities can misleadingly think of legal ownership when CoCT tries to promote sentimental ownership of the dunes area co-management, their experience showing that this leads to management power disputes.</td>
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<tr>
<th>Proclamation</th>
<th>Motivation; Discontinuities;</th>
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<tbody>
<tr>
<td>Some Planning and BMB staff feel the Reserve needs to be formally Provincially proclaimed before co-management can be effective, since the MDCA has effectively been in limbo whilst the proclamation process progresses, unsure of their status and role as co-managers.</td>
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<thead>
<tr>
<th>Motivation</th>
<th>Funding; Commitment &amp; Trust; Decision-Making; Discontinuities</th>
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</thead>
<tbody>
<tr>
<td>Some feel motivation to participate on the MDCA occurs only when funding is available, and then drops off when there is none. Others feel motivation was severely quashed when CoCT rejected the MDCA-MC's Eco-trail project plans. In general, many feel the long and stilted processes of deliberation, lack of results, and persistent issues have caused many to become de-motivated and lose interest in the MDCA.</td>
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<tr>
<th>Capacities</th>
<th>Local Communities; Funding; Voluntary Status; Trust;</th>
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<tbody>
<tr>
<td>Some feel the communities lack capacity to understand the intra- and inter-departmental roles and procedures within the CoCT, and within and between the three tiers of government, expressed by some as a general lack of community understanding regards bureaucratic processes. Additionally, some CFN, EEU and community members feel that despite capacity building efforts there is a persistent lack of actual sustained understanding, capacity and skills in the MDCA-MC to effectively organise and run a voluntary organisation, record keep and manage funds appropriately. They also feel that without their sustained efforts contributing to the running of the MDCA-MC, the organisation would collapse. The EEU and others also feel that due to the low financial capacity in MDCA-MC, and that since EEU is responsible for administering the funds, the EEU is forced to manage the funds so they are not used inappropriately according to the funding guidelines. One Planning staff member feels there is a general lack of understanding in local and provincial authorities of the communities’ needs and their scope of choices in day-to-day living. Some CFN, Planning and BMB staff feel the BMB lacks the expertise, mandate and funding to manage social issues such as community development. BMB also identified how during the first years of the Branch’s existence there was little available time or funding to contribute to the co-management process since their mandate was so broad and time-consuming, and this may have contributed to stalling the MDCA-MC projects.</td>
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<thead>
<tr>
<th>Resources</th>
<th>Capacities; Funding; Power; Voluntary Status of MDCA-MC</th>
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<tbody>
<tr>
<td>Some community members feel it is unfair and obstructive to MDCA's functioning that the organisation does not have adequate access through EEU to funding, resources, and office accommodation to carry out the MDCA-MC's work. As consequence, community people are forced to spend money which they don't have spare on transportation, meeting and organisation costs, and to rely on precious resources from other environmental organisations.</td>
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<tr>
<th>Shared Co-Management Understandings</th>
<th>Expectations; Capacities; Commitment &amp; Trust</th>
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<tbody>
<tr>
<td>Some feel at the inception stage co-management as a concept confused community members and raised false expectations regarding income generation and the dunes’ future. Some feel there is currently a lack of community understanding of the goals and processes of co-management, and lack</td>
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of a clear and shared vision of what is the purpose of co-management and what it means to 'co-manage' amongst all parties e.g. some perceive conservation is the main objective for EEU and the authorities for engaging in co-management, while 'getting ahead' in terms of employment, skills and opportunities is the main objective for communities, thus creating tension. Similarly, some planning and EEU staff feel biodiversity is meaningless to marginalised communities seeking employment and skills opportunities so this makes co-management at Macassar Dunes problematic. For some this lack of common understanding relates also to fundamental premises of co-management e.g. while CoCT believes the Eco-trails project will promote land invasion, the MDCA believes the project will work to halt land invasion through education, changing values and creating community ownership of the process and projects. Also, some community members feel the process has been overly bureaucratic and can't understand why a project that will benefit their community and which has gained community support is facing unnecessary opposition from authorities such as BMB.

Education
Some feel the successful education campaigns by MDCA need to be more sustained in order to keep people aware of environmental issues e.g. more frequent door-to-door campaigns in eNkanini since there are many new informal settlers; school education campaigns need to be extended beyond schools and into the community; and one community respondent felt that environmental education information through EEU and MDCA no longer filtered down into community structures as it used to and this needs to be picked up again. Some community members evoke Kirstenbosch Botanical Gardens as the kind of interactive educational space they would like the dunes to entail.

Funding
Issues of funding represent a significant barrier and stem from many perceived areas, outlined here. Some feel, the EEU’s administration of the funds means funding is not released in line with MDCA’s administrative and implementation needs. Some Community, Planning and EEU representatives feel the returning of funds as a result of CoCT’s halting of MDCA’s plans represents an unnecessarily missed opportunity for the communities. In addition, some CFN and BMB staff feel the EEU’s funding of MDCA serves to ‘prop up’ a community organisation, which is unethical and ultimately unsustainable.

Commitment & Trust
Some feel the CoCT and/or EEU are not committed in the long-term to making co-management sustainable, in particular the CoCT’s perceived unwillingness to help the MDCA come up with viable alternatives when the Eco-trails proposal was rejected is mentioned as an indicator of this lack of commitment. Thus some feel adequate time and resources need to be put in by all levels of government to accommodate the co-management process, not hinder it.

At the same time, some CoCT, EEU and CFN staff feel the CoCT’s and EEU’s lack of commitment is based on the MDCA’s own perceived lack of commitment, given the historical ‘revitalisation’ processes required to get the organisation back up-and-running. This has created distrust that the organisation is sustainable, as demonstrated by the fact the MDCA appears to be run and committed to really by only one community member. Additionally, EEU does not trust MDCA-MC members to carry out their functions and responsibilities given low organisational capacities. Some community members feel this distrust is unwarranted.

Decision-Making
Many feel there are not correct decision-making processes or structures set in place for the MDCA-MC, meaning that issues are repeatedly deliberated without resolution. Some feel the MDCA has not been working according to its Constitution, while others feel there needs to be much clearer roles and responsibilities set out for how the co-management process should work between all parties. The EEU feels that without a formalised co-management agreement at Macassar Dunes there
essentially is no co-management, and this has contributed to undermining the initial work of the co-management process.

<table>
<thead>
<tr>
<th>Power</th>
<th>Decision-Making; Leadership</th>
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<tbody>
<tr>
<td>The process brings together different partners with unequal power and some feel the balance is tipped in favour of the authorities, meaning community voices are not heard. For instance, some feel that while the community has had to bend to realise the needs of biodiversity, the CoCT’s biodiversity concerns will not bend to accommodate the communities’ development and use needs. Some EEU, CFN and BMB staff feel that people in the MDCA-MC incorrectly perceive their organisations as being ‘in-charge’ of the co-management process. CFN for instance understand their role as ‘supporting’ the MDCA-MC in their projects and organisation, the BMB understands their role as ‘facilitators’ to the co-management process, and the EEU understands their role effectively as a ‘bank’ for the MDCA-MC as administrators of the MDCA’s funds. However, all these organisations do not perceive themselves as holding ‘power’ in the co-management process, and believe the MDCA-MC needs to motivate and organise themselves from within so as to implement their projects.</td>
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Place meanings attached to Macassar Dunes identified by MDCA-MC interviewees and grouped according to themes. The right hand column indicates related themes.

<table>
<thead>
<tr>
<th>Place Meaning Themes (and description)</th>
<th>Related Themes and Place Meanings</th>
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<tbody>
<tr>
<td>Education Potential</td>
<td>Community development; Co-management; Under Threat.</td>
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<td></td>
<td>The dunes are strongly related for many participants to the potential for education of local communities. This means educating children and adults about the reserve's existence, about ecological services such as wind protection, and the ecological and historical role of the dunes in community lives. This education potential relates not only to information dissemination, but also to more fundamental value change processes through 'transforming attitudes' and 'influencing lifestyles', for instance through educating people about the importance of conservation, biodiversity and creating a 'love of nature', hence this educational potential meaning is linked to these themes. Some community members also link this meaning to the education of outsiders such as international tourists. The potential is strongly related to the communities perceived as a threat to the dunes’ existence.</td>
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<tr>
<td>Local communities</td>
<td>Sense of Ownership; Co-management; Under Threat.</td>
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<tr>
<td></td>
<td>While much of the understandings of Macassar Dunes are inherently tied to the local communities, this theme relates specifically to community-centred meanings. The area is tied in many understandings to the dunes as a potential community economic development source. For many community people this development meaning is tied to the co-management process as a vehicle for community development and empowerment, and as a tool for education on dune awareness. This meaning is also expressed in terms of local natural and cultural heritage, for instance in the Macassar community’s long association with the area, and particular cultural uses like horse-riding, grazing, and the Kramat. A common assumption is this community has a greater sense of the dunes’ importance than the Khayelitsha community due to these historical links. All these meanings also relate to the communities’ ‘sense of ownership’ of the dunes, since the dunes, and co-management, are related as being ‘for the benefit of the community’. Many Planning, CFN, EEU and BMB staff reiterate this latter point also.</td>
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<tr>
<td>Under Threat</td>
<td>Biodiversity, Conservation,</td>
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<td>A commonly espoused place meaning across all 'groups' is a sense of the dunes under threat. This sense of threat is to the positively associated place meanings such as high biodiversity, species endemism, conservation, nature, and environmental values. The source of threats include land ‘invasions’; unsustainable usage by informal settlers and local communities e.g. from hunting and collection of plants and wood; inappropriate development of the dunes and of Cape Town; ‘alien'</td>
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</table>
vegetation that dominates water sources and space in the dunes; and, the 'developmental agenda' of unsustainable modern life: "So for me, Macassar is two things it's conservation, it's like so, so important because if we lose that I mean it's a huge area, then we've just lost so much. The other thing that really worries me is that if we must carry on developing the way we are, and I mean we're losing areas every day, you know: it's an absolute". This 'under threat' meaning is related to high biodiversity and uniqueness, and to requiring protection through conservation.

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<tr>
<th>Sense of Safety</th>
<th>Local Communities, Tourism/Recreation Potential</th>
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<tbody>
<tr>
<td>The issue of safety, or lack-therof, is one of the most commonly featured place meanings attached to Macassar Dunes. Most relate this as a sense of fear or discomfort associated with going into the reserve in small numbers, particularly for BMB staff fearful of working in the field when there is a risk of being held-up or assaulted. The degree of safety and fear associated with Macassar Dunes varies between interviewees, some indicating it is an important part of their sense of place, and others indicating it is only occasionally an issue to be considered, for instance when entering the reserve in small numbers. For people representing eNkanini and local residents, the safety fears are expressed in terms of fears for the community, for example, what the lack of safety means for women entering the reserve due to risk of rape, or for children crossing busy Baden Powell Drive. This meaning is strongly linked to the need to create a safer environment at Macassar Dunes so that people can enter the area without this sense of fear.</td>
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<tr>
<th>High Biodiversity</th>
<th>Requiring Protection/Conservation; Uniqueness; Under Threat</th>
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<tr>
<td>The dunes' meaning is strongly tied 'high biodiversity'. This meaning extends relationally in many understandings to incorporate intergenerational and larger spatial scales, and the need to conserve the biodiversity: &quot;the Macassar Dunes to me come very linked to biodiversity and conservation and linked to the fact that we really seriously need them, because we are seriously running out of that vegetation type to meet the national targets&quot;. For some high biodiversity of the dunes relates to the fixed Reserve area, whilst others perceive a wider association, for instance incorporating the sand-mining areas and nearby privately conserved land. In addition, many community people, Planning, CFN and BMB interviewees relate these meanings to the local communities, since the reason for conserving the biodiversity is for the communities' benefit.</td>
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<tr>
<th>Uniqueness</th>
<th>High Biodiversity, Conservation, Urban Nature, Tourism Potential</th>
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<tbody>
<tr>
<td>The Dunes are often associated with a sense of uniqueness from other areas in the Cape Flats and in Cape Town. This sense of the unique is derived from the dunes themselves as a physical feature, the species endemism, and the particular strandveld ecosystem that the dunes represent, since this habitat is in decline: &quot;Macassar Dunes is a unique little part of the City that represents a different system, a different type of environmental system that once existed in that portion and that's now taken up by development&quot;. The uniqueness is also expressed as &quot;the indigenous&quot; by some respondents, meaning the indigenous flora and fauna, and is in contrast to the unwanted 'alien'. Some Khayelitsha residents tie this uniqueness to the potential for tourism i.e. 'showing off' the uniqueness and educating others about the space. It is also expressed as relative to the socio-economic and racial context of the area: &quot;I think it's also unique 'cause we need to put it in the context of a very, very poor black community, and what is now most probably a more middle-class coloured community&quot;.</td>
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<thead>
<tr>
<th>Requiring Protection, Conservation</th>
<th>High Biodiversity, Uniqueness, Under Threat,</th>
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<tr>
<td>This 'requiring protection' meaning is related to the more positively associated meanings of high biodiversity and uniqueness, and is posited in opposition to the more negatively associated 'under threat' meanings identified. Many interviewees translate 'requiring protection' through conservation measures. Some BMB and CFN staff also relate this meaning to formal proclamation of the reserve at the Provincial level as a way of enhancing political protection of the reserve.</td>
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<table>
<thead>
<tr>
<th>Providing Protection, Ecological Services</th>
<th>High Biodiversity, Local Communities, Education Potential,</th>
</tr>
</thead>
<tbody>
<tr>
<td>The 'providing protection' to local communities meaning is apparent in many understandings. Many</td>
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</table>
describe the ecological role the dunes play in the communities (some pointing out even though the communities may remain unaware of such). This meaning is frequently described in terms of the wind protection the dunes offer from the blowing sand and high, strong winds from the False Bay Coast. The dunes are also mentioned as sustaining coastal regulation processes, providing protection for the communities by acting as a barrier from the ocean. Additionally, many community members in particular also express the dunes’ meanings in terms of the ecological services they provide, e.g. for the collection of fuelwood for personal and commercial use, and for the collection of medicinal plants by sangomas and Rastafarians. These meanings are often expressed as relational to the ‘under threat’ and ‘requiring protection’ meanings, such as conservation. For instance, place narratives often include an understanding that removal of native vegetation, unsustainable flora and fauna harvesting, and the cutting of vegetation in the incorrect manner can all contribute to the degradation of these ecological and protective services. The meanings are also linked to an understanding of the likely consequences of dune degradation, such as coastal inundation, houses filled with (even more) sand, and windy(er) townships.

Urban Nature

The urban nature meaning of the dunes is articulated in relation to their position in an urban space. On this, some members of CFN and BMB describe the dunes as a place of escapism from the hectic nature of urban life, providing a ‘natural space’ in opposition to ‘urban spaces’: “Once you are in the middle of Macassar Dunes you hear nothing, just see green, and you see the ocean the other side - you don’t even hear cars going whoo, whoo, whoo, you don’t even hear people screaming in the township or smell from something that is being burnt - it is just totally different environment”. Some people relate this escapism to the relatively unknown or ‘hidden’ nature of the dunes area in contrast to more popular recreation spots in Cape Town, referring to it as a ‘hidden gem’. Others relate this concept to the socio-economic and managerial context of urban nature, contrasting to non-urban NRM: “I think the value that it means is that in an urban area things are just done differently. We have these two conflicting environments. All of them are aspiring to live in this particular area, um, and we unfortunately don’t have the resources or the manpower to say ‘listen, we just need nature here, we don’t need you guys here’”.

Ownership

A sense of ownership of the dunes area is expressed by several different interviewees. One BMB staff member refers to this sense on an authoritative level, referring to the area as "my reserve" and underlining State ownership: “and in a lot of our areas the community groups help us really well, but it’s our reserve, you know”. This sense is tied to meanings of high biodiversity and conservation, and as a consequence the dunes being under threat and requiring protection. Also refers to this sense on a community level: e.g. a Macassar interviewee insisted they are "part of Macassar" and two others pointed out the deliberate distinction of "Macassar's dunes". The former understanding of ownership. This sense is related to meanings such as conservation, community development and tourism potential. The Khayelitsha and Macassar communities tie this sense of ownership to the co-management process as a vehicle for realising community aims for the dunes.

Tourism/Recreation Potential

To some the dunes mean a place for potential recreation and tourism opportunities. Some link these opportunities to community development meanings. For some this constitutes the potential to increase local community use of the dunes as a free and open space for leisure, learning and recreational purposes. For others this constitutes the potential for tourism, providing an opportunity for others to experience and enjoy the dunes, and through this the potential for community income generation. Others in the BMB Branch perceive the tourism potential of the dunes as a potentially negative meaning, inflicting on biodiversity values, and perceive tourism as perhaps a future meaning of the dunes once the primary goal of conservation is better secured. For many these potential meanings are directly related to the safety issue and the need for measures.
which make the dunes accessible in terms of security for visitors to the area.

| Beauty | The beauty of the dunes area in an aesthetic sense and the views they offer are often articulated, though rarely by community members. Other conceptions of beauty are tied to a sense of 'wonder' in regards the dunes, with the dunes variously described as 'a jewel', a 'place of integrity', 'a hidden treasure', and 'hidden gem'. These meanings are often tied to high biodiversity and urban nature meanings. Some express an affinity for or 'love of nature', with the dunes representing an articulation of this appreciation and respect for 'natural spaces'. For example: "from the area where I was born is a place of nature, when I arrive[d] here I learn[ed] more and I love that kind of thing...So I am providing myself to be a protection of nature. Because nature is a part of our life. It's a beautiful part of our life. The [eNkanini] people are always talk[ing] about that, they know about [Macassar Dunes] because nature is a part of our life". |
Appendix 5 – Types of Ecosystem Services as defined in MEA, 2005

*Source: Millennium Ecosystem Assessment, 2005*

<table>
<thead>
<tr>
<th>Provisioning Services</th>
<th>Regulating Services</th>
<th>Cultural Services</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>Products obtained from ecosystems</em></td>
<td><em>Benefits obtained from regulation of ecosystem processes</em></td>
<td><em>Nonmaterial benefits obtained from ecosystems</em></td>
</tr>
<tr>
<td>- Food</td>
<td>- Climate regulation</td>
<td>- Spiritual and religious</td>
</tr>
<tr>
<td>- Fresh water</td>
<td>- Disease regulation</td>
<td>- Recreation and ecotourism</td>
</tr>
<tr>
<td>- Fuelwood</td>
<td>- Water regulation</td>
<td>- Aesthetic</td>
</tr>
<tr>
<td>- Fiber</td>
<td>- Water purification</td>
<td>- Inspirational</td>
</tr>
<tr>
<td>- Biochemicals</td>
<td>- Pollination</td>
<td>- Educational</td>
</tr>
<tr>
<td>- Genetic resources</td>
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<td>- Sense of place</td>
</tr>
</tbody>
</table>

**Supporting Services**

*Services necessary for the production of all other ecosystem services*

- Soil formation
- Nutrient cycling
- Primary production