Creating Effective No-Take Marine Reserves: Systematizing the Steps Needed for Success

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1 Background

What is a No-take Marine Reserve?
No-take marine reserves are expanses of water that restrict extraction activities, such as fishing, to combat overfishing and habitat degradation. Over the last decade marine reserves have been used as fisheries management tools to mitigate these threats. By limiting use in marine reserves, the local ecosystem is able to recover and eventually create benefits such as spillover and increased biodiversity.

What is the problem?
Throughout the world there has been an array of strategies, practices, and design principles that have led to varying success of marine reserves. Currently, there is no easy way to access the insights that can be gained from all these experiments. Our project will make this information accessible by creating a user-friendly web-based hub—streamlining the design process of a no-take marine reserve.

2 Methods

What is the Solution?
Based on literature and the analysis of a case study of marine reserves in Quintana Roo, Mexico, we have synthesized some of the best experiences, knowledge, and tools for implementing a successful no-take marine reserve. We have also created a user-friendly web-based hub—making the design process of a no-take marine reserve.

What are the design components?
These phases are then subdivided into four components: ecological, governance, social, and economic. The user is able to easily navigate through the design process knowing what data, tools, and considerations are needed throughout the entire design of a marine reserve.

3 Design Approach

What are the design phases?
We identified a dynamic process that is divided into four distinct phases: Engagement, Creation, Implementation, and Learning & Enhancement.

What are the design components?
These phases are then subdivided into four components: ecological, governance, social, and economic. The user is able to easily navigate through the design process knowing what data, tools, and considerations are needed throughout the entire design of a marine reserve.

4 Toolkit Guide

What is a Toolkit Guide?
The user is able to identify what toolkits are available and data are needed for each phase and component of the design process. This helps make the complex design process easier to navigate.

5 Conclusion

Creating a no-take marine reserve is a dynamic and complex process that requires constant reevaluation of management strategies. Our project incorporates scientific, empirical, and theoretical material supported by associated tools to provide a platform that assists the access to users wanting to adopt no-take marine reserves as a management tool. Our web-based hub ensures users are moving toward establishing successful no-take marine reserves.

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7 References