

An Evaluation of the Framework for National Marine Environmental Policies in Cuba

Evaluacion del Marco para las Políticas Ambientales Marinas en Cuba

Évaluation du Cadre des Politiques Environnementales Marines à Cuba

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ABSTRACT

A slow rate of economic development and a national commitment to sustainable development has enabled Cuba to maintain some of the best-preserved marine ecosystems in the Caribbean region. Still, important environmental threats persist while changes in the rate and magnitude of marine environmental impacts are occurring because of increased globalization, new relations between Cuba and the United States, and efforts to reform Cuba's economic model. Since Cuba lacks an explicit overarching national ocean policy, marine conservation is implemented through a combination of policy instruments. We evaluated nine major policy instruments to understand whether and how they create conditions for sustainable use and conservation of marine resources. Our evaluation is based on five key attributes identified in the literature: attention to multiple levels of ecological organization, operation at multiple spatial scales, coordination of interacting uses, adoption of precautionary and adaptive approaches, and establishment of a sound scientific basis for management. Although our evaluation suggests that Cuba's marine environmental-policy framework is relatively strong, with individual policies scoring on average 68% of the maximum for the five key attributes, we found a marked bias toward terrestrial ecosystems and issues. We also found that too little attention is paid to the inclusion of precautionary and adaptive approaches, which received a score of 22%, a significant deficiency in the face of ongoing ecological and socioeconomic changes. Cuba should develop a forward-looking national ocean policy that integrates existing and future laws and policies, as current limitations in the policy framework could undermine the country's ability to achieve its sustainability and environmental protection goals as economic development pressures grow.

KEYWORDS: Marine environmental policy, Cuba, MPAs

INTRODUCTION

Cuba is home to some of the best-preserved marine environments in the Caribbean Sea (Kritzer et al. 2014). The combination of a slow rate of economic development along with a national commitment to sustainable development has hindered significant degradation of many marine ecosystems. Still, several important environmental threats exist, and some are growing.

Cuba lacks an explicit overarching national ocean policy. Instead, marine conservation is provided through a series of legal and policy instruments developed by ministries with jurisdiction over different economic sectors and activities. The National Environmental Strategy, National Goals on Biodiversity, and the strategic plan for the National Protected Areas System are the cornerstones of Cuba's national environmental policy architecture (CITMA 2011). Perhaps the most important policies that specifically address marine conservation are decree laws on protected areas, coastal management, and fisheries management. Despite the importance of these and other policy instruments addressing marine environmental issues, no evaluation has been conducted to date of the extent to which these policies facilitate the sustainable use and conservation of Cuba's marine resources, either individually or collectively.

We present here an evaluation of the major national policy instruments shaping management of the marine environment in Cuba according to five key attributes identified in the literature. Our objective was to determine whether the national environmental policy framework in Cuba creates objectives and guidelines, provides authority, and sets priorities for sustainable use and conservation of marine resources.

METHODS

We reviewed literature on marine ecology and the practice and performance of marine environmental policy and selected five key attributes that promote sustainable use and conservation. We identified nine national policy instruments that are relevant to the management of the marine environment. To decide on the relevance of instruments, we considered their direct or potential role in effecting, shaping, or implementing the national marine conservation policy, including strategy documents and legal instruments. We then evaluated the content of the selected instruments in light of the five key attributes. The nine policy instruments that we evaluated and a brief description of each are as follows (listed chronologically):

- i) Decree Law 164/1994 (DL164)—Establishes the authority to implement harvest controls in marine fisheries, as well as the adoption of Zones Under Special Regime of Use and Protection (ZBREUP), a spatial tool for fisheries management that was the precursor of MPAs (Consejo de Estado 1996).
- ii) Law 81/1997 (L81)—Establishes the general legal framework for environmental protection, conservation of nature, and sustainable use of resources (Asamblea Nacional del Poder Popular 1997).
- iii) Decree Law 200/1999 (DL200)—Expands upon Law 81/1997 by defining critical environmental violations more explicitly and the enforcement and punitive measures applicable to such violations (Consejo de Estado 1999a).
- iv) Decree Law 201/1999 (DL201)—Establishes the National System of Protected Areas (Sistema Nacional de Áreas Protegidas, or SNAP) as an integrated network spanning marine, coastal, freshwater, and terrestrial ecosystems, as well as the management categories, objectives, and processes for designation (Consejo de Estado 1999b).
- v) Decree Law 212/2000 (DL212)—Focuses on integrated management of uses in the coastal zone, including mandatory setbacks and processes for coordination and mitigation (Consejo de Estado 2000).
- vi) National Environmental Strategy 2011–2015 (NES)—Establishes the primary overarching framework for Cuba, founded upon the principles set forth in Law 81/1997, setting high-level environmental objectives and providing coordination among social and economic sectors (CITMA 2011).
- vii) SNAP Plan 2014–2020 (SNAP Plan)—Establishes targets and timelines for development of the SNAP, building on Decree Law 201/1999, and provides guidelines for the creation of individual protected areas within the network and for the management of the 120 protected areas, including 62 MPAs, currently in place (Centro Nacional de Áreas Protegidas 2013).
- viii) National Strategic Development Plan 2017–2030 (NSDP)—A product of the 7th Congress of the Cuban Communist Party (PCC, after its Spanish name, Partido Comunista de Cuba) in 2016, charts major new directions in all areas of public policy, including the environment (Séptimo Congreso del PCC 2016).
- ix) National Goals on Biodiversity 2016–2020 (NGB)—Sets objectives and actions for conservation of biodiversity, defines the major bioregions within which conservation strategies should be developed, and identifies the primary human uses that threaten biodiversity (CITMA 2017).

We first evaluated the extent to which these policy instruments explicitly address issues relevant to marine environmental management or, conversely, exhibited bias toward nonmarine issues. To do so, we searched the

documents for the frequency of eighteen keywords that could show specific focus on either marine or terrestrial issues. We also counted the number of articles, objectives, and actions devoted to either, or both, terrestrial and marine issues. For each policy instrument, we then determined a score for each of the five key attributes, reflecting the extent to which the policy instrument embodies the attribute; from a score of 0 indicating the attribute is not contained within the policy, to a maximum of 2, indicating the policy explicitly or otherwise clearly and strongly conveys the attribute.

Finally, we conducted a preliminary exploration of the implementation and enforcement of national policy, focusing on two important marine conservation topics worldwide: MPAs and fisheries. We reviewed provisions in legal instruments regarding MPA and fisheries enforcement, as well as experiences and information conveyed through peer-reviewed papers, gray literature, and conference sessions and presentations.

RESULTS

Biases in Policy Focus

Only three policy instruments (DL164, DL200, and DL201) have a vocabulary that reflects a marine focus, with 3.7 - 16.7 times more marine-related keywords than terrestrial ones. However, we found that the policy instruments overall have an average of 1.25 times more articles, objectives, and actions devoted to terrestrial issues. This bias is much stronger if DL164 is excluded, as it is the only policy specifically devoted to marine issues. Most of the articles in the four instruments that have very broad scope (NSDP, L81, DL200, and DL201) are unspecific and could be applied comparably to both marine and terrestrial issues.

Performance Relative to Key Attributes

The marine environmental policy framework in Cuba generally scored well against the five key attributes we selected. Three instruments received 80% or more of the maximum total score, while four of the policy instruments, scored lower, with only 40%–60% of the maximum. Absence of content that mandates or promotes precautionary approaches was a consistent deficiency among these low-scoring instruments. Other gaps, such as consideration of multiple spatial scales, multiple levels of ecological organization, coordinated management of impacts, or scientific-based approaches, were unique to one or a few policy instruments.

Marine environmental policy in Cuba provides a strong role for science and multiple scales of ecological organization, with these attributes receiving 83.3% of the maximum score, and contains a high degree of coordination among different user groups (77.8%) and reflect attention to multiple spatial scales (72.2%).

Implications of the National Strategic Development Plan for Marine Issues

The draft NSDP proposes a number of general policy directions that could have important implications for conservation and sustainable use of marine resources.

Whether any of these policy directions affect marine ecosystems and industries positively or negatively will depend upon how the details develop and how each is implemented. Policy proposals to develop existing or new uses can risk greater degradation and conflict, but they can also present new sources of funding. Proposals for decentralization can improve coordination and incorporation of different ideas and perspectives, but it can also increase conflict and complexity.

Enforcement and Policy Implementation

Provisions for enforcement of marine environmental regulations related to MPAs and fisheries are provided mainly by DL164 and DL200. Decree Law 164 created the National Fisheries Inspections System, while Decree Law 200 establishes a broad National Environmental Inspection System with a small network of inspectors throughout the country. Recently, the Border Troops of the Ministry of the Interior (TGF, after its Spanish name, Tropas Guardia Fronteras) have been granted authority for protecting Cuban marine resources (CNAP 2013).

The ONIP substantially contributed to the reduction of illegal fishing and to the control of recreational fishers through fishing licenses (Claro 2009), although due to resource limitations most of their operations are carried out in land (ONIP 2015). The management effectiveness of the extensive Cuban MPA system, with 108 MPAs, varies widely across the network. Logistical limitations (e.g., remoteness of some sites), limited staff and high turnover of trained personnel, and low enforcement capacity (e.g., small number of officers, lack of sufficient equipment and materials, and limited maintenance budgets) are the main barriers to more effective enforcement (Azanza-Ricardo et al. 2015). MPA managers rely mostly on other enforcement bodies such as the National Office of State Inspection (previously ONIP) and TGF (CNAP 2013).

DISCUSSION

Our evaluation suggests that during the evolution of its environmental policy, Cuba achieved some success in assembling a strong framework for marine policy, with some areas (such as mechanisms for implementing marine spatial planning, adaptive management, and precautionary approach) in need of improvement. For instance, the National Environmental Strategy, does not clearly target marine species and ecosystems, nor does it prioritize any marine environmental issues, while the National Strategic Development Plan does not provide specific tools or mandates to coordinate management of interacting human uses at sea, such as marine-spatial-planning processes.

We identified greater deficiencies in several policy instruments, particularly the decree law on environmental contraventions; although perhaps the narrow scope of this instrument prevented the inclusion of some of the principles, which instead had to be incorporated into overarching instruments. Some policy instruments are being updated and amended, which presents an opportunity to improve their attributes.

The deficiencies in individual policy instruments notwithstanding, the overall marine environmental policy framework in Cuba reflects many of the key attributes well.

Most of the nation's policies promote coordinated management of different impacts; while science is likely given prominence in public policy because of Cuba's national commitment to education and scientific development. In turn, the strong role of science has likely helped promote the country's attention to multiple levels of ecological organization and spatial scales

Our evaluation considered nine of the most important policy instruments governing use of marine resources in Cuba but did not consider all relevant policies or regulations. It is possible that other instruments will improve upon the identified deficiencies in the framework, but it is also possible that they will present competing objectives or create conditions that could hinder the effectiveness of those considered here.

The merits of national and international policy instruments are clearly important in achieving desired outcomes, but good policy does not necessarily result in good implementation. Our preliminary findings regarding enforcement and implementation of the MPA system and fisheries regulations, based on a review of the scarce materials publicly available, revealed that resource limitations hinder more effective marine conservation at a national scale, despite the rather robust policy framework in place. However, results from the SOS Pesca project provide a compelling example of how a diverse partnership can integrate the objectives and mechanisms of multiple policy instruments to coordinate interests of various stakeholders.

CONCLUDING REMARKS

There remains a much stronger policy focus on terrestrial ecosystems over those in the sea, even though the marine waters of Cuba's exclusive economic zone (EEZ) represents almost 76% of its overall territory and the country's extensive and diverse marine and coastal ecosystems provides a range of ecosystem services. This imbalance is likely a consequence of the predominance of human activity on land and the many instruments that have provisions applicable to both on land and sea. New policy instruments should fully embrace the precautionary approach and provide for adaptive management strategies that are flexible enough to address as yet unforeseen circumstances. Ideally, Cuba should begin the process of developing a forward-looking, comprehensive national ocean policy that integrates existing and future laws affecting coastal and marine environments.

Cuba is a developing but determined nation; it takes seriously the responsibility of managing its rich natural resources for both national and global benefit, including conservation and economic prosperity. As the nation works toward these aspirations, economic factors, geopolitics, technological innovations, and the state of the natural environment are all in flux. Sound national policy architecture is necessary to ensure effective governmental responses to these changes. Our evaluation suggests that Cuba's national marine environmental policy framework is relatively broad and strong, but the framework also has weaknesses and gaps that could undermine the country's ability to achieve its environmental and sustainability goals as development pressures grow.