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# Learning through experience: Non-implementation and the challenges of protected area conservation in The Bahamas



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#### ABSTRACT

Marine Protected Areas (MPAs) are increasingly promoted as policy tools to counter such problems as declining fisheries, habitat destruction, and biodiversity loss. Many proposed MPAs become stalled in the implementation process, highlighting the need for further research into the processes leading to nonimplementation. This paper focuses on two proposed MPAs in The Bahamas undergoing protected area enclosure: one highly controversial MPA in North Bimini that was proposed in 2000, but with an uncertain future; and a second enclosure in Andros Island initiated in 2002 and enlarged in 2009 after years of outreach and assessment. Although both locations seek to protect an area of shallow seas within The Bahamas archipelago, each area is significantly different in its management goals as well as social and institutional frameworks. A comparison of the two MPAs underscores the challenges in implementing changes in marine governance while illustrating opportunities for adaptive social learning in resource management processes. There are three goals to this analysis: (1) to explore the processes leading to non-implementation of proposed MPAs; (2) to identify some conditions for success and failure of MPAs within The Bahamian context; and (3) to search for evidence of individual and institutional learning in how conservation agents have approached the later Andros MPA. Research suggests that while there may be ample opportunity to learn from failed conservation attempts, individual and institutional constraints inhibit successful conservation planning frequently leading to non-implementation.

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#### 1. Introduction

There is increasing concern worldwide over the health of marine ecosystems and fisheries [1]. In the Caribbean, several commercial species are threatened, including the top three commercial species: Nassau grouper (Epinephelus striatus), spiny lobster (Panulirus argus), and the queen conch (Strombus gigus). In the Wider Caribbean, national governments and conservation organizations have placed considerable emphasis on protected areas as critical policy tools to promote marine conservation and decrease the rapid depletion of economically and culturally important fisheries, habitat destruction, and biodiversity loss [2-7]. Often MPAs are put forth as an ecosystem-based management tool for conserving ecosystems and protecting biodiversity, while employing the promise of increased tourist dollars and expanded economic opportunity [8–10]. Although MPAs are popular tools among marine managers, their efficacy depends on complex social and institutional frameworks. Many proposed MPAs become stalled in the implementation process,

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highlighting the need for further research into the processes leading to *non-implementation*.

In September 2012, the International Union for Conservation of Nature published a short news release asking the question, "When is a Marine Protected Area really a Marine Protected Area?" [11]. The article proposed stricter adherence to the guidelines for applying the IUCN Protected Area Management Categories; however the question raises deeper concerns about aligning management processes with conservation goals, and ultimately about measuring successful protection. According to the World Database on Protected Areas, over 20 nations have established marine reserves with management regimes that range from grassroots to centralized government mandates, protecting an estimated 3.6% of the world's oceans [12]. Historically, there has been a shift in protected area management from "fortress conservation," (state mandated restricted preservation areas in which no extractive activity is allowed), toward increased stakeholder participation, multiple use, and decentralized management [13]. This move toward adaptive co-management requires social learning, which is a complex and contextual process [14–16]. While MPAs increase in number, there remains uncertainty in the efficacy and success of protected area conservation. The "paper park" phenomenon is well documented and has led to considerable research into factors





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leading to successful MPAs. In order to fully understand the complexities inherent in MPA policy, it is necessary to examine the proposal, design, implementation (*and non-implementation*) processes from initial conception of the park onward. Moreover, it is crucial to examine MPAs in context – in particular the contexts of local and national systems of resource tenure, perceptions of ownership, and existing social networks.

This paper focuses on two proposed MPAs in The Bahamas at different stages of enclosure: one highly controversial MPA in North Bimini that was proposed in 2000 but was never fully implemented: and the Westside National Park (WNP) in Andros Island, declared in 2002, and enlarged in 2009, Although not without controversy. WNP's implementation process was arguably more successful; in that the implementation process progressed beyond the planning stage, and the area was recognized by government officials in 2009. Both protected area projects engaged many of the same individual and institutional actors within the small island nation over a seven year time frame. A comparison of the two MPAs underscores the challenges in changing management practice, while illustrating the opportunities for adaptive learning in resource management processes. There are three goals to this analysis: (1) explore the processes leading to nonimplementation of proposed MPAs; (2) identify some conditions for success and failure of MPAs within The Bahamian context; and (3) search for evidence of individual and institutional learning in how conservation agents approached the later Andros MPA. The paper contributes to knowledge of effective MPA management by examining the process of non-implementation in the context of marine management in The Bahamas.

## 1.1. Background

Much research has been done on factors leading to successful MPAs (for example see [17–19]). Many scholars argue that the success of Marine Protected Areas depends on several interrelated factors, including: participation, favorable institutional frameworks, open dialog among interested parties, and a design that allows for adaptive learning, flexibility, and change [20–26]. Recent marine conservation approaches emphasize resource user participation and decentralized governance as feasible management strategies given responsive institutional frameworks [28,29]. Furthermore, an MPA has a greater chance of success if there is regulatory compliance and benefits sharing, and if residents and resource users are integrated into the protected area planning and managing processes early on. However, research has shown that participation is a complex and multi-faceted process, often resulting in limited and imbalanced representation [30].

Research further indicates that targeted outreach and educational efforts can lead to an increase in support and positive opinions about MPAs [27]. This paper focuses on two MPAs in The Bahamas, looking for evidence of institutional learning among managers. Implicit within the idea of learning is that people are not only able to learn from experience, but that they have the capacity to apply that learning through practice. While there may be ample opportunity to learn from failed conservation attempts, individual and institutional constraints inhibit successful conservation. To create conditions that are favorable for a successful MPA, participants—whether conservation agents, residents, scientists, or government officials—are required to recognize, integrate, and respond to these external forces through an adaptive learning process.

As is true elsewhere, institutional frameworks in The Bahamas emerge from specific and complex socio-ecological conditions. Both people and institutions are required to learn from past experience and engage with new ideas. It may not be enough for managers to use participatory management strategies while ignoring both personal and institutional obstacles to effective conservation. Chuenpagdee and others suggest closer examination of the planning stage of MPAs [31]; what Chuenpagdee and Jentoft call Step Zero [32]. Examining MPA proposals that have been significantly stalled in the implementation processes builds understanding in what factors lead to non-implementation.

This paper begins with a brief overview of Marine Protected Area theory and changes in governance approaches as they relate to participation and the complexities of representation. It then goes on to explore two case studies of areas undergoing proposed enclosure in The Biminis and Andros. Finally, this paper asks the question: in what ways (if at all) have conservation agents and The Bahamas government changed their approach to marine conservation over the course of seven years and two MPA initiatives?

#### 1.2. Marine Protected Areas

Both terrestrial and Marine Protected Areas are designed to regulate the fluid and ever-changing interactions between humans, wildlife, and their habitats: they are designed to manage behavior as well as resource use. In this way, protected areas do not simply reflect regional socio-cultural institutions such as regulatory structures or resource tenure, but are social processes in of themselves [31,33].

In an attempt to more effectively manage marine resources, policy has evolved toward an ecosystem-based approach, multiuse zoning, increased participation, and adaptive co-management [34,35]. Shifting socio-political conditions require changes in governance [36]. Co-management theory is based on the concept of distribution-of authority as well as the costs and benefits of resource conservation. The concept of co-management refers loosely to a decentralization of authority; however the specific resource governing arrangements such as community-based management or participatory management are not always fully understood by their users [17]. The general concept of co-management can mean a variety of co-management strategies that operate on continuum [17,37]. Co-management approach refers to the *inten*tion to use some type of co-management, rather than to any one specific participatory strategy, or any measurable standard of participation.

In The Bahamas, managers claim to employ community-based conservation techniques when implementing MPAs. In practice, these techniques vary and can range from some type of outreach or town meetings to participation in mapping areas, or employing local residents to survey, monitor, or enforce the MPA. Generally, participation focuses heavily on the inclusion of interested and affected parties such as resource users. Just how relevant users are identified and integrated into the planning system remains a challenge and often open to much critique.

## 1.3. Marine Protected Areas in The Bahamas

Within the Caribbean, MPAs have gained momentum as management tools in response to concerns about development pressure, depleted fisheries, and possible effects of climate change [38]. In The Bahamas resource managers promote MPAs as effective tools to protect viable commercial fisheries and biodiversity.

In 2000, The Bahamas Department of Fisheries initiated the proposal of a network of five "no-take" MPAs located in North Bimini, Berry Islands, South Eleuthera, Exuma Cays, and North Abaco Cays, totaling 800 square kilometers [39]. In addition to habitat diversity and ecological importance, the assessment team examined social conditions for locating each MPA. These characteristics included: impacts on fishing, management capacity, potential benefits to the communities, and estimated levels of support for conservation [40]. As a result, the "no-take"

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