Master's thesis

Transforming Realities

Integrated coastal zone management, sustainability, and
connective aesthetics

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Transforming Realities:Integrated coastal zone management, sustainability, and connective aesthetics

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Declaration

I hereby confirm that I am the sole author of this thesis and it is a product of my own academic research.

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ABSTRACT

Current integrated coastal zone management (ICZM) initiatives often do not fulfil their goal of sustainable and holistic management of the coastal and marine environment (Sale, Butler, Hooten, Kritzer, Lindeman, Sadovy de Mitcheson, Steneck & van Lavieren, 2008). Recent literature suggests that one of the reasons for this failure lies in the multistakeholder participation process (Treby & Clark, 2004). A primary argument for participative decision-making in environmental management is that the process will tend to produce sustainable outcomes (Cicin-Sain, 1999; Edwards et al., 1997; Reed, 2008). But this is based on the assumption that participants enter the process with, or through it acquire, a full understanding of the meaning of and implications of sustainability, and produce sustainable decisions based on this mind-set (Treby & Clark, 200). Yet, for most of us educated in the west, achieving such an understanding of the world and our place within it requires transforming our view of reality from one based on reductionism and the legacy of Descartes to one more in line with complex systems theory (Capra, 1996). I propose that introducing certain art practices into the ICZM participation process may help stakeholders undergo such a transformation. To this end I ask the following: Can connective aesthetics contribute to the sustainability objective of ICZM through the multistakeholder participation process? if so, what is the nature of its contribution? Connective art can generally be defined as the creation of a space apart from institutional frameworks, in which meaning and knowledge are generated through transdiciplinary collaboration and direct engagement between people and the nonhuman environment; and which is guided by an intent, directly or through vision, to effect positive change (Heim, 2003; Kester, 2004). Such art shares many of the same principles outlined in ICZM participation best practice literature, yet connective art goes further to introduce qualities of engagement not generally associated with ICZM participation forums. These include an unconventional space, experimentation and play, creative framing of issues and questions, attendance to emotions and feelings, imaginative visioning, direct interaction with the non-human environment, and two-way dialogue between participants and the non-human environment. I suggest that these conditions, by encouraging reflexive consideration of prevailing social, political and economic paradigms and our role

within them (Dieleman, 2006; Kester, 2004), can generate a collectively realized and contextualised redefinition of reality, more in keeping with ICZM's goals of holism and sustainability.

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CONTENTS

1.   INTRODUCTION

While environmental management projects do not infrequently look to artists to help bridge the communication gap between themselves and the public, the field is only recently beginning to realize that art practice can do far more than merely transmit a pre-articulated message to the public. A 2009 article in MPA News, *Applying the Arts to MPA Planning and Management: Four Examples*—besides offering an instance of how art has 'sweetened' the message of conservation organizations—also includes an example of how art has played a role in devising a practical solution to a coastal issue (an underwater sculpture park that helped boost tourism and restore a reef), and of how it has delivered practical skills to people working in the discipline (a theatre workshop that helped conservation practitioners at a conference hone their conflict resolution skills). There have also been efforts to recognize the importance of art practice in policy. For example, in 2007 the Chartered Institution of Water and Environmental Management (CIWEM) put out its Arts and the Environment Policy Position Statement which recognizes the vital role that art can play in the environmental resource management decision-making process. While these are encouraging developments I have yet to find evidence that integrated coastal zone management (ICZM) has meaningfully harnessed the full range of possibilities art practice presents. In a related point, artists working in the context of environmental resource management problem-solving generally work in collaboration with other 'experts', be they engineers or scientists, but rarely do they engage in this capacity on equal footing with the public. Even while transcendence of the expert/public divide is a widely recognized key principle of ICZM, there has been little, if any, effort to apply achieve this when it comes to introducing the arts.

The primary goal of ICZM is holistic and sustainable management of the coastal and marine environment (CEC, 2000). Yet evidence suggests that in many parts of the world the ICZM model is failing to prevent degradation of the coastal and marine environment (McKenna & Cooper, 2007; Sale et al., 2008). In 1999 in Europe, for example, 29 countries out of 33 were running some form of ICZM programs (Cicin Sain, 2000), yet the majority of their coastal zones continue along their previous paths of decline (McKenna & Cooper, 2006; Sale et al., 2009). This suggests that ICZM, as currently

practiced in the majority of countries, often fails to deliver on its promise of sustainable management outcomes. Shipman and Stojanovic (2007) suggest four factors that may be contributing to this failure in Europe: the complexity of responsibilities preventing integration; the national policy vacuum; information blocks, gaps and obstacles; and a 'democratic deficit' with little opportunity in decision-making for public comment or local accountability. It is this last point that I focus on for this thesis, the locus of which is the ICZM stakeholder participation forum. ICZM and environmental management best practice call for decisions to be made through a process that engages all individuals with a stake in the future of the region in question. It argues that the process, if carried out according to best practice guidelines, will deliver sustainable outcomes (Cicin-Sain & Knecht, 1998; Edwards, Jones & Nowell, 1997; Reed, 2008). Yet, it is this very participation process that has been blamed for many of the unsustainable decisions that have emerged (Kapoor, 2001; Treby & Clark, 2004). The sustainability argument assumes that participants enter the process with, or through it acquire, a full understanding of the meaning and implications of sustainability, and therefore the final decisions will themselves be sustainable. But it is becoming increasingly clear that stakeholders often do not fully embrace the concept of sustainability (Sale et al., 2008), and more relevantly, the participation process often fails to instil participants with such a mind-set (Treby & Clark, 2004). One can argue that many of ICZM's management principles and its understanding of sustainability are, in theory, closely tied to complex systems thinking, which is positioned in contrast to, perhaps antithetical to, traditional environmental resource management practices emerging from a far more reductionist, Cartesian understanding of reality. As the latter worldview is deeply ingrained in the fabric of western culture (Capra, 1996, pp. 294-295), stakeholders may well have to undergo a fundamental alteration in their perspective of the world and their place within it before, as a group, they can be expected to deliver sustainable coastal zone management decisions (Treby & Clark, 2004). The question then becomes one of how to create a space for participative decision-making that lives up to its transformative promise. I believe a possible answer may lie in introducing certain conditions of engagement frequently found in connective art practices.

For the purposes of this paper I define connective art as a practice where the 'art' is the creation of a particular space or vehicle for engagement, be it through dialogue or other means. Such a space shares many of the same characteristics and principles as forums of ICZM multi-stakeholder participation, yet there are also important differences between the two. I argue that such conditions of engagement can encourage reflexivity among participants regarding prevailing social, political and economic paradigms and their place within that reality (Dieleman, 2006; Kester, 2004a). At best, new knowledge is collectively realized and contextualised to re-build a worldview towards one that is more sustainable (Heim, 2003; Kester, 2004a) and in keeping with the goals of ICZM.

I begin with a brief background on the development of ICZM, its understanding of sustainability, and a discussion of its relation to complex systems thinking. This is followed by a look into the development and theory of stakeholder participation in ICZM and a consideration of arguments for why it may be failing to deliver sustainable management decisions. I then shift to discuss connective aesthetics—its development, terminology, the ideas of three major theorists, and why I chose the term 'connective' to designate this particular genre of art. This is followed by a comparative look at some of the principles and conditions shared by both ICZM participation practices and connective aesthetics: an emphasis on process over outcome, empowerment, power equity, two-way flow of information, integration of disciplines, direct interaction between stakeholders, collective authorship and ownership, long-term commitment, a clear issue of focus, and skilled facilitation. I follow this with a consideration of certain conditions of engagement that distinguish spaces created by connective art from those commonly used in ICZM participation. These qualities include, an unconventional space, experimentation and play, creative framing of the issues and questions, attendance to emotions and feelings, imaginative visioning, physical interaction with the non-human environment, and dialogue with the non-human environment. I conclude that such conditions, applied to ICZM participation forums, can catalyze in participating stakeholders a transformation of worldview towards ones that are more in keeping with systems thinking, and which may well translate into more sustainable decisions. I end with a reflection on the limitations of this thesis and offer suggestions as to further research.

2. INTEGRATED COASTAL ZONE MANAGEMENT (ICZM)

2.1 Background and goal of sustainability

The coasts are home to more than half the world's population, two thirds of the world largest cities are located along the coast, and populations in coastal regions are growing faster than those inland. This intense population pressure has created major problems in many coastal areas, most notably, pollution of coastal waters, increased pressure on nearby natural resources, and issues of over- and unregulated fishing. These concerns are compounded by the threat of climate change and sea level rise. Pre-twentieth century, coastal and marine resource management was handled on a sector-by-sector basis, often with jurisdiction over various parts of the coast and ocean falling to different levels of government. Initially this was not a problem as coastal activities were largely limited to fishing and navigation. However, the increasing intensity and variety of marine and coastal activities has resulted in an increase of overlapping and conflicting uses, both between coastal/marine uses and those further upland, and coastal uses and marine uses (Cicin-Sain & Knecht, 1998, pp. 15-19). An awareness of the need for a more comprehensive and integrated approach to coastal management was first acknowledged in the mid-sixties when individual nations began to embark on their own coastal management programs. This awareness reached the international arena during the United Nations Law of the Sea Conference (1973–1982), when two key concepts were formally acknowledged in the Law of the Sea: that the resources of the deep sea constitute the common heritage of mankind, and that all aspects of the ocean environment are interrelated and should be treated as an integrated whole. It is notable that the Law of the Sea emerged primarily on the back of political and economic concerns to avoid international conflict over navigation and resources, rather than from and interest in environmental issues. It was not until 1992, during the Earth Summit in Rio de Janeiro, in Agenda 21, Chapter 17 of the Rio Declaration, that more detailed guidelines were offered to nations with respect to management of ocean zones under national jurisdiction (Cicin-Sain & Knecht, 1998, pp. 67-72). ICZM has continued to develop and mature in the interim, and although official definitions vary, a very commonly referenced definition can be found in the European Commission's 2000, Communication

from the Commission to the Council and the European Parliament on Integrated Coastal Zone Management: A Strategy for Europe:

> "Integrated Coastal Zone Management (ICZM) is a dynamic, multi-disciplinary and iterative process to promote sustainable management of coastal zone. It covers the full cycle of information collection, planning (in its broadest sense), decision-making, management and monitoring of implementation. ICZM uses the informed participation and co-operation of all stakeholders to assess the societal goals in a given coastal area, and to take actions towards meeting these objectives. ICZM seeks, over the long-tern, to balance environmental, economic, social, cultural and recreational objectives, all within the limits set by natural dynamics" (CEC, 2000).

The essence of ICZM, as promulgated by the UN and and widely accepted globally, is holistic and sustainable management of the coastal zone with a commitment to working with natural processes, and acknowledging the vulnerability of the coastal zone to both human activity and climate change. ICZM is, at its core, a paradigm of sustainability (King, 2003). But what is meant by sustainability in the ICZM context? The most commonly cited definition of sustainability originates from the 1987 Gro Brundtland report, *Our Common Future*, put out by the UN-convened World Commission on Environment and Development (WCED, 1987). It defined sustainable development as, "development that meets the needs of the present without compromising the ability of future generations to meet their own needs." Although a popular definition, it is vague and has unsurprisingly been widely and diversely interpreted in ICZM discourse, both historically and geographically (Healy, 1997). Rather than becoming mired in the vagaries of the numerous disciplinary narratives of sustainability, I instead frame the principles that underpin ICZM and its goal of sustainability in relation to complex systems thinking whose theories and worldview not only mirror those of ICZM, but given the complex dynamics of the coastal zone, seem singularly appropriate to it.

2.2   Systems thinking

ICZM developed out of a failure of traditional sectoral management to prevent coastal degradation (Cicin-Sain & Knecht, 1998, p. 16), and its principles are reflective of the systems thinking-based belief that a holistic, trans-sectoral model will help deliver sustainable management (McKenna & Cooper, 2006). Application of systems thinking to ICZM management of the coast represents a radical departure from the reductionist ans sectoral approach that predominated coastal management in the past.

Systems or ecosystems thinking was first developed by organismic biologists during the first half of the century. Capra (2006) provides a concise summary of the properties of an organism or living system from a systems thinking perspective:

> "According to the systems view, the essential properties of an organism, or living system, are properties of the whole, which none of the parts have. They arise from the interactions and relationships between the parts. These properties are destroyed when the system is dissected, either physically or theoretically, into isolated elements. Although we can discern individual parts in any system, these parts are not isolated, and the nature of the whole is always different from the mere sum of its parts" (Capra, 2006, p. 29).

Such thinking stands in stark contrast to the tradition of Western scientific thought, which owes much of its legacy to Descartes' method of analytic or reductionist thinking wherein it was believed that the behaviour of every complex system could be understood from the properties of its individual parts. As Capra describes it, the history of Western science "has been progressing in that way, and at each step there has been a level of fundamental constituents that could not be analysed any further." Systems thinking, on the other hand, focuses on principles of organisation and understanding things in the context of the larger whole (p. 29).

Another criterion of systems thinking is "the ability to shift one's attention back and forth between systems levels." That is, in the living world one often finds systems nested within other systems. Also, in

general, different systems levels represent different levels of complexity, with certain levels exhibiting properties not found at lower levels. These are known as 'emergent' properties (p. 37). Also in contrast to traditional Western science, there is shift of focus from objects to relationships, where the objects themselves are networks of relationships. Thus, in systems thinking the living world and indeed reality is understood as a network of relationships. Knowledge then is understood as "an interconnected network of concepts and models in which there are no foundations," suggesting that no school of knowledge can be seen as more fundamental than any other. They simply belong to different systems levels (pp. 37-39). Although living systems are organizationally closed, they are 'open' in that their existence relies on continual flows of energy and resources. They are also dissipative, meaning that they maintain themselves in a stable state far from equilibrium and their flow processes are interlinked through multiple feedback loops. Feedback loops are "a circular arrangements of causally connected elements in which an initial cause propagates around the links of the loop, so that each element has an effect on the next until the last 'feeds back' the effect into the first element of the cycle." Thus, the initial effect is modified each time it travels through the cycle, resulting in self-regulation of the entire system (pp. 56-57). The farther a dissipative structure is from equilibrium, the greater its complexity, the higher the degree of nonlinearity of the mathematical equation describing it, and the greater the number of solutions to that equation. This means that new situations may emerge at any time. Which path or state the system will take at these 'bifurcation points' depends on the previous history of the system and the initial conditions. This combined with instabilities arising from repeated self-amplifying feedback, means that the behavior of a dissipative structure is highly sensitive to small changes in the environment and that its behaviour, while somewhat predictable over a very short time span, is in the larger sense, indeterminate (pp. 182-183).

In ICZM an awareness of the interconnectedness of the parts of a system, and the importance of those relationships to the characteristics of the system is apparent for example in the term 'coastal zone', defined in the 2009 European Commission Protocol on ICZM in the Mediterranean as, "the geomorphologic area either side of the seashore in which the interaction between the marine and land

parts occurs in the form of complex ecological and resource systems made up of biotic and abiotic components coexisting and interacting with human communities and relevant socioeconomic activities" (UNEP/MAP, 2009). The concept of interdependency—the importance of association, establishment of linkages, and cooperation—is evident in ICZM's emphasis on creating and enhancing existing relationships between the various actors in the coastal zone, and its recognition of the vital importance of overcoming the compartmentalization that has plagued coastal management in recent history (Sale at al., 2008). The 2009 Protocol for example requires, "cross-sectorally organized institutional coordination of the various administrative services and regional and local authorities competent in coastal zones" (UNEP/MAP, 2009). ICZM principles also recognize the implications of the multiple and nonlinear nature of feedback loops wherein a minor disturbance is not limited to that single effect but can ripple out into ever-widening patterns. Cicin-Sain and Knecht (1998) give the example of logging and agricultural activities contributing to damage of estuarine and ocean areas through increased flow of sediment, pesticides and other pollutants into river and estuarine systems (p. 19). ICZM likewise recognizes the complexity of a living system in coastal and ocean ecosystems, recognizing the importance of their "fluid and dynamic nature" and "the intricate relationships of the marine ecosystems and the environments" (Cicin-Sain & Knecht, 1998, p. 16). Finally, the unpredictability and "sometimes sudden, flux" (CEC, 2000) of such ecosystems is also acknowledged. The concept of feedback loops is used in the very model of practice. The ICZM process is characterized by adaptability made possible in its iterative cycles; it begins with 1) issue identification and assessment; 2) program preparation; 3) formal adoption and funding; 4) implementation; and 5) evaluation. Ideally, the 'last' stage assesses the outcomes with regard to initial objectives, reassesses the issues and strategies, and makes adjustments based on that assessment and the new conditions. These then feed back into the initial stage and the cycle begins again (Olsen, Tobey & Kerr, 1998). This circular feedback loop allows for correction of past mistakes and adjustment to the ever-changing, unpredictable environment (Kay, Regier, Boyle and Francis, 1999).

While many countries aim to manage their coastal zones in keeping with the objectives, principles and

strategies of ICZM, recent reports show that successful implementation has been rare (Rupprecht Consult & International Ocean Institute, 2006; Shipman & Stojanovic, 2007). A recent UNU report states that "[n]owhere are all components of coastal ocean management handled as an integrated whole" (Sale et al., 2008) and a 2006 evaluation of ICZM projects in Europe states, "[i]ntegrated approaches to manage the interests in the coastal zone have been scarcely implemented and were not strategically employed," and that, "no country has implemented an ICZM National Strategy as prompted by the EU ICZM EU Recommendation" (Rupprecht Consult & International Ocean Institute, 2006). The reasons for these failures are complex and multiple, and a full discussion of them is far beyond the scope and intent of this paper. Instead I focus on the space where, in theory, such holistic and integrated decisions are developed: the multi-stakeholder participation process.

2.3   Multi-stakeholder participation

While a variety of factors contribute to the success or failure of an ICZM initiative, a review of approximately 35 studies evaluating the success of ICZM initiatives reveal that 'participation' was the most commonly cited factor (Stojanovic, Ballinger & Lalwani, 2004). Importantly the participation forum is, in theory, the locus at which many of the coastal management decisions are arrived at. It is argues that stakeholder participation in ICZM, through envisioning aspirations for the future, generates agreed goals for sustainable development of the coast. These goals are then translated into a series of contingent objectives, which vary according to the coastal issues, human activities and the ways of planning and managing occurring on each coast (Vallega, 1999). Thus the process of participation is crucial as to whether or not ICZM goals and resulting objectives line up with the overarching purpose of ICZM: sustainable management of the coast. Accordingly, Article 6 of the European Commission Protocol on ICZM in the Mediterranean (UNEP/MAP, 2009) lists among ICZM's key principles: "appropriate governance allowing adequate and timely participation in a transparent decision-making process by local populations and stakeholders in civil society concerned with coastal zones shall be ensured." Cicin-Sain and Knecht (1998) write that maintaining "full transparency and a high level of public participation in the ICM process during the program formulation phase, the implementation

phase, and the operation phase is of the utmost importance. In part it is the openness and transparency of the process that ensures that all affected interests have an opportunity to be heard" (p. 237).

While there is no question as to the importance of stakeholder participation in ICZM, there is great diversity in the framing of the discussion. Reed (2008) has identified a number of different typologies of stakeholder participation in environmental management, but for simplicity's sake, I will discuss the most common one: degrees of participation on a continuum of involvement. Beginning at one end we find provision of information to and an effort to educate stakeholders by government agencies. Decisions have been made and the public is merely being informed with no option to provide input. Next along the continuum is a process in which stakeholders are asked for comments on decisions that have been made. There is, however, no requirement to take account of or incorporate these comments. Next is public consultation or use of public advisory committees, which is currently probably the most common form of environmental planning. Here, 'experts' have drawn up a plan or proposal, which is presented to stakeholders for their input during information meetings and formal public hearings. By its nature the exchange is confrontational. Stakeholders, frequently lacking sufficient time or forum for discursive discussion, are confined to a critical and reactive response. Next along the scale of involvement is multistakeholder participation, which, given appropriate circumstances, has now become the preferred or best practice option. There is recognition of the rights of all interested parties to be involved at all stages of the decision-making process, including the identification of priority issues and agreement on common solutions. The setting should be a non-confrontational space with all participants interacting on equal footing. The final stage in the continuum is delegated authority where the decision-making authority, and the ability to carry out those decisions is given to a non-elected body; but few if any ICZM initiatives use this advanced form of power-sharing (Ellsworth, Hildebrand & Glover, 1997).

It is also worth noting that stakeholder analysis is increasingly being used to systematically ascertain who the relevant stakeholders are, and much like the larger process, levels of participation in

stakeholder analysis can vary widely. It may range from passive consultation, where stakeholders simply provide information for the analysis, to active engagement with two-way exchange of information between stakeholders and analysts as equal partners in a process intended to allow stakeholders to influence who is included in the analysis (Reed, 2008). Considered in light of systems thinking where initial and historical conditions are key determinants of the trajectory of a system, the methods used for stakeholder analysis, including stakeholder categorization and mapping of relationships amongst stakeholders (Reed, 2008) can have great bearing on the outcome of an ICZM initiative.

Sustainable management requires each stakeholder sacrifice some of their interests to other stakeholders and to the interests of those of future generations. It is argued that this is more effectively achieved through the process of stakeholder participation. To begin with, it helps foster mutual understanding between participants. The interchange of ideas and opinions amongst those with different cultural values, perspectives, and knowledge fosters an appreciation of how others frame an issue or problem and how they might be affected by various responses to it. This in turn allows them to make an informed judgment (Treby & Clark, 2004). Mutual understanding is also likely to enhance mutual respect for irreconcilable differences. The process also creates amongst participants a shared sense of capital—social, intellectual and political, allowing participants to see themselves as an integral part of a larger ecosystem, whose future is inextricably linked to the futures of other stakeholders and that of the coastal zone itself. It also fosters a sense of ownership of the ICZM process itself and its mutually realized outcomes. This not only increases the likelihood that the resulting decisions will be adhered to, and, ICZM being an adaptive and iterative process, requires long-term support for its continued success. Furthermore, being involved in a participatory process makes people more effective at engaging in such discursive encounters in the future, thereby growing the positive potential of the process. Lastly, by devolving coastal zone decision-making power to stakeholders, the engagement process can create a sense of ownership for the environment, ideally with an attendant sense of stewardship (Reed, 2008; Stojanovic & Ballinger, 2009). Thus, the sustainability argument for the process of stakeholder participation rests on the assumption that participants, through the process

itself, acquire what amounts to a systems way of thinking about other stakeholders (current and future), and the myriad of dynamic forces at work in the coastal zone.

While there are certainly examples of stakeholder participation in coastal zone decision-making resulting in sustainable management solutions (Ellsworth et al., 2006), examples of ICZM initiatives failing to deliver on this promise predominate (McKenna & Cooper, 2006; Sale et al., 2008). Take for example, shoreline management planning in Europe where coastal flooding and erosion processes are almost universally regarded by stakeholders as undesirable and incompatible with their hopes for the future of the coast, regardless of whether a 'hold-the-line' policy is ecologically appropriate in the long-term (Kapoor, 2001; Treby & Clark, 2004). This has for example led to numerous engineering works which did not adequately account for coastal dynamics, and are now contributing to accelerated erosion of adjacent shorelines (CEC, 2000).

Cognitive science contends that changing behavior requires a change in our mental models of reality. Such mental models consist of an individual's ever-evolving understanding of the physical, social, emotional, and conceptual/intellectual world, and their relationship to it (Fazey, Fazey & Fazey, 2005). Management decisions, such as the examples offered, suggest that stakeholders may still be deeply uncomfortable with sustainability's underlying systems principles (Costanza, 1994; Treby & Clark, 2004); they suggest a continual clinging to a reductionist worldview at odds with such concepts as interdependency, complexity, and unpredictability that characterize a systems understanding of the coastal and marine environment. As Meppem (1998) put it, "the conventional stranglehold of disciplinary thinking in policy circles limits the capacity of our decision makers to unravel the complexity of all real world environment policy and management problems."

Yet the task of transforming one's understanding of the world, and one's place within it does not come easily. Our capacity to reflexively evaluate our definitions of reality is limited by the tools we commonly use as they themselves are products of those very models of reality, affecting what we measure, define,

and give attention to (Fazey et al., 2005). ICZM stakeholder participation still uses tools and techniques that are products of the very disciplinary, sectoral management system it aims to transcend (Kapoor, 2001). Furthermore, the human mind has trouble comprehending the densely intricate feedback loops and complex probabilities of dynamic living systems. This is particularly problematic in coastal and marine management where the full consequences of decisions often take a long time to become apparent. Finally, individuals are often very defensive regarding their mental models and will frequently resist change until decisions produce outcomes so disastrous that they can no longer be ignored (Fazey et al., 2005). It follows then that the ICZM participation process may need to be re-conceived to more effectively overcome these difficulties and facilitate a transformation of existing mental models of the world towards ones that are more in line with a sustainable ecosystems definition of reality. I propose that art, in particular connective art practices, may offer certain conditions of engagement to foster such a transformation.

3. CONNECTIVE AESTHETICS

The genre of art I wish to focus originate from a trend of art practices that developed in the 1960s. Such art practices have roots in the community arts tradition in the United Kingdom, in temporary art in the Unites States, and in art practices in the 1960s and 1970s such as Allan Kaprow's happenings and performances. They also draw on practices outside of the art world, in particular social, political and environmental activism. The first generation include such artists as Joseph Beuys, Littoral, Stephen Willats, Artists Placement Group, Suzanne Lacy, and Helen and Newton Harrison. These forerunners have influenced a range of others such as Ala Pástica, Jay Koh, PLATFORM, Temporary Services, and Superflex to name a few (Kemp & Griffiths, 1999, p. 120-125; Kester, 2004a, p.9).

Terms used to designate this group of practices are multiple: art and context, art and politics, art and society, art for social change, art in the public interest, collaborative art, community-based art, connective aesthetics, critically engaged art, dialogical art, ecovention, ecological art, experimental

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communities, interventionist art, littoral art, new genre public art, participatory art, relational art, research-based art, social practice art, and social sculpture. This diversity of terms is in part due to the problem of applying traditional art criticism to work which does not ascribe to classical notions of authorship, audience, means of communication, creation of meaning, or intent. Critics and artists writing about the work thus have devised their own definitions and corresponding labels. I will briefly touch on the writings of Suzi Gablik, Grant Kester and Claire Bishop, arguably three of the more influential voices in the discourse.

Gablik (2006) has been writing about what she terms 'connective aesthetics' since the early 1990s. She sees the art world as bifurcated: one half consisting of artists who "swim like fish in water" in the existing capitalist, individualist and specialized worldview unquestioning of cultural assumptions; and the other half consisting of artists who express different worldviews, and whom have developed their own set of value systems founded in dynamic models of integralism, intersubjectivity and transdisciplinarity. This group is unabashedly ethical and finds its place not outside of society but as an integral component of a "society of selves that fit their contributions together in mutual enrichment" (Gablik, 2003). Gablik links the emergence of this new understanding of aesthetics with the development of a post-Cartesian, ecosystems worldview, where the artist is no longer self-contained but relational and interdependent (Gablik, 1992). Such artistic practices are based on "the interrelational, ecological and process character of the world, and a new sort of permeability with the audience"; and this "trend of partnership creates and demands contact and nearness, both metaphorically and concretely" (Gablik, 1991, p. 163). Thus the success of such art should be judged by the difference it makes to the welfare of communities, societies and to our relationship with nature (Gablik, 2006).

In *Conversation Pieces* (2004) Kester uses the term 'dialogical' art referencing Mikhail Bakhtin for whom literature offers dialogic interactions that produce emphatic insight. Kester thus defines artists engaging in dialogical art practices through their ability to, "catalyse understanding, to mediate exchange, and

sustain an ongoing process of emphatic identification and critical analysis" (p. 118). Furthermore, such artists question the assumed relationship between art and social and political work, and redefine the kinds of knowledge that aesthetic experience is capable of producing. In dialogical works, conversation is an "integral part of the work itself" and it is "reframed as an active, generative process that can help us speak and imagine beyond the limits of fixed identities, official discourse, and the perceived inevitability of partisan political conflict." Essentially, for Kester, such art should be evaluated by its ability to creatively facilitate unique forms of dialogue and exchange (p. 8). He explains further in the following extract:

> "Any given project can be successful at some levels and less successful at others. Criticism of dialogical practices should, in my view, be less concerned with arranging a canonical hierarchy of works than with analyzing, as closely as possible, the interrelated moments of discursive interaction within a given project" (Kester, 2004a, p.189)

In other words criticism of dialogical artworks should consider the various aspects of the work and be careful not to conflate as he points out the beginning of the book (p.11) the work as such from the issue it is tackling or the quality of activism.

In *The Social Turn: Collaboration and Its Discontents* Bishop (2006) uses the term 'socially collaborative' to describe this range of art practices. She echoes Kester in linking such artists through their shared belief in the "empowering creativity of collective action and shared ideas," but in contrast to Kester, she its wary of the idea that "art should extract itself from the 'useless' domain of the aesthetic and be fused with social praxis." She believes that the power of art as we understand it in the west is predicated on the very confusion of art's autonomy and heteronomy. It is this paradox that distinguishes it from other forms of social action: "the productive contradiction of art's relationship to social change, characterized precisely by that tension between faith in art's autonomy and belief in art as inextricably bound to the promise of a better world to come." Only by existing in this contradiction is it positioned to, "unfold a more complex knot of concerns about pleasure, visibility, engagement, and the

conventions of social interaction." For Bishop, a successful piece of socially collaborative art must do more than just have social impact. It must also succeed on an aesthetic level. She is also less willing than Kester to forego the avant-garde legacy of shocking the viewer and placing them in a position of frustration and discomfort, which she believes can be crucial to a work's aesthetic impact and central to gaining new perspectives on our condition. Ultimately, Bishop believes that the most successful works are able to "think the aesthetic and the social/political *together*, rather than subsuming both within the ethical."

Many practicing artists have also made valuable contributions to the literature, most notably, Joseph Beuys who pioneered the concept of social sculpture. More recent contributors include Suzanne Lacy who has worked closely with communities in art which she terms 'new genre public art'; Reiko Goto and Tim Collins who have participated in numerous long-term 'eco-art' projects; PLATFORM, a group of artists who blur the distinction between activism and art; and Stephen Willats whose multimedia projects often engage participants in creative social processes.

In an effort not to add yet another term to the already vast collection associated with this genre of art practices, I will be using Gablik's term, 'connective' to indicate a range of art practice that I contend may be of benefit to the ICZM participation process and its aim of sustainable management. Of all the terms used, it is most suggestive of the qualities I believe are most relevant: creation of relationships; a focus on process over product; two-way information flow (verbal or otherwise); direct physical engagement with communities and non-human environments; transdisciplinary collaboration; collective production of meaning and knowledge; and ethical intent, directly or through vision, to effect positive change. Kester's (2004a) term 'dialogical art' is at face value rather too suggestive of verbal exchange (though he does allow for other forms, such as the visual and the corporeal, he only discusses them briefly) as well as his focus being more on social issues. Similarly, Bishop (2006) uses her term 'socially collaborative art' primarily to describe projects and artists with social concerns at their heart. Furthermore, she is wary of the "ethical turn" in criticism of this kind of art, and although I

understand this concern, I think it should be endorsed more fully than she allows. Finally, neither term gives adequate importance to engagement with the non-human environment. Gablik's term 'connective', understood as goal and continual process, on a personal, local and global scale, will tend toward the ethical. Also, as ICZM principles are grounded in complex systems theory, so too does Gablik use such developments in twentieth century ecology and physics to frame her argument for and characterisation of connective aesthetics. Finally, her writings are well attuned to the importance of considering and incorporating engagement with the environment (Gablik, 1991, p. 181).

4. SHARED QUALITIES

Before delving into what the aesthetic element of connective art can contribute to conventional modes of multi-stakeholder participation, I first want to point out some of the qualities and principles shared by these two seemingly disparate forms of engagement. Both connective art, by its very nature, and ICZM stakeholder participation, with its emphasis on local specificity, can vary widely, yet there are certain identifiable qualities and principles common to the more successful applications of both. These include a focus on process as opposed to outcome; community empowerment; power equity amongst participants; two-way information flow between participants; integration of disciplines; direct interaction between stakeholders; collective authorship and ownership; long-term commitment to the project; a clear issue of focus; and skilled mediation. This list of qualities that I have teased out through a cursory literature review, is neither exhaustive nor definitive, but intended to open the discussion on the potential of a complementary or even interchangeable relationship between the two practices.

4.1 Process

Importance is placed on the process of participation and interaction, rather than its outcome. Although older ICZM literature does argue for participation on the grounds that it produces better quality decisions, more recent literature suggests that stakeholder participation is a process that is valuable in an of itself, regardless of whether or not a consensus is reached. Treby and Clark (2004) write that

participation should transcend the outcome and be understood as an active process in its own right.

> "In embracing a process-oriented management ideal, the act of participation alerts participants to the implications of sustainable management: holism, individual sacrifice for the social good, discussion and recognition of similarities within and between the different consultee groups, and a sense of ownership for the environment of which everyone is an integral part rather than some being superior." (Treby & Clark, 2004).

Kester (20004a) echoes this view when he writes that discursive communication is not intended to result in "universally binding decisions," and that there is "no guarantee that these interactions will result in a consensus." Instead, the legitimacy of the process is not based on the universality of the knowledge produced, but instead on the perceived universality of the discursive process itself (p. 109). It is the process through which reflexive consideration is catalyzed, new knowledge is formed, and a sustainable worldview is woven.

4.2   Empowerment

It is vital that participants be empowered by the participation process. They must have the power to genuinely effect change, and have the requisite knowledge to enable them to effectively and confidently engage in the process (Reed, 2008). Treby and Clark point out that is may be necessary to provide opportunities for stakeholders to acquire technical knowledge to permit more active and productive discussion of the issues (Treby & Clark, 2004). Dieleman (2006) feels one of the principal ways that artists can contribute to sustainability objectives is to foster in people the conviction that they can have control over their lives and that they can change their lives.

4.3   Power equity

Empowerment is closely related to the issue of power disparity which can commonly result from differences in age, personality, gender, profession, culture and/or socio-economic background. Such disparity can produce a situation in which individuals are endowed with different levels and kinds of knowledge. ICZM best practice literature contends that stakeholder participation should be

underpinned by a philosophy that emphasises power equity (Kapoor, 2001). For the process to function, it is essential that all stakeholders have equal-status roles which, given the historical primacy of 'expert' opinion, frequently involves a "de-privileging of the expert" (Treby & Clark, 2004). Levelling the playing field will increase trust amongst stakeholders and better allow everyone to have an equal voice in the dialogue (Reed, 2008). Kester (2004a) references the work of Jürgen Habermas to illustrate how dialogical art can create discursive forms of communication "in which material and social differentials (of power, resources, and authority) are bracketed" and where "every subject with the competence to speak is allowed to take part in discourse," "everyone is allowed to question any assertion whatsoever" and "everyone is allowed to express his or her attitudes, desires and needs" (p. 109).

4.4   Two-way flow of information

Another important theme is two-way flow of information between participants. Recent ICZM and environmental management participation literature is moving away from the 'communication' and 'consultation' models of communication flow, toward two-way information exchange where various forms of knowledge are transmitted in the form of dialogue or negotiation (Reed, 2008; Stojanovic & Ballinger, 2009; Treby & Clark, 2004). A key part of this is ensuring that lay knowledge is regarded on par with that of science (Kapoor, 2001; Reed, 2008). In discussing audience Lacy (1995) writes that "many public artists today suggest that the communication is two-way, some going so far to propose that the *space* between artist and audience is, in fact, the artwork." She moves on to describe her model of interactive information flow as a series of concentric circles with "permeable membranes that allow continual movement back and forth". In the center are people without whom the project could not exist; the first outer circle includes collaborators and co-developers; the second, volunteers and performers or those "about, for and with whom the work is created"; the third, those who are not directly involved in the work, but who have direct experience of it—what is traditionally understood as 'audience'; and the final fifth, the audience who experience the work indirectly though reports, documents, or representations. The movement of information between the circles is fluid and

participants can move back and forth between levels. This two-way flow of information where no kind of knowledge is valued above any other helps produce a situation of empathy where participants begin to see through one another's eyes, and in the best of circumstances, one's worldview expands and develops to include these new subjectivities (Gablik, 1992). The concept becomes even more powerful and multi-dimensional when viewed through the lens of complex systems theory dynamics where exchange of information is understood to occur in networks which themselves are understood as existing at different systems levels.

4.5   Integration of disciplines

The need to make connections between disciplines also emerges as a common marker, although there are subtle but important differences in how this is understood, both within and between ICZM and connective art practice. The terms 'multidisciplinary', 'interdisciplinary' and 'transdisciplinary' are frequently used to describe activity not confined to a single discipline, yet their definitions and differences are not always clearly articulated or understood. According to Tress, Tress and Fry (2005) multidisciplinarity involves different disciplines, relates to a shared goal, but with multiple disciplinary objectives, where knowledge is exchanged but there is no effort to cross subject boundaries to create new integrative knowledge and theory. Interdisciplinarity involves several unrelated academic disciplines in a way the forces them to cross subject boundaries to integrate disciplinary knowledge in order to create new knowledge and theory and achieve a common research goal. Transdisciplinarity engages academic researchers from different unrelated disciplines and non-academic participants to create new knowledge and theory, and to research a common question. In ICZM it appears that the most commonly used terms used to describe ICZM integration of disciplines are 'multidisciplinary' (CEC, 2000; Shipman & Stojanovic, 2007; Sale et al., 2008; Stojanovic et al., 2004), and 'interdisciplinary' (UNEP/MAP, 2009; Stojanovic et al., 2004). Integration of disciplines can of course occur at all levels of the ICZM process, including participation. Ideally stakeholder participation involves all parties with an interest in the coastal zone in question (CEC, 2000), and by nature, this group of participants is likely to involve a variety of disciplines, academic and otherwise. Commonly cited advantages of

integrating disciplines in ICZM include, harnessing widespread expertise from 'expert' science to local/indigenous knowledge, transcending narrow sectoral interests, and assisting in development of integrated policies (King, 2003). If integration occurs at the level of transdisciplinarity it can help to 'restore the paradox' of differing and contradicting realities, previously evaded by the traditional division of disciplines. Only by bringing people together who carry parts of the paradox can the process of working through them begin (Bryan, 2004). Gablik echoes this point when she writes about transdisciplinarity in connective aesthetics. The point is not merely to traverse disciplines, but that transdisciplinarity addresses the paradoxical dynamics of multiple levels of differing realities, even mutually exclusive realities, at once. It moves us beyond 'either/or' thinking towards an understanding of reality as nested truths. She also stresses that in this model, no particular discipline is privileged as "they are all integrated into an open unity" (Gablik, 2006).

4.6   Direct interaction between stakeholders

There is also a shared acknowledgement of the importance of direct interaction with other stakeholders in the dialogical exchange. The direct face-to-face element of the participation process is not generally explicitly acknowledged in the literature, however, the forms of interaction most frequently used almost all involve direct contact between stakeholders. These include forms such as conferences, seminars, steering committees, topic groups, and workshops (Edwards et al., 2007; King, 2003). The importance of face-to-face interaction is made more explicit in connective art literature. Kester (2004a), in describing his model of dialogical aesthetics refers to the work of Emmanuel Levinas and Mikhail Bakhtin to make the point that intersubjective ethics is, "constitutively linked to corporeality, the direct experience of 'lived' time and place, and our affective and meaningful relationship with concrete others" (p. 119).

4.7   Collective authorship and ownership

In ICZM stakeholder participation and in connective aesthetics, the authorship and ownership of the process and outcome can often best be described as collective. In ICZM this means the transformation

of coastal management from a top-down approach where the government, environmental agencies or experts make the decisions with little or no consultation of other stakeholders to one where decisions are made collectively in forums that seek to be inclusive of all voices who have a stake in the future of the coastal zone in question. As Reed points out, if environmental management goals and solutions are reached through the participatory processes it "may lead to a sense of ownership over the process and outcomes" (Reed, 2008). And as King (2003) writes, collective ownership of goal and outcome has become such a central goal in ICZM participation as it is key to, "sustaining the process and commitment through to implementation and beyond" particularly in a situations of "widespread institutional fragmentation [that] will require special procedures and mechanisms to promote consensus building and bind all parties to sustained cooperation."

In connective art, collective authorship and ownership of a project means departing from the traditional notion of the artist as the gifted genius churning out work from the solitary confines of his or her studio. It also confounds the traditional concept of audience; that is audience as the passive consumer of the completed work of art only coming onto the scene upon completion of the artistic process. In connective art, concept, process and outcome are commonly the result of a collaboration between artist and members of a community (I use this term in its most expansive sense); They are collective. Suzanne Lacy, a practicing artist and influential writer in this genre of art practice describes the "collaborators or codevelopers" in a connective art project as "shareholders who have invested time, energy, and identity in the work and who partake deeply in its ownership" (Lacy, 1995).

4.8   Long-term commitment

Another common principle is that of long-term commitment to the process. ICZM calls for a management process that is both long-term and iterative (CEC, 2000). A long-term perspective encourages adoption of the precautionary principle and factors in the needs of future generations, and iteration or feedback loops allow for dynamic learning and the opportunity to learn from mistakes (Kapoor, 2001; Treby & Clark, 2004). The artist group PLATFORM, who have worked since 1983 to

promote, "creative processes of democratic engagement to advance social and ecological justice" (PLATFORM, n.d.) are unambiguous on the importance of long-term commitment to the place and people of any given project. This is exemplified in such projects as *Delta* that concerned the River Wandle and lasted from 1988 to 2002 and involved ongoing dialogue with local communities (PLATFORM, 2003).

4.9   Clear issue of focus

Beginning with a clear issue of focus, collaboratively shaped by participants, also appears as a common thread in successful ICZM participation and connective art projects. In ICZM it is becoming clear that given the multitude of issues regarding the coastal and marine environment, there is a need to prioritise in order to deal with urgent problems and focus on specific goals (Treby & Clark, 2004; Stojanovic & Ballinger, 2009). The participation process should be instrumental in reflectively defining these issues and problems and prioritizing them (Reed, 2008). Likewise, connective art projects, generally speaking, begin with a particular subject of attention, either defined by the public, for example the polluted Stanley Burn river in the U.K. in the *Seen & Unseen* projecy (Kemp & Griffiths, 1999), or chosen by the artists, as was the case in a project led by Ala Plástica that addressed an oil spill in Rio de la Plata, Argentina (Ala Plástica, 2007). The issue is then further delineated and articulated through participant interaction. This is not to say that the issue need be so definitively outlined so as to exclude unexpected turns of inquiry, but rather that an initial concept of the frame of inquiry is needed to begin work.

4.10   Skilled mediation

In a final important point, both ICZM participatory practice and most forms of connective art agree that the process is highly sensitive to the way in which it is mediated, and therefore the skill of the facilitator is a key variable in the outcome. In the case of connective art, this facilitator is often the artist, project manager, or other expert individual specifically brought in to help with mediation. Lacy (1995) asserts that the skills and strategies required of a facilitator are not generally those associated with an artist who works in a more traditional manner. The facilitator must know how to collaborate

with a diversity of people, traverse disciplines, clarify visual and process symbolism for people who are not educated in art, develop multilayered and specific audiences, and choose sites that resonate with public meaning. They must also have a good understanding of the social systems, institutions and politics at work. Such artists "question the primacy of separation as an artistic stance and undertake the consensual production of meaning with the public." ICZM participation best practice emphasizes that facilitators need to be perceived as impartial, open to multiple perspectives and approachable. They also must be capable of maintaining positive group dynamics, dealing with dominating or offensive individuals, encouraging participants to question their assumptions and positions, and get the most out of less forthcoming individuals (Reed, 2008).

I point to these commonalities in principles and themes between ICZM participation practice and connective art to show that the two are not so divergent, and to suggest that some form of incorporation of connective art may not be as awkward as may first appear. I now wish to move onto the important ways in which connective art diverges from ICZM participation practices and where I see potential for the latter to benefit from the former.

5.   A SPACE FOR TRANSFORMATION

If we concede that a key reason why the ICZM participation process often does not deliver sustainable outcomes is because participants may hold worldviews and understandings of their roles in those worlds, which do not fully embrace the meanings and implications of sustainability, then the question arises of how to re-conceive the process to foster transformation of existing definitions of reality toward ones that are more sustainable. Connective art attempts to provide a 'space'—physical or conceptual—for discursive engagement, which, in many respects resembles forums used in ICZM participative decision-making; but this space can also offer certain conditions of engagement not yet fully harnessed by ICZM. I argue that these conditions may help stakeholders achieve that transformation of worldviews towards ones that are more sustainable and reflective of ICZM systems

thinking. Dieleman (2006) contends that art is particularly well positioned to stimulate such a transformation as it is, most essentially, an activity that aims both to explore and to reflect on reality; it "explores, shapes, forms, constructs, tests, and challenges images, thoughts, and definitions of reality" (Dieleman, 2006). In the course of my research I have identified seven conditions of engagement offered by connective art that I believe warrant consideration for the ICZM participation process. These include: an unconventional space, experimentation and play, creative framing of issues and questions, attendance to emotions and feelings, imaginative visioning, direct interaction with the non-human environment, and two-way dialogue between participants and the non-human environment.

5.1   An unconventional space

The interface of interaction created by connective art offers space apart from daily routines, definitions of reality, and mental models (Dieleman, 2006; Kagan, 2003). Such a space, removed from convention, offers a particular safety and freedom in which to explore new forms of reality. Kapoor (2001) writing about environmental management, and McKenna and Cooper (2006) writing about ICZM, warn that that participatory spaces that mirror those of society have the proclivity to re-inscribe existing unequal power relationships. Current ICZM participation modes of engagement—public meetings, advisory committees, neighborhood coalitions, task forces (Dalton, 2006), steering committees, topic groups, forms and questionnaires, and seminars/workshops (Edwards et al., 1997) to name a common few— are embedded in the societal frameworks of, and are products of, the very disciplinary, sectoral worldview that ICZM attempts to transcend.

Kester (2004a) writes that the latitude afforded art in our society allows it greater leeway to experiment with new spaces, distinct from those definitions and worldviews, where people may transcend the traditional hierarchical structure of everyday life and step out of societal identities. It is a space where "certain questions can be asked, certain critical analysis articulated, that would not be accepted or tolerated elsewhere" (p. 68). Kester (2004a) also references the work of WochenKlauser, an Austrian arts collective, who in their 1994-1995 project *Intervention to Aid Drug-Addicted Women* organized boat

rides on Lake Zurich which served as spaces for discussion between key figures of Zurich's political, journalistic and activist communities on the subject of drug-addicted women who were turning to prostitution to support their habit. The dialogues resulted in the creation of a *pension* for these women that offered a safe place to sleep and access to services (p. 2).

> "The collaborators in this project…were constantly called upon to speak in a definitive and contentious manner in a public space…in which dialogue was viewed as a contest of wills… But on the boat trips they were able to speak, and listen, not as delegates and representatives charged with defending a priori positions, but as individuals sharing a substantial collective knowledge of the subject at hand; at least these external forces were considerably reduced by the ritual and isolation of the boat trip itself" (Kester, 2004a, p. 111).

WochenKlauser "was able to create a physical and psychological 'frame' … setting them apart from daily conversation and allowing the participants to view dialogue not as a tool but as a process of self-transformation" (p. 111). In this same vein, connective art, in creating a space apart from conventions, could not only encourage reflective consideration of prevailing ICZM management practices and institutional frameworks, but also offer a space in which to reflect internally on ones own role in those practices and the larger world.

Examples of such spaces in connective art were the 'River Dialogues' conducted as part of the *3 Rivers 2nd Nature* (*3R2N*) project. Lead by Tim Collins and Reiko Goto, *3R2N* sought to establish an overview of the green infrastructure of the Allegheny, Monongahela, and Ohio Rivers, and 53 streams of Allegheny County, PA, U.S.A (see Appendix for more project details). The River Dialogues concerned the planning of water trails which involved planning for recreational use of water edges along the three rivers. These spaces of 'creative public-dialogue', which aimed at discovering what the community thought was important about the place, were two-day events held twice a year from 2000 to 2005. They brought together citizens, experts, planners and public officials, first in the space of a boat tour which was framed by presentations by project scientists who discussed how the riverfront was changing. The tours were followed by mediated design and discussion sessions where the goal was to

more clearly articulate how people value the rivers, what the issues are, and what the opportunities are (Collins, 2004). In Goto's (2006) words, these dialogues aimed to discover "new ways for people to speak and to see, and to find new ideas and methods for creative engagement with our place." In particular these free-of-charge boat tours were an unconventional space for interaction that helped generate fresh dialogue and creative ideas (Collins, 2004).

(Left) Along one of the *3R2N* water trails. (Right) One of the community workshops during *3R2N*.

The *Seen & Unseen* project offers another example of such a space. The project was a collaborative initiative between artists, scientists and the local community of former mining village, Quaking Houses in Durham, UK. It pulled together the diverse skills of these three groups to formulate and carry out a plan that cleaned up the heavily polluted Stanley Burn River (see Appendix for more project details). One of its spaces of dialogue was created through the medium of radio; artist Helen Smith conducted a series of interviews with local residents, trained a number of young people in information and sound technology, and helped them produce two hour-long broadcasts on Sunderland University's Radio Utopia. Smith felt that she had successfully created "a space in which there is a dialogue between people that [she could] enter into, in which they [could] listen to their stories and tell [her] their stories" (Kemp & Griffiths, 1999, p. 83). The space enabled people to "share feelings about the locality,… offered different generations a way to work together, and integrated data on the project with local narratives" (Miles, 1999, p.126).

That said, it is of course impossible for connective art to create a space entirely removed from existing societal frameworks. Kester writes, "It is the nature of dialogical projects to be impure, to represent a practical negotiation (self-reflexive but nonetheless compromised) around issues of power, identity, and difference, even as they strive toward something more" (2004a, p. 123). But even an imperfect realisation of such a space is likely to elicit a more reflective dialogue than a space that remains unreflectively within conventional forms. Additionally, the mere gesture can provide a source of inspiration and motivation for future attempts. Perhaps a more important concern is whether association with an ICZM initiative would compromise the autonomy and benefit of such a space. Heim (2005) warns of the "potential for appropriation of art by governments and institutions and the diminishing of artist's [sic] abilities to critique those institutions directives." Kester (2004a) concedes that the "space for these analyses and questions is relatively narrow and the moment they are applied to sites beyond the art world, the level of toleration diminishes rapidly" (p. 68). This is a very valid concern and it seems, highly contingent on how connective art or its conditions of engagement are structurally incorporated into ICZM participation practices.

5.2   Experimentation and play

Connective art projects often encourage an experimental approach that might be unacceptable in more traditional participation forums. Experimentation engages lateral thinking—combining things that have no logical links to each other—an approach that can produce creative, innovative solutions that might not have been realised through linear analytical thinking (Dieleman & Huisignh, 2007). New values, subjectivities, and practices are tested, and it is only through this process that we can create new definitions, realities and the opportunity for transformation (Heim, 2003; Dieleman, 2006). The experimental approach applies not only to alternative realities being tried out within the space, but also to the conditions or qualities of the space itself. In this sense the experience of participation is a rehearsal for another; the methods and ethos that created the initial event can be adapted and experimented with and applied more effectively in future forums (Heim, 2003). Collins (2004) writes about the *3R2N* project: "it is only through experimentation with its threat of failure and success that

we will find ourselves with new tools and new ideas for art-based creative change." Learning through experimentation is of particular importance when it comes to managing a dynamic environment where one's ability to forecast future events is very limited, and therefore new strategies must be continuously conceived and tried out to keep abreast of changes in the environment (Kay et al., 1999). The experimentation may also include an element of playfulness, which in addition to facilitating a suspension of reality in which to test new subjectivities, can also help generate positive mental energies and enthusiasm to engage in the complex and often intimidating issues that face the coastal zone. Playfulness can also encourage solidarity between participants and help build relationships (Dieleman & Huisingh, 2007) that in turn will increase the long-term sustainability of the ICZM initiative.

The *Ebb and Flow* project is a good example of how effective playfulness can be the learning process. The project took place in the Alde and Ore Estuary region of Suffolk, United Kingdom in 2008. A multi-stranded project that involved local artists, residents, schools, and historical societies, it aimed to "identify how the estuarine landscape changes by exploring elements of topography, archeology & social history" (SCDC & SCHU, 2009) (see Appendix for further details on *Ebb and Flow*). Several strands of the project involved workshops and activities with local school children. One involved artist Jonathan Keep who conducted several art/nature workshops in the schools and outside in the environment using natural materials. Another involved learning mapping skills and applying them to learn about the changes in the local estuary over time, and to envision possible futures. A third set of workshops were led by the Archeological Service who through hands-on activities introduced the children to excavation techniques; ancient crafts such as salt extraction, whittling, pot making, clay baking, and house building. Interviews with workshop leaders and teachers from participating schools suggest that these workshops, in particular the archaeological one were very successful in that they captured the children's imaginations, were exceptionally enjoyable, presented a welcome change from everyday classroom routines and environments, and for many children, sparked a desire to learn more. Of course the participants in this case were children and ICZM stakeholders are adults, yet I believe these workshops suggest a possible role that experimentation and playfulness could play in ICZM

participation forums in generating enthusiasm for, and a desire to learn more about the issues at hand.

(Left) Children working with Archeology Service during *Ebb and Flow* learning how to make willow structures. (Right above) Children making Roman style salt collection ceramic cones with Jonathan his installation along Sailor's Path. (Right below) Patterns made children from natural materials for a workshop led by Jonathan Keep.

Again, the appropriateness of an experimental and playful approach to the ICZM participation process is contingent on the specifics of the situation: the process is not always clear, the results are unpredictable, and there may be no productive outcome (Collins, 2004; Heim, 2003). There is an inevitable trade-off between the need for a quickly realised, if sub-optimal solution and a more extended and circuitous process that may produce a more innovative sustainable outcome. The appropriate balance for a specific project ICZM project would be contingent on such variables as urgency of the issue, time-frame, and resources, to name a few.

5.3   Creative framing of issues and questions

Key in determining the trajectory of a dialogue are how the issues and questions are framed. Werner Karl Heisenberg's (1962) famously wrote that, "what we observe is not nature itself, but nature exposed to our method of questioning." Environmental management stakeholder participation best practice literature suggests that the issues and questions, established by stakeholders through the participation process, should strive to articulate, clear objectives (Reed, 2008), a clear strategy (King, 2003), and

should focus on specific goals (Stojanovic & Ballinger, 2009). But this heavy emphasis on clarity risks reductive simplification of the issues and rigid framing of the questions, which may prematurely limit the scope of discourse and constrain the evolving of creative and innovative responses—a process the Harrisons term 'conversational drift' (Heim, 2003). Incorporation of connective art practice, with its ethos of expansive dialogue, into ICZM participation practice, may help achieve a more optimal balance.

Greenhouse Britain: Losing ground, gaining wisdom, offers a good example of how recasting an issue can generate greater reflexivity. The exhibition which began touring in 2007 (see Appendix for more project details) was organized by Newton and Helen Mayer Harrison, David Haley, Christopher Fremantle, and Gabriel Harrison, with a remit from the UK Department for Environment, Food and Rural Affairs (DEFRA) and the Climate Change Fund. It proposes an alternate narrative on how people might withdraw as sea levels rise; what new forms of settlement might look like; what content, or properties a new cultural landscape might have; and demonstrates how a city at risk might be defended. One example of how they reframed the issue was to replace the term 'development' with 'settlement'. In their online exhibition in the section "On The Upward Movement of People" they write:

> "Deciding To replace the term "development"
> with the term "settlement" For us
> it is a metaphorical flip an aide to thinking and thereafter to designing
>
> The differences between settlement and development
> are profound The term "settlement"
> has embedded in it the idea of habitat for ourselves
> and of habitat or niches for other living creatures
>
> Then you said or I said the metaphorical shift
> between development design and settlement design
> becomes visible at its simplest level
> in selecting an appropriate site
> and then tuning settlement to the carrying capacity of the terrain" (Harrison Studio, n.d.)

They are acutely aware of how terminology can effect the way an issue is thought about and resolved. The project transforms also our perspective by reframing the very concept of sea level rise by changing the question: "The oceans will rise gracefully. Can we withdraw with equal grace?" Instead of being seen as a threat, sea level rise is presented as an expression of the natural rhythm of a world in continual flux, and our response to such flux, a precious opportunity for personal transformation (Harrison Studio and Associates, 2007).
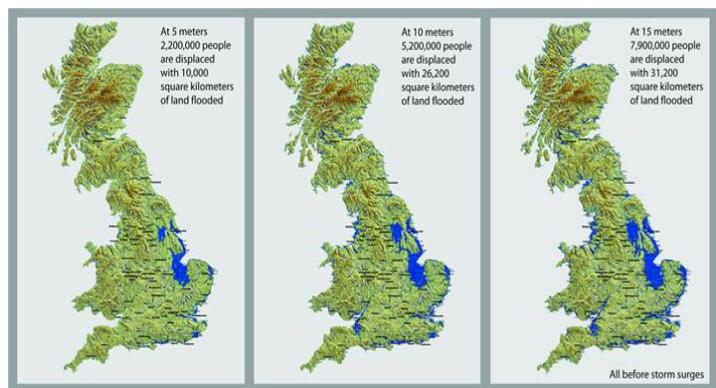
(Left) The Harrisons (second and fourth from the left) inspecting one of the maps for the exhibition. (Right) Maps showing 5m, 10m and 15m sea level rise scenarios and its effect on Britain.

The balance between being focused enough to motivate and direct energies, and expansive enough to avoid predetermined answers is a delicate one that shifts with each specific situation, and I do not wish to suggest that a wide-ranging exploratory dialogue is appropriate in all circumstances. There are certainly ICZM scenarios when, for example, the urgency of an issue, a short-term project frame and/or limited funds require clear aims and a strict strategy (McKenna & Cooper, 2006), and where incorporation of connective art practices would be inappropriate and potentially harmful. Too loose a focus can also undermine the impact of an art project. The *Ebb and Flow* project for example may have suffered from a perhaps too expansive objective of exploring "the rich history and heritage of life along the Alde and Ore and to involve the local community in its work" (SCDC & SCHU, n.d.). I believe this vagueness of objective made it difficult to integrate the different strand of the project.

Indeed many of the participants were entirely unaware of the existence of other projects aside from the one they were personally involved in, and most only had a vague idea of the scope of *Ebb and Flow* (interview with Mike Challis, October 8, 2009; interview with Lawrence Edwards, October 2, 2009; interview with Chris Gallagher, October 14, 2009; interview with Jonathan Keep, October 4, 2009; interview with Nick Sinclair, October 9, 2009; interview with Angela Skinner, October 22, 2009; interview with Juliana Vandergrift, October 1, 2009). More focused goals and questions may have encouraged greater collaborative creativity and momentum, and increased public and media interest and backing, which was significantly less than was hoped for (interview with Mike Challis, October 8, 2009; interview with Fran Crowe, October 22, 2009; interview with Chris Gallagher, October 14, 2009; interview with Jonathan Keep, October 4, 2009; interview with Bill Parker, September 30, 2009; interview with Nick Sinclair, October 9, 2009; interview with Angela Skinner, October 22, 2009; interview with Juliana Vandergrift, October 1, 2009).

5.4   Emotion and feelings

Connective art is more likely to recognise the importance of emotion and feelings and is very well positioned to touch on it (Dieleman, 2006). Current ICZM participation literature has not focused very much on the importance of emotion in the decision-making process, with the exception of warning that deep emotional involvement of stakeholders can hamper productive dialogue (Fisheries and Oceans Canada, 2005). Yet emotions often run high in ICZM participation forums (Dalton, 2006; Glicken, 2000); the mounting problems created by historical mismanagement of the coastal zone combined with the impending threat of climate change and sea level rise, suggest that certain management decisions must be taken, which threaten significant changes in the lifestyles and livelihoods of stakeholders. Confronting such issues can invoke very strong emotions of anger, sadness and fear (Smith, 2004). Emotions are often a signal that powerful underlying values are at stake (Vining & Tyler, 1999) and as the stakes increase the weight of emotions in the decision-making process also increases, and the influence of more analytical cognitive reasoning or scientific reasoning decreases (Wilson, 2008). Vining and Tyler (1999) in a study looking at public responses to forest management

plans in Hoosier National Forest, Indiana, USA, recognise that "rational management culture" and "societal norms that discredit emotion" set up "[b]arriers to the recognition and understanding of emotion."

Furthermore, emotions play a vital role in learning—the fundamental process in transforming one's mental models of the world. A person's routines are primarily linked to action and emotions, much more so than thinking, suggesting that harnessing emotions may help facilitate personal behaviour changes towards ones that are more sustainable (Dieleman, 2006). Also, triggering emotions during the process of learning helps in memory retention of what was learnt during the experience of that emotion (Lackney, n.d.). In the ICZM participation process this might mean more efficient learning of, for example, skills for engaging in an open and discursive dialogue, or better retention of the information and perspectives expressed by other participating stakeholders. Such skills and knowledge would help participants better engage in future participatory events and thereby propel the process toward ever more sustainable outcomes. While certain emotions are conducive to learning, others impede it. For example, fear has been shown to constrain people's ability to learn, while a feeling of safety has been shown to foster it (Lackney, n.d.).

Ill-equipped as we are in understanding complex systems on an intellectual level, we are capable of apprehending and experiencing them on an emotional and intuitive level (Dieleman & Huisingh, 2007; Vining & Tyler, 1999). For example, we can experience the totality of exhilaration evoked by the experience of the sea air, the swooping and soaring of sea gulls, the sand beneath our feet and the immensity of the ocean. Emotions allow us to acknowledge that the added value of the experience lies not in the individual elements but in their interactions with each other and with us (Dieleman & Huisingh, 2007). In harnessing emotion in this way, we can better shift our mental models toward one that is more in line with systems thinking and therefore toward one that is more sustainable. In a final point regarding the process of learning, systems thinking, in understanding reality as an inseparable network of relationships "implies that epistemology…has to be included explicitly in the description of

natural phenomena." As Capra eloquently put it, "what we call a tree depends on our perceptions" (p. 40). Our understanding of reality is no longer objective but recognised to be subjective, a realm in which emotion and feelings play significant roles.

From a more pragmatic perspective, emotional involvement of stakeholders in the issues is essential to ensure their long-term commitment to an ICZM project (McKenna & Cooper, 2006). Art deals in the realm of the non-rational—or in Dieleman's (2001) words the 'beyond rational'—aspects of life like emotions and feelings. It is therefore uniquely positioned to help people deal with negative, non-productive emotions and help people feel confident in their abilities to face the challenges (Bachmann, 2008) such as those confronted in coastal management; and it can harness and inspire emotions that will further facilitate the learning process that lies at the core of ICZM participation. Thus proper attendance to emotions and feelings—ones own and those of other stakeholders—can reveal underlying values and lead to deeper more productive dialogue particularly on issues where conflicting interests exist.

5.5   Imaginative visioning

Connective art often employs the imaginative, a capacity not fully appreciated in current ICZM participation practices. While ICZM and environmental management literature acknowledges the need of a unifying vision when planning for the future of a coastal zone (King, 2003; Reed, 2008), I can find no mention of the importance of imagining in the formation of this vision. Yet the process is central to generating new ways of conceiving coastal issues and discovering new solutions. It is especially relevant in light of the inherent unpredictability of the coastal and marine ecosystem, which greatly limits the applicability of traditional reductionist science and expert predictions. Instead, "narratives about possible futures…are better able to capture the richness of possibilities" (Kay et al., 1999). Rather than smooth over the complexity and uncertainties with over-simplified narratives, art is well-equipped to explore that complexity, and in doing so, help us become more comfortable with chaos. In discussing how imagination functions in art, Heim (2003) cites Paul Ricoeur who describes imagination

as the "luminous clearing" in which we may consider motives and desires, make ethical judgements on the best course of action, and formulate new ideas. It is only in that space between what is and what should be that the possibility of transformation and practical action arises. Without imagination there can be no action. On a social level, intersubjective interaction with others produces a 'social imaginary' and the shared creation of the potential for action. Imagination can also work on a private level in the form of self-reflection by way of 'empathetic insight' into the positions of others. Kester writes,

> "We seem to have largely lost the capacity for empathy, for imaging ourselves (or our circumstances) as different from who we are (or what they are). This identification can never be complete—we can never claim to fully I inhabit the other's subject position; but we can imagine it, and this imagination, this approximation, can radically alter our sense of who we are" (Kester, 2004a, p. 115).

Applied to ICZM participation, connective art through its embrace of the imaginative, can encourage expansive reflexivity regarding our mental models of the world and our very selves, resulting in visions for the future and solutions to management problems that are more creative, innovative and thus potentially more sustainable.

Greenhouse Britain for example embraces imaginative visioning in its proposals of an alternate narrative and futures in the event of sea level rise. Instead of seeing the issue of climate change as a threat, they transform it into an exciting opportunity by imagining a compelling and positive future. Not only did they themselves engage in imagining, but it seems they were able to inspire it in others. People involved in the project development found the experience, "positive, illuminating, thought-provoking, reassuring, and optimistic," and there seemed to be a change towards, "being able to look at the future, know the situation…and take action with might be culturally and environmentally sustaining." They also reported, "an appreciation of what this kind of process of 'art' can achieve in providing the context, the time and space for imagining possible futures, for rehearsing what may happen". The response of exhibition attendees was somewhat more mixed, but the maps of imagined future scenarios in

particular seemed to elicit "leaps of imagination." That said, there were also many for whom the exhibition did not capture their imagination and who found it too corporate and impenetrable, but these responses were limited to visitors to the exhibition and not those who worked in collaboration to actualize the exhibition (Heim, 2008).

5.6   Physical interaction with non-human environment

Connective art practice, unlike most ICZM participation practices, opens up the opportunity to engage directly with the non-human environment. While the benefits to productive dialogue of face-to-face interaction between stakeholders is acknowledged by ICZM participation best practice literature, direct interaction between stakeholders and the non-human environment, remains largely neglected; this despite the fact that the leading source of unsustainability in the coastal zone is that development is not kept within the limits of the local environmental carrying capacity (CEC, 2000). For example stakeholders often want to 'control' the coastal environment and keep it static. This thinking reveals a lack of understanding of the processes, complexity and dynamics of the coastal environment, and the limits that these place on options for an environmental response (CEC, 2000; Treby & Clark, 2004).

Although ICZM participation forums generally include stakeholders such as scientists and conservation organisations who can present an environmentally sustainable understanding of the coastal dynamics, that knowledge often does not effectively transfer to other stakeholders or the final decisions (Stojanovic & Ballinger, 2009). One reason may be that current ICZM participation practices rely almost exclusively on knowledge transfer through comprehension (involving linear, rational and analytical thinking, and conceptual interpretation and symbolic representation), with little use of direct apprehension (which relies on lateral thinking, intuition, feeling, emotion and insight, and involves tangible and felt qualities taken in through the senses) (Dieleman & Huisingh, 2006), an equally important mode of learning (Fazey et al., 2005; Lackney, n.d.). Psychological studies show that even short periods of phenomenal immersion in non-human nature facilitates greater valuing of pro-social and less self-focused values and value-laden behaviour. People become more generous, willing to

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promote others' interests as well as one's own, and place greater value on community and relationships (Weinstein, Prybylski & Ryan, 2009). Tim Ingold in *The Perception of the Environment* (2000) drawing on the phenomenological writings of Gregory Bateson, writes:

"… information, in itself, is not knowledge, nor do we become any more knowledgeable through its accumulation. Our knowledgeability consists, rather in the capacity to situate such information, and understand its meaning, within the context of a direct perceptual engagement with our environments. And we develop this capacity, I contend, by having things *shown* to us." (Ingold, 2000, p. 21).

Accumulation of information does not constitute knowledge. Instead we learn by contextualising information, and this, Ingold argues, occurs through direct bodily and perceptual engagement. To have something shown to us is to have it "be seen or otherwise experienced" (p. 21). This is similar in thinking to systems theory where things can only be understood in context, and where knowledge consists of multiple subjectivities, yet there is the added call for corporeal engagement with our surroundings. Connective aesthetics then, in creating occasions of perceptual, facilitated, and active engagement could help stakeholders in the ICZM participation process better understand the dynamics of the coastal environment that they are seeking to manage, and thereby lead them to decisions that are more sustainable.

The boat rides offered as part of the River Dialogues in *3R2N*, not only provided an unconventional space for dialogue to occur, but also offered many people their first chance to, "reverse the land-water viewpoint" and gain direct experience in the environment they intended to manage (Collins, 2004). Importantly, these trips were staffed with teams of experts, planners, and community facilitators who helped facilitate the dialogue about the particular river being toured. What emerged from these discussions and the open design sessions that immediately followed them was then fed then into the plans for the water trails (Collins & Goto, 2004). Citing her own experience in Nine Mile Run (1994), a previous art project that sought to clean up a polluted stream in Pittsburgh, PA, USA, Goto describes a

visit to natural park lead by a biology professor that aimed to explain the importance of certain crustaceans in indicating and maintaining water quality:

> "I am in a forest with many people. We are moving in a consistent direction, led by someone but there is no way for me to see the trail in front of us. I feel the warmness of someone's hand in my own hand and the kindness of someone's voice who occasionally guides us. … After the experience, even though I am not an expert, my values have changed – I care deeply." (Goto, 2007)

Yet in the context of the ICZM participation process, how realistic is it really to have participants directly engaging with coastal and marine environment? Again, the project's time and resource constraints are a deciding factor. Also, it is important to be sensitive to the fact that stakeholders are voluntarily giving up their time, and that adding significant time commitment may weaken their support of the initiative. That said, in the River Dialogues example, the discussion and learning that would have occurred in traditional settings, took place, arguably more effectively, during the course of an activity that placed participants in direct interaction with the environment being managed. Finally, again, the benefits to ICZM are very much dependent on the specific context; for example certain ICZM participation forums may be largely made up of participants whose daily activities already place them in intimate interaction with the environment and who would have little further to gain from ICZM mediated activities that foster the like.

5.7   Dialogue with the non-human environment

Many connective art projects that concern the environment stress the need for a two-way interchange between participants and the non-human environment. Such projects tend to understand every facet of our lived environment as sensate, responsive, and expressive, challenging the commonly held notion of nature as a mute and unresponsive stage, "where artefacts and the landscape take the place, respectively, of properties and scenery" (Ingold, 2006) and serve as mere background to human social concerns (Heim, 2005). One could argue that the ICZM philosophy, despite being based on systems thinking principles is still highly anthropocentric. For example, the Law of the Sea, that prefigured the

development of ICZM, views the wealth of the deep sea as a 'resource' whose worth is measured solely by its value to 'mankind.' Also, commonly cited definitions of sustainability make explicit the need to consider the ability of 'future generations to meet their own needs' yet these 'future generations' refer only to generations of humans with no acknowledgement of the rights of future generations of non-human organisms. From a systems perspective there are different systems levels in every system—different frames of reference—none of which are more fundamental than any other. Thus to have a singular anthropocentric focus would be to miss the bigger picture. David Abram (1996) influenced by the philosophy of Maurice Merleau-Ponty, Gaia theory, and the growing field of ecopsychology, writes that our abilities of sensual perception, render *all* phenomenon animate, and potentially expressive: "at the most primordial level of sensuous, bodily experience, we find ourselves in an expressive, gesturing landscape, in a world that *speaks*" (p. 81). He writes, "If the surroundings are experienced as sensate, attentive, and watchful, then I must take care that my actions are mindful and respectful, even when I am far from other humans, lest I offend the watchful land itself" (p. 69). In other words, if we understand all aspects of our environment as we understand ourselves, this movement beyond anthropocentrism may well lead us to act in more environmentally sustainable ways. If we begin to understand the non-human environment on equal footing with ourselves in the context of ICZM, the coastal and marine environment becomes something akin to another participating stakeholder.

If we accept the non-human environment as another stakeholder, there is an imperative to enter into a two-way dialogue with it. The physicist and philosopher F. David Peat (2006), quotes Goethe who "argued that rather than subjecting nature to artificial situations in the laboratory we should indulge in a two-way dialogue. When this is done, nature will provide us with 'the example worth a thousand.'" Capra, writing from the perspective of systems theory, voices this same need for dialogue with the non-human environment:

> "Instead of being a machine, nature at large turns out to be more like human nature—
> unpredictable, sensitive to the surrounding world, influenced by small fluctuations. Accordingly,
> the appropriate way of approaching nature to learn about her complexity and beauty is not

through domination and control, but through respect, cooperation, and dialogue" (Capra, 1996, p. 193).

As argued by Treby and Clark (2004), ICZM stakeholders are given to understanding the coastal and marine environment as something to be controlled; as something static to be acted upon. Connective art, by infusing the participation processes with the notion that the environment can be engaged in discursive dialogue, can encourage a more considered, ethical and arguably more sustainable approach to management problems.

3R2N is a good example of an art project that embraced the idea of a two-way exchange and learning with the environment. Goto writes that her art practice essentially involves two actions: "one is to ask nature, and the other is to enter into a community of nature, to seek its support with other people." The concept of a dialogical exchange with the non-human environment infuses the entirety of the *3R2N* project. For example, the River Dialogues are described as aiming to provide a space where experts helped the project participants, "understand what questions to ask of nature" and citizens helped participants, "understand why we should ask these questions." Kester (2004b), writing about the Harrisons says their projects view non-human nature, "not as something to be mastered, transformed, or turned to our advantage, but as an interlocutor and agent speaking to us in a language we are not always prepared to understand." Importantly, Kester goes on to point out that there is a fundamental synchronicity between their collaborative, process-based approach to projects, and the ethical relationship to the non-human environment embodied by those projects.

6. CONCLUSION

Throughout its history of development, environmental management stakeholder participation has incorporated lessons from other disciplines. In the 1960s environmental management participation consisted primarily of awareness raising while the 1970s saw incorporation of local knowledge in data collection and planning, and development of techniques that elevated the status of local knowledge. In

the 1990s there was increased use of participation as a standard in sustainable development initiatives, and evaluation and critique of participation and disillusionment over its shortcomings and failures. Today we have reached a loose consensus over best practice. These developments represent the inclusion of a multiplicity of ideas drawn from disciplines as diverse as social activism, adult education, applied anthropology, and complex systems, to name a few (Reed, 2008). I would argue that ICZM, in keeping with its ethos of holism, transdisciplinarity, and adaptability would do well to consider what might be learned from the connective art practices.

This thesis began with an argument by Treby and Clark (2004) that the ICZM multistakeholder participation process was not fulfilling its goal of sustainable and holistic management as stakeholders did not enter the process with a sustainable worldview, nor did they acquire such a worldview in the process of engagement. A brief description of the development of ICZM as a discipline, its concept of sustainability, its systems thinking principles, and a discussion of the multi-stakeholder participation process, suggested that ICZM stakeholders, like many of us brought up in the west, maintain a reductionist, Cartesian view of reality at odds with a systems or ecosystems view of the world. Furthermore, traditional forms of ICZM stakeholder participation, in being embedded in and products of the very worldview ICZM is trying to transcend, have been largely unsuccessful in inducing the reflexive consideration of self and world needed to undergo such a fundamental transformation one's definition of reality. I then introduced the possibility of a solution through the incorporation of connective art practices into the participation process. Before launching into an argument about what contributions it might offer, I stepped back to briefly outline the development of connective aesthetics, to discuss its terminology, and—through the writings of Gablik, Kester, and Bishop—to touch on its somewhat marginal place in art world. Unlike traditional notions of what art is and what it can do, connective aesthetics is interested in the creation of relationships; process over product; two-way information flow (verbal or otherwise); direct physical engagement with communities and non-human environments; transdisciplinary collaboration; collective production of meaning and knowledge; and ethical intent, directly or through vision, to effect positive change.

I lined up the two practices, ICZM multistakholder participation and connective art practice to point out the striking similarities in their underlying principles, and to show that a complementary or even interchangeable relationship between ICZM participation practices and connective art is not as far-fetched as may first seem. These similarities include an emphasis on process over outcome, empowerment, power equity, two-way flow of information, integration of disciplines, direct interaction between stakeholders, collective authorship and ownership, long-term commitment, a clear issue of focus, and skilled facilitation. I then turned to consider the conditions frequently fostered within connective art spaces, which are not commonly encouraged in current ICZM participation practices, and to suggest that applying such condition in the ICZM context may help catalyze deeper examination by stakeholders of their existing worldviews and their roles within those worldviews. These conditions include an unconventional space, experimentation and play, creative framing of the issues and questions, attendance to emotions and feelings, imaginative visioning, physical interaction with the non-human environment, and dialogue with the non-human environment. Introducing such qualities to a space of engagement in the context of coastal zone management has the potential to generate collective knowledge and definitions of reality that are more in keeping with a systems understanding of reality and to lead stakeholders to reach decisions regarding management of the coastal zone that are more in line with ICZM's goals of holism and sustainability.

I certainly do not propose connective art practice as a panacea that will ensure the sustainability of ICZM participation outcomes; rather I propose it as simply another path. At one end of the continuum, it might be entirely inappropriate to involve art practice, while at the other end it may replace traditional ICZM participation practices altogether. Although introduction of connective art practice into ICZM participation appears to offer potential benefits, application of such conditions of engagement is unlikely to be problem-free. A major impediment is likely to be a project's shortage of time, funding, and human resources—a context in which immediate solutions with easily measurable results may be needed. Treby & Clark (2004) make the point that "participation should be a flexible

management tool, capable of being tailored to the task at hand" and likewise "tailored to the needs and interests of stakeholders" (Kapoor, 2001). Clearly, as with any other 'tool' in ICZM, it is only as good as its applicability to the geographic, economic, political, social, and cultural context of the project. Further Heim (2005) suggests that when "working methods—such as negotiation or collaboration" are transferred "from one context … to another" there should be serious consideration "of the values and conditions in which those methods arose." This suggests further research as to what kinds of ICZM projects might most benefit from introduction of connective art practice, as well as what problems might arise in transplanting working methods generated in the art world into the context of ICZM. Related to this point is the need to recognize that paradigm shifts do not happen overnight. Gablik (1991) writes that changes to the present system that she envisages in *The Reenchantment of Art* will not happen quickly: "The status quo is deeply entrenched, and no new paradigm will suddenly eliminate the present order" (p. 181). Kester (2004a) in discussing personal transformation writes, "we need to understand how identity can change over time—not through some instantaneous thunderclap of insight but through a more subtle, and no doubt imperfect, process of collectively generated and cumulatively experienced transformation passing through phases of coherence, vulnerability, dissolution, and recoherence" (p. 123). On both a societal and personal level, transformation is a gradual process and unlikely to occur in one stakeholder participation session and perhaps not even during a full loop an ICZM management cycle. Yet the more long-term, and genuinely iterative the ICZM projects are, the greater the potential for the participation process to become the transformative experience it promises to be.

For the most part I have limited my discussion to the conditions of the participation process, yet according to systems theory, the initial conditions of a system have great bearing on its trajectory. I have touched on this briefly in discussing the use of stakeholder analysis in ICZM, but perhaps there is a need to look even beyond that to the social, political, economic and cultural setting from which the impetus for the ICZM initiative emerged. How these initial conditions or the 'invitation' to engage affect the outcome of the process, could be an interesting line of inquiry. I have also refrained from

offering any practical suggestions of how connective aesthetics might be structurally integrated into the existing framework of ICZM. ICZM projects differ so greatly on every level that anything approaching an answer could probably only emerge following a number of trial and error attempts. Finally, should we at first find the application of connective aesthetic conditions of engagement inappropriate to a certain ICZM project, it seems valuable to ask why. Should that answer lie in a lack of supporting institutional structures and organizational culture, it is worth considering if these require changing. On that note, I concluded with a quote from Hildegard Kurt (2006): "More than ever before, spaces have to be created on the frontiers between art and the various spheres of life that can host, for long periods and at the same time, experimental artistic, scientific, and social work in the name of a sustainable modernity."

7.   REFERENCES

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8.   APPENDIX: CASE STUDIES

8.1   3 Rivers 2nd Nature (3R2N)

This five-year project (2000-2005) was headed by Tim Collins, director, Reiko Goto, creative director, Noel Hefele, Research Associate. The team was comprised of artists, architects and historians from Carnegie Mellon University, scientists and landscape architects from private practice, Scientists and engineers from 3 Rivers Wet Weather Inc, ALCOSAN, and the Allegheny County Health Department. *3R2N* was a project of the STUDIO for Creative Inquiry, at the College of Fine Arts at Carnegie Mellon University. It aimed to address the meaning, form and function of the Allegheny, Monongahela, and Ohio Rivers, and 53 streams of Allegheny County, Western Pennsylvania, U.S.A. Funding for *3R2N* is provided by the Heinz Foundation, The Warhol Foundation, the Pittsburgh Foundation and other sources (Collins & Goto, n.d).

The project aimed to understand the green infrastructure that provides social, aesthetic, ecological and economic benefit to the region; to identify opportunities for ecological restoration; to understand the history and the basis for cultural restoration; and to conduct public dialogue on the potential of the three preceding objectives. They focused on water quality, the value of nature in urban areas, community engagement, and public realm access and use. The work was guided by three questions: Can artists working as cultural agents affect the public policies and private economic programs, which mark and define urban places and ecosystems? Given the issues of scale, the power of private interests and the state both invested in the development/growth model, can the artist develop a public realm advocacy that expands the creative act beyond the authorship of the artist? And finally, can (and should) artists seek to create verifiable social change? (STUDIO for Creative Inquiry, n.d.) They were interested in experience, dialogue, mutual values and diverse visions, and real examples about culture, nature and place. Community participation was essential to the process (Goto, 2006). Aesthetics was chosen as the tool of engagement as the situation demanded, "discourse (rather than scientific truth alone) as the means of establishing value." The premise was that human value is the sum of experience

in relationship to perception and conceptualization. The ultimate goal was "transformation through discourse" (Collins & Goto, n.d).

A primary component of *3R2N* were the 'River Dialogues' to plan recreational water trails along the three rivers. These were two-day events held twice a year for the five years of the project. They comprised of boat tours that were open to the public and framed by presentations by experts and environmental organizations that discussed how the three river might change, and were followed by three to four hour design charettes where participants, guided by facilitators record in greater clarity what they find important about the ares, what they think the major concerns are, and what they believe the opportunities are. This information was then brought back to the STUDIO for Creative Inquiry where the artists worked with non-profit advisors to develop a concept plan and document. Project partners and municipal interests were then charged with final publication and application of the concept plan to begin final design. *3R2N* also included two conferences and a final exhibition (Collins, 2004). The 3-day Monongahela Conference I (October 2003) assembled a group of artists including Helena and Newton Harrison, and Platform to talk with theorists such as Suzi Gablik and Grant Kester. It involved two public lectures and two community meetings. The month-long Monongahela Conference II (June 2004) was an art/design residency involving seven artists from outside the region and five artists from the greater Pittsburg area, working in three communities in the Monongahela Valley. It was based on the belief that, "art and creative vision have the power to affect traditional political procedures by welcoming the ideas and participation of every citizen. Each Friday a project dinner was hosted followed by a public lecture-discussion. All the elements came together in the Groundworks exhibition (fall 2005) curated by Grant Kester and Patrick Deegan. It was an international overview of artwork that engages issues of society and environment through art, planning and design, and its intention was to initiate a dialogue about the role of the artist in society, particularly those artists with intent to change, and to elicit dialogue on scale, impact and efficacy (Goto, 2006). Project outcomes include compilation of a vast amount of geographically referenced data on the ecosystem health of the Allegheny County River Corridor which is posted for public use as raw

databases on the 3R2N website (http://3r2n.collinsandgoto.com/databases/index.htm). It also produced a number of reports that attempt to find ways to revalue the river system as an asset for Allegheny County and its ecological citizens, rather than valuing it as an extractable resource for industry. I was however unable to find any information on the public reception and response to the work, or any independent evaluation of it.

8.2   Seen & Unseen

Seen & Unseen was a community level, art/science cross-disciplinary project, that used anaerobic passive water treatment via an artificial wetland, to clean up the heavily polluted Stanley Burn river in Quaking Houses, Durham. The project was a collaboration between members of community of Quaking Houses; Terry Jeffrey and Diane Richardson from Quaking Houses Environmental Trust (QHET); Lucy Milton and Jozefa Rogocki from the Artist's Agency, Helix Arts; and Paul Younger and Adam Jarvis, scientists from the Civil Engineering Department of Newcastle University. Funding for the feasibility study was provided by Newcastle University's Civil Engineering Department and NRA. Funding for *Seen & Unseen* was provided by Northumbrian Water's Kick-Start Scheme, Pairing Scheme, Northern Arts, The Arts Council, Shell Better Britain, The Rural Development Commission, The Gulbenkian Foundation and English Nature (now Natural England). The project received the 1995 Environment Award for the pilot wetland and the 1998 Henry Ford Award European Conservation ward.

The larger aim of *Seen & Unseen*, according to Milton, was to "set up opportunities to demonstrate and publicise how communities could work in partnership with artists and scientists to develop creative solutions to the protection, restoration and development of their environment [and] tackle their own pollution problems." The project grew out of an effort by Quaking Houses, a former mining village, to clean up the Stanley Burn whose waters were heavily polluted, primarily as a result of run-off from the Morrison Busty colliery spoil tip sunk in the 1920s. Continuous complaints to government agencies fell on deaf ears. It was not until a Durham County Council meeting in 1994 where Diane Richardson of

QHET met Paul Younger, a scientist who had written a paper on mine pollution using Quaking Houses as an example, that the idea of using a wetland began to evolve. Through a partnership between QHET and Younger, a pilot wetland, Gavinswelly, was developed and proved very successful. The Artists' Agency (now Helix Arts) was then brought on board; Lucy Milton, had independently been developing an idea for a collaborative, interdisciplinary project using water pollution as a focal point. A support group of representatives from the community, QHET, the Newcastle scientists, and the Artists' Agency formed and chose artist-in-residence, Jamie McCullough. However following initial research, he resigned from the position and was replaced by Helen Smith who began work in January 1997.

Smith worked with the community and scientists to the design of the wetland, and a wheelchair accessible walkway to access it. She also instigated dialogue amongst local people by recording interviews with residents and training a number of young people in information and sound technology and helped them produce two hour-long broadcasts on Sunderland University's Radio Utopia. This developed into listening posts that transmitted facts on water purification, material from the radio broadcasts and other recordings with local residents. An exhibition at the Hancock Museum in Newcastle in 1998 featured a desk by Smith augmented with interactive audio-visual equipment exploring various aspects of the *Seen & Unseen* project. Lee Dalby who joined in 1999, created small-scale willow sculptures and worked with young people in basket-making workshops. He also created a fossil-like form of willow in the wetland, referencing the coalfield lying below the wetland. It was the coalfield, once a forest, that was mined and which caused the pollution, which the wetland now cleanses. Dalby also made works from living willow that are maintained by local residents. Paul Younger, Professor John Cram, and digital artists Joel Mills and Nigel Wade worked with young people from Oxhill Youth Club to create computer animations explaining the historical development of the site, and the scientific processes at work.

Seen & Unseen has developed beyond just the wetland project. Its legacy includes a project website, www.seen-unseen.com; learning and information resources (publication about the wetland, display

panels, video and CD ROM, and virtual reality model); an International conference hosted in 1999 by Helix Arts and the University of Teesside which brought together collaborative projects from the UK, Europe and USA to serve as models for discussion; a collaborative forum in Skinningrove Village, East Cleveland; and Climate Change Explorer, a web-based, (www.climatechangeexplorer.co.uk) "long term, international, environmental arts education project that explores the artistic potential of scientific data and to raise awareness to facilitate learning and actions on climate change" (Kemp & Griffiths, 1999; Miles, 1999; Seen & Unseen, n.d.).

8.3   Greenhouse Britain

Greenhouse Britain: Losing ground, gaining wisdom, was conceived by Newton and Helen Mayer Harrison/Harrison Studio; David Haley, Associate Artist; Christopher Fremantle, Producer; and Gabriel Harrison, Designer. It bean touring November 2007 and was exhibited in various cities in the United Kingdom, and in New York. It also exists online as a virtual exhibition. The project proposes an alternate narrative on how people might withdraw as sea levels rise; what new forms of settlement might look like; what content, or properties a new cultural landscape might have; and demonstrates how a city at risk might be defended. DEFRA funded its production and a Bright Sparks grant funded research on the Lea Valley. Bright Sparks is run by Landscape+Network Services (LANS), an arts and the environment project based at Gunpowder Park in Lee Valley, and is funded by Arts Council England, Hertfordshire County Council, Knowledge East and Lee Valley Regional Park Authority (Harrison Studio, n.d.).

The remit by DEFRA and the Climate Change Fund was to change public perceptions of climate change, and to bring about an "attitudinal shift" broadly in line with the policy directive outlined in the Climate Challenge Fund brief. In the Harrisons' words, the exhibition is designed to, "enlarge, deepen and clarify the emerging global warming discourse in Great Britain." They chose to see rising sea levels as an opportunity for transformation, and the ocean's boundary as a continuously evolving, and transforming frontier. The core question they ask is: "The oceans will rise gracefully. Can we withdraw

with equal grace?" (Harrison Studio and Associates, 2007)

The exhibition consisted of several parts: (1) a precise topographical model of Britain with projectors above it showing rising waters, storm surges and waters retreating, synchronized with a three-voice, 10 minute narration; (2) text and image with a proposal for the Lea Valley drain basin suggesting how people might withdraw and what they might withdraw into, were waters to rise up the Thames and Lea Valley River basins; (3) a landscape/village design for villages in the Pennine region that creates a carbon-sequestering environment in response to rising sea levels; (4) and a large image projected on the wall showing the city of Bristol and the Avon gorge, as waters rise in which, at first, a dam protects the city, but as the waters rise further the Avon River is diverted into a new place in the Severn estuary saving Bristol from flooding (Harrison Studio, n.d.).

A DEFRA evaluation of the project, by Wallace Heim, reports that on the whole, the public found the project, "positive, illuminating, thought-provoking, reassuring, and optimistic while recognizing the reality and its consequences for the future as presented by scientific findings and observational evidence." It generated "thoughts on how to respond, the need to make decisions collectively and politically," and there was a change towards, "being able to look at the future, know the situation…and take action with might be culturally and environmentally sustaining." The most positive responses came from people who were involved in the development of the project, who found the experience, "inspirational, challenging, educative, liberating." With respect to its remit, it was effective in changing attitudes towards how plans for adaptation might be made, and offers the public "a potential vision not entertained by short-term messages, and show[s] that there may be ways of adapting to possible futures which will be radical, and could be life-sustaining." The strongest recommendation on how to improve the experience was to have more occasions where members of the public, or groups of people could talk about and enter a dialogue about and with the exhibition, thereby increasing the time spent with the installation and opening up new ideas and perceptions. There was also criticism of some of the artistic methods of the exhibition; and of the proposals presented as to their feasibility, the technology involved and their sensitivity to British culture (Heim, 2008).

8.4   Ebb and Flow Project

The *Ebb and Flow* project was a multi-stranded project organized by Suffolk Coastal ARTS and the Suffolk Coast and Heaths Unit. It centered on the Alde and Ore estuary region in Suffolk, UK and aimed to revisit the history of the region and identify how it has changed. Funding came from Heritage Lottery Fund, Natural England, Suffolk Coastal District Council, Suffolk Coast and Heaths Unit, the AONB Sustainable Development Fund, and the Aldeburgh and District Local History Society. The overriding goal of the project was to explore the rich history and heritage of life along the rivers Alde and Ore and to involve the local community in its work (Ebb and Flow, n.d.). To this end it sough to engage people through activities in various disciplines such as visual and sound art, map-making, archaeology and social history. Conceived as a precursor to Alde and Ore Futures, a pilot ICZM project for the Alde and Ore estuary region, the thinking was that the history of the area had to be understood before a vision of the future could be created. Significantly, Bill Parker, formerly employed by SCHU, and who played a leading role in conceiving of and organising *Ebb and Flow* is now the leading officer for the Alde and Ore Future ICZM pilot project.

My research on *Ebb and Flow* consisted of a number of formal interviews and informal communication with participants and organisers of the project and local artists and people involved in Alde and Ore Futures ICZM pilot project. Other information on *Ebb and Flow* was acquired through two websites (SCDC & SCHU, 2009; SCDC & SCHU, n.d.) and project documentation provided by Bill Parker, formerly of SCHU and lead figure in the formulation and organisation of *Ebb and Flow,* now the leading officer of Alde and Ore Futures ICZM pilot project. Importantly though, there were several key people whom for logistical reasons I was unable to interview. Among these are Theo Clarke and Rachael Nightingale, the two leading organisers of *Ebb and Flow*, who did not respond to my repeated efforts at contacting them. These missing perspectives represent significant holes in the research and thus I cannot soundly offer my findings as a complete case study. However, what research I did accomplish along with the interviews and conversations reveal a number of common themes, which I believe deserve mention. The following therefore are not the results of a comprehensive case study, but

rather provisional and tentative general impressions gleaned from an incomplete exploration of *Ebb and Flow*.

Ebb and Flow involved several strands: (1) artist Jonathan Keep created three temporary sculptural installations along a walking path, which reference the cultural history of the region and tie it into the future risk of rising sea levels. Keep also conducted a series of arts workshops with three primary school classes including one which involved them in the production of one of the sculptural installations; (2) 14 residents, trained in oral history recording by the British Library Sound Archive, interviewed and made recordings of 23 long time residents on their memories of the region and how it had changed, with snippets from eight of those interviews available online and at listening posts on Sailor's Path and at Orford Quay; (3) sound artist Mike Challis composed a 23-minute soundscape of recordings he made along the Alde and Ore rivers, which can be heard on the project website; (4) also available online is a podcast walk along Sailor's Path, where photographer Nick Sinclair, Theo Clarke, Jonathan Keep and historian Richard Newman discuss the landscape, its history and the art work happening as part of the project; (5) recorded bird calls are available on the website and at the listening posts; (6) the local Archaeological Service conducted a series of hands-on workshops with local children teaching them about the history of the region; (7) Jacqueline Smith conducted three half-day workshops in three area primary schools to introduce mapping techniques and maps across the centuries, focussing on the maps of the Alde and Ore, and how the maps demonstrate the changing river; (8) an *Ebb and Flow Walks* booklet by Theo Clarke which describes five walks in the project area, each attended by a map and a quote from, and photographic portrait of one of the people interviewed for the oral history strand; (9) the project culminated in a day-long celebration, Flow Fest, at Snape Maltings, a local center for music and performance; (10) Finally, there are currently two websites that provide information on the project, however, the final official website is yet to go live (SCDC & SCHU, n.d.; SCDC & SCHU, 2009).

The strands that seemed to garner the most positive response from participants were the workshops conducted with school children, in particular those conducted by the Archaeological Service and the mapping workshops with Jacqueline Smith. According to the teachers, it captured their imaginations, got them out into the countryside, imparted a significant amount of new knowledge, left a lasting impression, instilled an eagerness to learn more on the subjects, and provided an ideal springboard for future lessons. There were also a number of criticisms: people felt the project lacked public support as evidenced by a disappointing show at Flow Fest attended largely by those who had been directly involved in the project. This was attributed to lack of publicity, competing events in the same time slot, the bad weather, and a sense of confusion regarding the unifying purpose of the project. Several projects that were planned never took place or were left half finished, for e.g. a permanent soundscape installation at Snape Maltings was never installed, work planned with artist Mark Dixon never occurred, the official website remains unpublished, the majority of interviews have not been edited, and all but 8 remain unavailable to the public. There was also an expressed desire for more 'legacy.' For example, broken or malfunctioning listening posts were not fixed and there was no follow-up with the school workshops. These last two points were often attributed to personal conflict between the two lead project managers and the mid-project resignation of Theo Clarke. It also seemed that there was little integration amongst the various strands of the project with the many artists, cartographers, and archaeologists having little or no contact with each other. From a personal perspective, the project might have been improved by having more delineated objectives; greater integration of the various strands; more of a focus on living heritage and visioning of the future instead of focusing primarily on historical landscape and the cultural heritage of the past; more focus on the positives aspects of a changing environment and climate change rather than the losses associated with it. I believe this would have increased public interest in and support of the project (interview with Trazar Astley-Reid, October 23, 2009; interview with Mike Challis, October 8, 2009; interview with Nick Collinson, October 8, 2009; interview with Fran Crowe, October 22, 2009; interview with Lawrence Edwards, October 2, 2009; interview with Chris Gallagher, October 14, 2009; interview with Jennifer Hall, November 22, 2009; interview with Jonathan Keep, October 4, 2009; interview with Duncan Kent,

October 21, 2009; interview with Alex Midlan, October 13, 2009; interview with Bill Parker, September 30, 2009; interview with Simon Reed, October 30, 2009; interview with Nick Sinclair, October 9, 2009; interview with Angela Skinner, October 22, 2009; interview with Juliana Vandergrift, October 1, 2009; interview with Margaret Wyllie, November 16, 2009).