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EDITED BY
Kum Fai Yuen,
Nanyang Technological University, Singapore

REVIEWED BY
Nitin Agarwala,
National Maritime Foundation, India
Lida Teneva,
Independent Researcher, Sacramento, CA, United States

*CORRESPONDENCE
Ricardo A. de Ycaza
deycazar@oregonstate.edu

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Assessing policy coherence for developing a blue economy: a case study in the Republic of Panama

Ricardo A. de Ycaza[1,2,3]*, Ana K. Spalding[1,2,3,4] and Andrés M. Cisneros-Montemayor[2,5]

[1]Ocean Nexus, School of Public Policy, Oregon State University, Corvallis, OR, United States, [2]Nippon Foundation Ocean Nexus Center, EarthLab, University of Washington, Seattle, WA, United States, [3]Coiba-AIP Scientific Research Station, Panama City, Panama, [4]Smithsonian Tropical Research Institute, Panama City, Panama, [5]Ocean Nexus, School of Resource and Environmental Management, Simon Fraser University, Vancouver, BC, Canada

The blue economy approach to ocean governance promises environmentally sustainable, economically viable, and socially equitable ocean-based economic growth. However, the blue economy has been inconsistently defined, interpreted, and applied, often leading to incompatibilities between the blue economy approach and existing ocean policies. We explore the blue economy in the Republic of Panama, where recent government commitments include designing and implementing a blue economy approach to ocean sector development. We use qualitative text analysis and a policy coherence assessment to examine the consistency of objectives across existing ocean policies in Panama and their compatibility with broader blue economy goals. Our results indicate that Panama's existing ocean policies address some blue economy goals but also reveal how policy coherence assessments and precise deliberation can inform a more contextually sensitive blue economy approach that aligns with existing ocean policies while also adding value to ocean governance and better integrating blue economy objectives. Findings suggest that Panama's existing ocean policies could better address social, environmental, and resource use objectives, without disregarding the need to reinforce economic and governance goals; elevating social objectives, especially social equity, can truly differentiate Panama's blue economy from its current ocean governance approach. Finally, while we acknowledge that greater policy coherence can potentially increase the likelihood of attaining policy objectives, our findings show that coherence alone does not ensure their realization in practice. Our study contributes to blue economy scholarship by providing the first Latin America-based case study using policy coherence to assess compatibilities between existing ocean policies and a blue economy. Other countries seeking to transition to a blue economy could use our findings to inform the design of their approach and its integration with their existing ocean policy frameworks.

KEYWORDS

blue economy, ocean governance, policy coherence, ocean policy, environmental policy, sustainable development, Latin America, Panama

1 Introduction

As threats to global ocean health intensify and the demand for marine resources increases, ensuring the continuity of the ocean's life support roles requires new approaches to govern human-ocean interactions (Brodie Rudolph et al., 2020). Overfishing, marine pollution, human-caused climate drivers, and other anthropogenic activities threaten marine ecosystem health and, consequently, the well-being of people whose livelihoods are ocean-dependent (Brodie Rudolph et al., 2020; Spalding and de Ycaza, 2020). The multidimensional and interconnected nature of the ocean makes it a challenging space to govern, and governance approaches have changed over time (Brodie Rudolph et al., 2020; Spalding and de Ycaza, 2020; Blythe et al., 2021). Among recent approaches to ocean governance is the blue economy, which aims for environmentally sustainable, economically viable, and socially equitable ocean-based economic growth (Cisneros-Montemayor, 2019; Cisneros-Montemayor et al., 2019; Lee et al., 2020; Cisneros-Montemayor et al., 2021).

Since the inception of the term in 2012, the 'blue economy' has gained traction as the go-to approach to link economic development strategies with ocean sustainability and attract investments in ocean industries (Brent et al., 2018; Wenhai et al., 2019; Lee et al., 2020; Spalding and de Ycaza, 2020). However, despite its prevalence, there is no single, common definition for the blue economy or consensus on what the approach comprises, making it susceptible to multiple interpretations with real-world impacts on implementation strategies and outcomes (Silver et al., 2015; Voyer et al., 2018; Cisneros-Montemayor et al., 2019; Garland et al., 2019; Graziano et al., 2019; Voyer and van Leeuwen, 2019; Benzaken and Hoareau, 2021; Voyer et al., 2022). Studies have revealed that different ocean actors interpret the blue economy to reflect their own perspectives and interests, resulting in various definitions that include distinct sectors, activities, and objectives, and leading to various approaches to its implementation (Silver et al., 2015; Voyer et al., 2018, 2022). Examples include regional strategies such as those in Africa, Europe, and Central America (European Commission, 2012; Bond, 2019; Childs and Hicks, 2019; OSPESCA, 2020). Some countries have opted for a national approach, creating dedicated blue economy agencies, national policies, and master plans (Wenhai et al., 2019; Voyer et al., 2022). Less explicit examples include acknowledging the blue economy within national legislation, policies, governance strategies, research agendas, and broader economic development plans (Patil et al., 2016; Graziano et al., 2019; Katila et al., 2019; Wenhai et al., 2019; Voyer et al., 2022).

The variety of interpretations of the blue economy and resulting approaches to its implementation make it challenging to assess its compatibility with policy frameworks for ocean governance already in place. Assessing the extent to which a blue economy approach is compatible with existing ocean policies is an important consideration and an essential step toward its design and implementation (Voyer et al., 2020a, b). In not accounting for this compatibility or lack thereof, there is an inherent risk of disregarding, displacing, or replacing current frameworks for ocean governance that may, in varying degrees, already have the capacity to deliver the outcomes sought by a blue economy (Voyer et al., 2020a, b). Similarly, the lack of a careful assessment could also result in a missed opportunity to update or replace outdated or inefficient ocean policies or broader ocean governance frameworks.

One existing tool to assess policy compatibility is a policy coherence assessment. Policy coherence refers to the extent to which different policies or broader governance approaches are compatible with and supportive of each other toward achieving specified outcomes (OECD, 1996, 2009, 2018). Greater policy coherence increases the probability of successfully integrating and achieving policy objectives, whereas lower levels of coherence decrease this probability (Jordan and Halpin, 2006; Howlett and Rayner, 2007; Nilsson et al., 2012; Howlett and Mukherjee, 2014; Howlett, 2014a, b; Cohen et al., 2017). Policy coherence assessments can facilitate the integration of new policy objectives into existing governance frameworks without disregarding those already in place (OECD, 2009; King et al., 2012; Koff et al., 2020). Governments can use this tool to compare proposed and existing governance approaches, identify if and where gaps exist, and assess if and how new approaches can complement and strengthen governance objectives as a whole (Howlett and Rayner, 2007; OECD, 2009; King et al., 2012).

Policy coherence assessments have been used to evaluate compatibilities between proposed blue economy approaches and existing policy frameworks for ocean governance in Timor Leste, a country in Southeast Asia, and New South Wales, a state on the southeastern coast of Australia (Voyer et al., 2020a, b). These assessments yielded insights into designing a blue economy that could better align with and complement existing policy objectives and add value to ocean governance as a whole. For instance, in Timor Leste, a policy coherence assessment revealed a poor and inconsistent representation of social objectives across existing ocean policies (Voyer et al., 2020a). Therefore, designing a blue economy approach for Timor Leste that focuses on elevating social objectives could help address this evident gap in the current ocean policy framework and better align ocean governance in the country with blue economy goals (Voyer et al., 2020a).

While these country and regional-level assessments provided valuable insights for developing a blue economy in Timor Leste and New South Wales, they have not been done elsewhere. Policy coherence assessments in other countries and regions may be important because developing a blue economy must be sensitive to local contexts (Garland et al., 2019; Voyer et al., 2020a, b); just as country-level and regional interests, ocean-based sectors, and governance frameworks vary, so too must policy coherence assessments that aim to reconcile existing national or regional policies and interests with proposed blue economy approaches. Where such jurisdictionally specific assessments have not been conducted, existing case studies reveal how incompatibilities have emerged between proposed blue economy approaches and aims and existing national governance and goals, leading to implementation problems, conflicts between actors on the ground, and little

progress toward blue economy objectives (Bond, 2019; Childs and Hicks, 2019). While policy coherence assessments cannot *eliminate* differences among actors who disagree on what ocean governance should achieve or how it should deliver on those aims, assessments can help *illuminate* where these differences may be rooted in or manifested by policies. Identifying these differences between existing policy frameworks and newly proposed approaches is also a first step in reconciling them or, at the very least, a step toward more transparent decision-making processes.

Among the settings that could benefit from such a country-level assessment is the Republic of Panama, a Central American country with an ocean-dependent economy. In 2019, the government of Panama committed to developing and implementing a blue economy approach, but efforts toward this goal are still nascent. Academic literature on marine and coastal policy in Panama is scarce. However, existing studies have characterized the country's ocean governance as fragmented, uncoordinated, and legally complicated (Suman, 1987, 2002, 2007; Spalding et al., 2015; Seemann et al., 2023). These issues raise concerns, as studies have shown that the development and implementation of a blue economy approach requires an already robust, organized, and functional ocean governance framework that is coherent and reliable (Voyer et al., 2020a, b). Therefore, it is uncertain if Panama's current ocean governance framework can tackle new governance approaches such as the blue economy. While a policy coherence assessment might not be the only tool required to address these issues in Panama, it can provide insights into better aligning the country's ocean governance objectives across existing ocean policies and elevate their alignment with the aims of a blue economy. Using a case study approach, we explore Panama's interpretation of the blue economy and examine the extent to which objectives are consistent across the country's existing ocean policy framework and with blue economy goals. To do this, we sought to answer the following research questions:

1) How is the blue economy defined by Panama's current policy framework for ocean governance, and which sectors are included?
2) What are the objectives of policies that govern Panama's blue economy sectors, and to what extent are these objectives shared across existing ocean policies?
3) To what extent are the objectives of policies that govern Panama's blue economy sectors consistent with the goals of the proposed blue economy approach?

Subsequent sections of this manuscript provide relevant background information on Panama and the methodology used to address our research questions, including a brief review of policy coherence as the theory guiding our inquiry. We follow with a discussion of our findings placing these within the context of Panama, the broader scholarship on the blue economy, and other research and documented policy outcomes. We conclude by highlighting some of the practical limitations of our analysis and potential avenues for future research.

2 The blue economy in Panama: the economic and policy context

Panama actively participates in international and regional environmental and conservation initiatives. The country is a signatory to numerous international conventions and treaties and multilateral and bilateral agreements concerning the environment, with a large proportion of these linked to ocean governance and sustainable marine resource management. The country is also home to regional offices of multilateral aid agencies, non-governmental organizations (NGOs), and a fleet of local environmental NGOs. There is a significant influx of capital and efforts into the country toward executing initiatives relevant to sustainably managing ocean resources and addressing marine environmental concerns.

Panama's ocean jurisdiction covers 217,277 km^2, approximately three times its total land area of just over 75,000 km2 (FAO, 2002; Suman, 2002; Spalding et al., 2015; FAO, 2018). With almost 3,000 km of coastline along the Pacific and Caribbean, it has the highest coast-to-land ratio of any continental country in the Americas (Suman, 2002; Spalding et al., 2015). The country's ten provinces have coastlines along the Pacific or Caribbean coasts, and few locations lie more than 50 km from the ocean. More than 80% of the country's population of approximately 4.4 million people live on or near coastal zones, primarily along the Pacific Ocean (Suman, 2002; Spalding et al., 2015; INEC, 2020). The country houses the Panama Canal, an 80 km long maritime waterway connecting the Pacific and Atlantic Oceans that is a major funnel for global commerce and trade and one of Panama's most important economic assets (Suman, 2002).

Panama's geographic location, tropical climate, extensive coasts along two oceans, the Panama Canal, and highly productive and biodiverse natural ecosystems make it a coveted destination for business, financial ventures, and tourism; these attributes and activities are central to the country's economy (Figure 1). The bulk of the country's economy, over 75%, connects to the country's strategic geographic position for the transit of people, global commerce, and trade, and due to the country housing the Panama Canal. Although Panama is among the wealthier Latin American countries, it is considered a developing nation due to its dependence on foreign capital and reliance on the global economy (IMF, 2019; World Bank, 2020).

Panama has demonstrated an increased drive to project itself as a leader in ocean sustainability, implementing numerous projects, initiatives, and policies concerning sustainable marine resource management and conservation. One factor driving these actions is the rising stringency of destination markets for ocean-derived products, which demand responsibly and sustainably managed marine resources as a requirement for market entry. For instance, in 2021, Panama's government ratified new national fisheries legislation; previous legislation dated back to the 1950s. The passing of this new legislation was heavily driven by the European Union's (EU) bestowment of a yellow flag to the country due to unsatisfactory marine resource management practices, which could potentially lead to the closure of EU

FIGURE 1
Political map of the Republic of Panama.

markets for Panamanian ocean derived goods (European Commission, 2019). Additional drivers for marine policy change in Panama are global calls to action from international bodies, such as the United Nations, due to rising concerns about the fragile state and increasing degradation of ocean ecosystems and resources. In response to these calls to action, Panama commissioned the development of a national oceans policy (NOP) for the country in 2019. Three years later, Panama ratified its official NOP, Strategy, and Action Plan, a comprehensive document intended to serve as a general framework for guiding ocean governance and point of convergence for existing policy provisions related to marine and coastal affairs (MIRE, 2022). Although the NOP does not explicitly focus on the blue economy, it is the first national policy to mention the blue economy as a guiding principle for ocean governance in the country (MIRE, 2022).

Despite efforts to advance ocean sustainability and the country's unique geographic, political, social, and economic connection to the ocean, Panama's current ocean governance framework is complex, with management and oversight of ocean-related activities straddling multiple government agencies. Between 1987 and 2015, the country's legislative and institutional frameworks for ocean governance underwent numerous restructurings in attempts to streamline management and decision-making processes concerning ocean resources (Suman, 1987, 2002; Spalding et al., 2015). However, these changes have resulted in a complicated policy landscape and a complex web of institutions whose responsibilities relevant to ocean affairs are unclearly intertwined (Spalding et al., 2015). These outcomes have led to confusion among government agencies, officials, and stakeholders, the loss of institutional memory and historical data, and inefficient bureaucratic processes (Spalding et al., 2015). Coupled with accelerated policy changes due to external market demands and pressure from international bodies rather than by the country's initiative, the outcomes of policy and decision-making processes concerning Panama's national and international marine affairs have been less than ideal, and there is currently no conclusive evidence to suggest that the previously identified issues have been resolved. As Panama designs and implements a blue economy approach, it is important for the country to acknowledge and address existing ocean governance problems and seize the opportunity to potentially improve upon the identified deficiencies of its existing ocean governance framework.

3 Methods

3.1 Theoretical framework: policy coherence

Policy coherence, broadly defined, is the state of mutual consistency between different policies (OECD, 1996, 2009; King et al., 2012; Koff et al., 2020). Policy coherence is included within the United Nations Sustainable Development Goals (SDGs) as an international objective for policies through SDG 17 to "Strengthen the means of implementation and revitalize Global Partnerships for Sustainable Development" (UNGA, 2015, p. 28). Specifically, SDGs 17.13 and 17.14 aim to "Enhance global macroeconomic stability, including through policy coordination and coherence," and "Enhance policy coherence for sustainable development," respectively (UNGA, 2015, pp. 29–30). SDG17 seeks to tackle systemic issues within policy and institutional coordination and collaboration that can potentially hinder the success of development policies and agendas (UNGA, 2015).

At the country level, policy coherence concerns the extent to which governments and societies can work together to achieve policy objectives and ensure that the intentional and unintentional

outcomes of policy decisions are adequately thought through (OECD, 1996, 2009; King et al., 2012; Koff et al., 2020). Development approaches, such as the UN SDGs and the blue economy, seek to channel collective interests and efforts to balance the trade-offs between economic and social aspirations with their impacts on the global environment (Griggs et al., 2014; UNGA, 2015; Cisneros-Montemayor, 2019; Cisneros-Montemayor et al., 2019; Lee et al., 2020; Voyer et al., 2020a, b). Making progress toward common objectives requires that countries understand, manage, and integrate globalized objectives into their development plans and policies without undermining their domestic governance frameworks and goals (OECD, 2009; King et al., 2012; Koff et al., 2020). Literature has identified policy coherence as fundamental for achieving the UN SDGs (Nilsson and Persson, 2003; Nilsson et al., 2016; OECD, 2018; Koff et al., 2020) and blue economy goals (Voyer et al., 2020a, b).

There are numerous ways to examine and assess policy coherence at the country level. One way to assess coherence is to focus on the stated objectives of policies respective to a country's existing governance framework and assess their consistency within and across a range of policy instruments (Scobie, 2016; Benson and Lorenzoni, 2017; Cohen et al., 2017; Ekstrom et al., 2018; Miller et al., 2018). Policy instruments are the "mechanisms and techniques" that governing systems use to implement public policies and to determine how and where to allocate resources to achieve governance and policy objectives (Howlett and Rayner, 2007, p. 2; Howlett, 2014a, b; Howlett et al., 2015). Therefore, a governance approach can be defined by the arrangement of policy instruments used by a governing system to attain specific governance and policy objectives (Howlett, 2014a, b; Howlett et al., 2015). By examining the consistency of objectives across a specified range of policy instruments, it is possible to assess the potential for success or failure of newly proposed governance approaches. A greater consistency of objectives across a country's existing policy instruments and with the goals of proposed governance approaches increases the likelihood of achieving the desired outcomes.

The consistency of objectives across Panama's ocean governance framework, and their consistency with blue economy goals, are critical elements for reconciling the aims of the existing and new ocean governance approach. Policy coherence, here, is understood as "the state of mutual consistency of objectives within a governing system across a range of policy instruments, and the extent to which they are consistent with blue economy objectives" (Voyer et al., 2020a, p. 4, Voyer et al., 2020b, p. 4). We examine policy coherence across a range of policy instruments relevant to Panama's existing ocean governance framework based on their stated objectives and the extent to which they are consistent with blue economy goals. Given the inconsistency in interpretations of the blue economy and variability in its implementation, plans for developing a blue economy could benefit from aiming for coherence with existing ocean policy frameworks (where policies are desirable) and assessing if and how the new approach can add value to ocean governance, where existing policies could be improved (Voyer et al., 2020a, b).

3.2 Country-level case study: Panama

To answer our research questions relevant to the consistency of objectives within and across the existing policy framework for ocean governance and the extent to which objectives are consistent with a blue economy, we conducted a policy coherence assessment using Panama as a case study country (Creswell and Poth, 2018). Our research design consisted of qualitative content analysis of policies relevant to marine and coastal governance in Panama (see Supplementary Materials for a complete list of policy instruments assessed, including the dates they were enacted). We sought to identify common themes in the literature and assess the consistency of such themes across a sample of texts. Our steps for content analysis involved compiling a sample of texts, identifying the unit of analysis, generating a codebook, and coding the sample of texts to produce a text-by-theme matrix, as proposed by Bernard (2018). Subsequently, we applied a methodology proposed by Voyer et al. (Voyer et al., 2020a, b) to define the blue economy within a given context and identify the sectors included, identify shared objectives across policy instruments, and assess the consistency of identified objectives with broader blue economy goals (Figure 2).

3.2.1 Data collection

To collect the literature that we ultimately assessed for this study, we built a database of policy instruments relevant to ocean policy in Panama using the Food and Agriculture Organization of the United Nations' FAOLEX Database (FAO, 2022). FAOLEX is a comprehensive, up-to-date, open-access database and one of the world's largest online repositories of national laws, regulations, and policies on food, agriculture, and natural resource management, which provides users with direct access to abstracts, indexing information, and the full text of over 30,000 records from countries across the world (FAO, 2022).

FIGURE 2
Methodological diagram of process for assessing policy coherence.

To define our sample of texts, we performed an iterative review and elimination of records based on a set of defined criteria (Table 1). We applied a series of filters using the categories provided by the database, reviewing the resulting records for relevance, validating results with official sources of information from Panama, and amending the list as needed (Table 1).

Database records specific to Panama included texts categorized as laws, decrees, resolutions, national policies, and agreements (Table 2). Given the large number of decrees and resolutions currently in effect, their specificity, transient nature, and lower legal hierarchy, we decided to exclude these policy instruments from our analysis unless they enacted a national policy or agreement (Table 2).

To account for relevant policy instruments potentially omitted from the FAOLEX database, we reviewed websites of Panamanian government institutions involved in marine and coastal affairs and communicated with representatives from these institutions; this resulted in the addition of 21 policy instruments to our sample. Our data collection process yielded a final sample of texts (*corpus*) comprised of 41 pieces of legislation (national laws), 23 agreements (including national actions plans, reports, and strategies), and 11 national policies, for a total sample of 75 policy instruments. We sourced digital copies of all instruments in our *corpus* through the Government of Panama's online repositories of legislative and policy documents, the FAOLEX database, institutional websites of relevant government agencies, and direct correspondence with government officials (see Supplementary Materials for a list of online sources of information). We did not include or exclude policies based on the date they were enacted as all instruments remained valid components of Panama's policy framework for ocean governance at the time of this study.

TABLE 1 Summary of process and criteria for filtering, reviewing, and amending the database.

Steps	Process/Criteria	Resulting # of records
1	Applied 'country' filter: excluded records not relevant to Panama.	2,606
2	Applied 'type of text' filter: policy instrument.	362
3	Applied 'primary subject (sector)' and 'domain' filters: relevance to marine and coastal policy and the blue economy in Panama. [a]	279
4	Applied 'repealed' filter: excluded repealed records.	259
5	Reviewed abstract and keywords of 259 records for relevance to marine and coastal policy and the blue economy in Panama. [a,b]	54
6	Checked resulting records against official sources of information and amended the list as needed.	Added 21 records
7	Compiled final database of policy instruments	75

[a]Criteria based on information from key policy instruments relevant to marine and coastal policy and the blue economy in Panama, and existing literature on the blue economy.
[b]For records that did not include an abstract or the abstract was unclear, we reviewed the associated instrument in its entirety.

3.2.2 Analysis

We reviewed our *corpus* to define the blue economy, identify the included sectors, and assess policy coherence within and across policy instruments and with a blue economy. Because we sought to make comparisons across texts by type, our *units of analysis* were the individual policy instruments in our *corpus*.

To define Panama's blue economy, we identified policy instruments that provided a working definition of the blue economy as a governance approach. For this step of our analysis, we omitted instruments that only briefly mentioned the blue economy, included it as a passing comment or general reference, or that were not Panama-specific (e.g., regional).

We reviewed our *corpus* of policy instruments to identify Panama's blue economy sectors. We defined 'sectors' as groupings of activities (e.g., industry, business, conservation) within specific focus areas sharing common or related goals. We categorized policy instruments into sectors according to the government agency or activity they related to or referenced. Instruments that referenced more than one sector were considered cross-sectoral and categorized according to each sector mentioned. Subsequent analyses included all sectors identified through our sectoral categorization of policy instruments.

To assess policy coherence across a range of existing ocean policies in Panama, we uploaded digital copies of policy instruments in our *corpus* into the qualitative data analysis software NVivo (version 12) and iteratively reviewed individual instruments to identify their stated objectives (Jackson and Bazeley, 2019). Wherever an instrument clearly indicated an objective, function, or intent rather than a passing comment, indirect reference, or superficial mention of a topic or idea, we identified it as an objective. We took an inductive approach to group identified objectives and coded these into 44 *objective themes*, each representing an overarching category of objectives consistently cited across policy instruments (Table 3).

We subsequently assessed policy coherence between a range of existing ocean policies in Panama and broader blue economy goals. To do this, we grouped and coded our 44 *objective themes* into higher-level blue economy objective categories (*BE categories*). We selected five broader *BE categories* previously recognized as interdependent, interrelated, and essential for sustainable development and blue economy governance: environmental, resource use, economic, social, and governance (Smith-Godfrey, 2016; Keen et al., 2018; Voyer et al., 2020a, b) (Table 3); We validated these *BE categories* against our *corpus* of policy instruments. Table 3 lists all *objective themes* identified from our content analysis of policy instruments grouped into five broader *BE categories*.

We used our thematic groupings of objectives (*objective themes*) coded into higher-level blue economy objective categories (*BE categories*) to assess policy coherence based on the consistency of objectives across our *corpus* of policy instruments and their consistency with blue economy goals. To do this, we examined the cumulative percentage of policy instruments citing each *objective theme* across all five broader *BE categories*. We then used our sectoral categorization policy instruments to assess policy coherence for

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TABLE 2 Information respective to database categories of Panamanian policy instruments.

Type of text	Branch of government	Promulgation process and speed	Scope	Amendment or repeal	Binding/non-binding
National Law	Legislative	Consists of three debates within Panama's General Assembly and subsequent ratification by the executive. Lengthy process.	Generally broad but can be specific.	Law	Binding
Decree	Executive	Promulgated directly by the executive jointly with the branch minister. Usually a fast process.	Generally specific but can be broad.	Law or decree	Binding
Resolution	Executive	Promulgated by cabinet, directly by a Minister, or by a directive board. Fast process.	Specific	Law, decree, or resolution	Binding
National Policy	Legislative or executive	Can be promulgated through a law or decree. Speed of promulgation varies depending on promulgation instrument.	Specific	Law, Decree	Binding, but sets guidelines - rarely directly executable provisions.
Agreement	Legislative, executive, or municipal	Speed of promulgation varies depending on promulgating body.	Specific	Agreement, Decree, Law	Binding

individual sectors based on the consistency of objectives across sector-specific instruments and their consistency with broader blue economy goals. We accomplished this by examining the percentage of sector-specific policy instruments that shared *objective themes* respective to our individual *BE categories*.

4 Results

4.1 Panama's blue economy approach

We identified several references to the blue economy within our *corpus* of policy instruments. However, Panama's National Ocean Policy, Strategy, and Action Plan (NOP) stood out as the sole instrument meeting our criteria for defining the blue economy. Few, if any, other instruments in our *corpus* delved into the blue economy beyond passing mentions or general references. Specifically, the NOP emerged as the only country-specific instrument providing a comprehensive definition for Panama's blue economy and recognizing it as a governance approach:

[The blue economy] is a development approach that recognizes the importance of the environment, especially the ocean, as an economic engine due to its great potential for innovation and growth. It implies a transition towards participatory and holistic governance and strategic planning, which considers sustainable development's social, environmental, and economic dimensions and the sustainable use of marine, coastal, and maritime resources as critical components for social and economic development (MIRE, 2019, 2022).

All broader blue economy objective categories were effectively encapsulated within the NOP's definition of the approach (i.e., 'governance', 'social', 'economic', 'resource use', and 'environmental'). Within the NOP, the blue economy is positioned as a fundamental catalyst for achieving sustainable ocean development, closely aligning with the UN Sustainable Development Goals (SDGs). This overarching vision is intricately linked with 'logistics development' as one of five core strategies to the country's new approach to ocean governance. Each strategy within the NOP outlines actionable guidelines, specifying the key stakeholders and critical sectors essential for the approach's efficacy. Specifically, the 'Blue Economy and Logistics Development' strategy, integrated within the NOP framework, aims to enhance Panama's global stature as a logistics hub through the execution of a national maritime and logistics master plan (MIRE, 2022). Given these factors, we suggest that the NOP can be regarded as Panama's official blue economy approach, notwithstanding its original intended purpose extending beyond this specific focus.

4.2 Panama's blue economy sectors

Our sectoral categorization of policy instruments yielded five distinct sectors: Fisheries and Aquaculture; Tourism; Maritime, Shipping, and Ports; Environment and Conservation; and Energy (including oil and gas activities). All identified sectors are consistent with those outlined in Panama's NOP as central to the country's blue economy approach (MIRE, 2019, 2022), and with the sectors identified in existing scholarship as those most likely to be included under a blue economy (Silver et al., 2015; Voyer et al., 2018; Cisneros-Montemayor et al., 2019).

Of the 75 policy instruments in our *corpus*, 32% belonged to the 'Environment and Conservation sector', 23% to 'Fisheries & Aquaculture,' 17% to 'Energy,' 16% to 'Maritime, Shipping, and Ports,' and 13% to the 'Tourism' sector. These percentages account for the grouping of cross-sectoral policy instruments into each sector mentioned in the documents' objectives and functions (Figure 3).

4.3 Policy coherence across Panama's existing ocean policies and with a blue economy

The results of our initial assessment of policy coherence, or the state of mutual consistency of objectives across policies, show the

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TABLE 3 Objective themes (codes) identified from policy instruments grouped into five broader blue economy objective categories (BE categories).

BE categories	Objective themes
Environmental *Objective themes* focusing on environmental protection, conservation, and restoration, and achieving environmental sustainability.	Ecosystem & biodiversity conservation
	Reduce environmental impact
	Climate change mitigation
	Prevent pollution
	Waste management & reduction
Resource use *Objective themes* focusing on the use of natural resources and promoting sustainable resource management.	Sustainable use and production
	Climate change adaptation
	Increase production & profitability
	Access to resources and basic services
Economic *Objective themes* focusing on economic growth and development in the country, including sustainable economic development.	Industry-sector development
	Sustainable development
	Equipment and infrastructure
	Strengthen competitive advantage
	Poverty reduction & rural development
	Economic growth and development (GDP)
	Value addition and market access
	Financial and technical assistance
	Employment and Income
	Attract economic investment
	Promote national exports
	Small-scale sector development
Social *Objective themes* focusing on improving human well-being and livelihoods, including social justice and equity in the distribution and access to resources.	Education & capacity building
	Public participation
	Health, well-being, and quality of life
	Promote public awareness
	Gender & Social Inclusion
	Equity and equality (social)
	Food security and sovereignty
	Promote & protect cultural values
	Hygiene and Sanitation
	Social development
	Protect individual rights and access to justice
Governance *Objective themes* focusing on governance arrangements, including strengthening institutions, coordination and collaboration, management and harmonization, oversight and accountability, enforcement of rules and regulations, and upholding sovereign rights and responsibilities.	Effective management & harmonization
	National coordination and collaboration
	Promote science, technology, and innovation
	Collection, monitoring, and sharing of data
	Compliance and enforcement of regulations
	International coordination and collaboration
	National Security (incl. disaster & risk management)

(Continued)

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TABLE 3 Continued

BE categories	Objective themes
	Sovereign rights & responsibilities
	Community integration & development
	Stakeholder engagement
	Public access to information & transparency
	Evidence-based management

cumulative percentage of Panamanian ocean policy instruments in our *corpus* citing each *objective theme* within our five broader *BE categories* (Figure 4). Overall, our broader 'governance,' 'social,' and 'economic' *BE categories* encompassed more numerous and diverse *objective themes*. In contrast, the number and diversity of *objective themes* within our broader 'resource use' and 'environmental' *BE categories* were comparatively low. Additionally, 'governance' objectives displayed significantly higher levels of consistency compared to those within other *BE categories*. Conversely, 'social,' 'resource use,' and 'environmental' objectives were comparatively inconsistent.

4.3.1 Governance objectives

Our broader 'governance' *BE category* comprised 12 of the *objective themes* identified through our coding of policy instruments, 11 of which were among the top 20 and five among the top 10 most consistently shared across our *corpus*. 'Effective management and harmonization' and 'national coordination and collaboration' showed the highest levels of consistency, cited by 77% or more policy instruments. 'Promote science, technology, and innovation,' 'collection, monitoring, and sharing of data,' and 'compliance and enforcement of regulations' were the fourth, sixth, and ninth most consistent *objective themes*, respectively, cited within 53% or more policy instruments in our *corpus*. 'Evidence-based management' was the least consistent *objective theme* within this *BE category*, yet still shared across 37% of our *corpus*.

4.3.2 Social objectives

Our broader 'social' *BE category* included 11 of the *objective themes* identified from our *corpus*. 'Education and capacity building' and 'public participation' were the seventh and 10th most consistently shared, cited by 61% and 52% of policy instruments, respectively. Among the remaining 'social' *objective themes*, the next most consistently shared were 'health, well-being, and quality of life' and 'promote public awareness, cited by 49% and 47% of policy instruments, respectively. The percentages of policy instruments that shared other 'social' *objectives themes* were below 40%. For instance, the *objective themes* of 'gender and social inclusion' and 'social equity and equality' were consistent across 39% and 35% of our *corpus*, respectively. Additionally, the three least consistent *objective themes* across our *corpus* corresponded to this *BE category*, with the lowest being 'protect individual rights and access to justice' cited by 14% of policy instruments.

4.3.3 Economic objectives

Our broader 'economic' *BE category* also comprised 12 *objective themes*. The most consistently shared *objective theme* within this category and the eight most consistent across our *corpus* was 'industry-sector development,' cited by 59% of policy instruments. 'Sustainable development' was also relatively consistent across our *corpus*, shared by 48% of policy instruments. The percentages of policy instruments citing additional *objective themes* within this broader *BE category* did not exceed 36%, respective to 'equipment

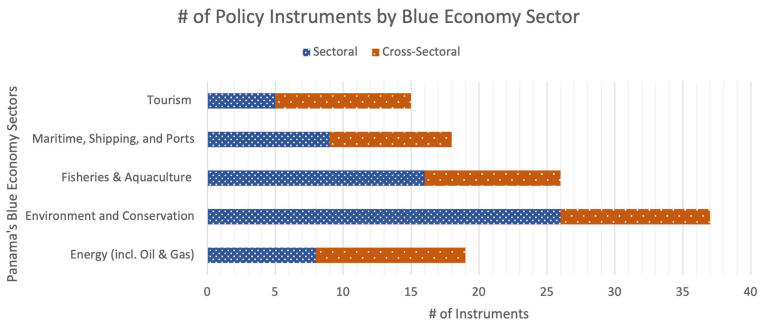

FIGURE 3
Number of policy instruments by sector. *Note.* Cross-sectoral instruments were assigned to all relevant sectors and therefore may be counted multiple times.

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FIGURE 4
Coverage of objectives themes across corpus of policy instruments. *Note.* Bars display the cumulative percentage of instruments across our *corpus* citing *objective themes* within each broader *BE category* (i.e., 82% of policy instruments in our *corpus* cited the 'effective management and harmonization' *objective theme* within our broader 'governance' *BE category)*.

and infrastructure,' and the lowest being 21% for 'promote national exports.' The majority of *objective themes* within this category, 10 out of 12, were among the 20 least consistent across our *corpus*, with six of these positioned among the 10 least commonly shared across policy instruments.

4.3.4 Resource use objectives

Our broader 'resource use' *BE category* comprised the lowest count of *objective themes*, consisting of four. The most prominent *objective theme* within this *BE category* and seventh most consistent across our *corpus* was 'sustainable use and production,' cited by 61% of policy instruments. However, aside from 'climate change adaptation,' consistent across 41% of our *corpus*, no additional *objective theme* within this broader *BE category* was shared by more than 28% of policy instruments. The remaining 'resource use' *objective themes* of 'increase production and profitability' and 'access to resources and basic services,' were consistent across 28% and 20% of our *corpus*.

4.3.5 Environmental objectives

Our broader 'environmental' *BE category* comprised five *objective themes*. 'Ecosystem and biodiversity conservation' was the most prominent and consistently shared *objective theme* within this *BE category*, cited by 74% of policy instruments. 'Reduce environmental impact' was the second most consistently shared 'environmental' *objective theme*, cited by 43% of policy instruments, and 17th most consistent across our *corpus*. The remaining *objective themes* within this broader *BE category* were

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'climate change mitigation,' 'prevent pollution,' and 'waste management and reduction,' shared by 36%, 32%, and 30% of policy instruments, respectively.

4.4 Policy coherence across sector-specific policies and with a blue economy

Our subsequent assessment examined policy coherence within the individual sectors identified through our categorization of Panamanian policy instruments and their coherence with broader blue economy objectives. We accomplished this by examining the extent to which *objective themes* respective to each broader *BE category* were consistent across sector-specific policy instruments (Figure 5). *Objective themes* across our five *BE categories* exhibited the highest levels of consistency across 'energy' and 'tourism' sectoral policy instruments. Minus a few minor exceptions, objectives relevant to all *BE categories* were relatively inconsistent across policy instruments respective to other sectors considered in our analysis when compared to the 'energy' and 'tourism' sectors.

4.4.1 Energy sector

Objective themes within our five broader *BE categories* were fairly consistent across 'energy' sector policy instruments. The percentages of instruments relevant to this sector that shared common objectives were among the highest in our *corpus*. Notably, *objective themes* within our broader 'environmental' *BE category* exhibited the highest levels of consistency across 'energy' policy instruments. *Objectives themes* within our broader *BE categories* of 'governance,' 'social,' and 'resource use' were also relatively consistent, particularly when compared to our results respective to other sectors in our analysis. While the percentages of policy instruments citing 'economic' *objective themes* were the lowest within this sector, they were the third highest in our *corpus*. However, aside from 'industry-sector development,' consistent across 74% of 'energy' policy instruments, 50% or

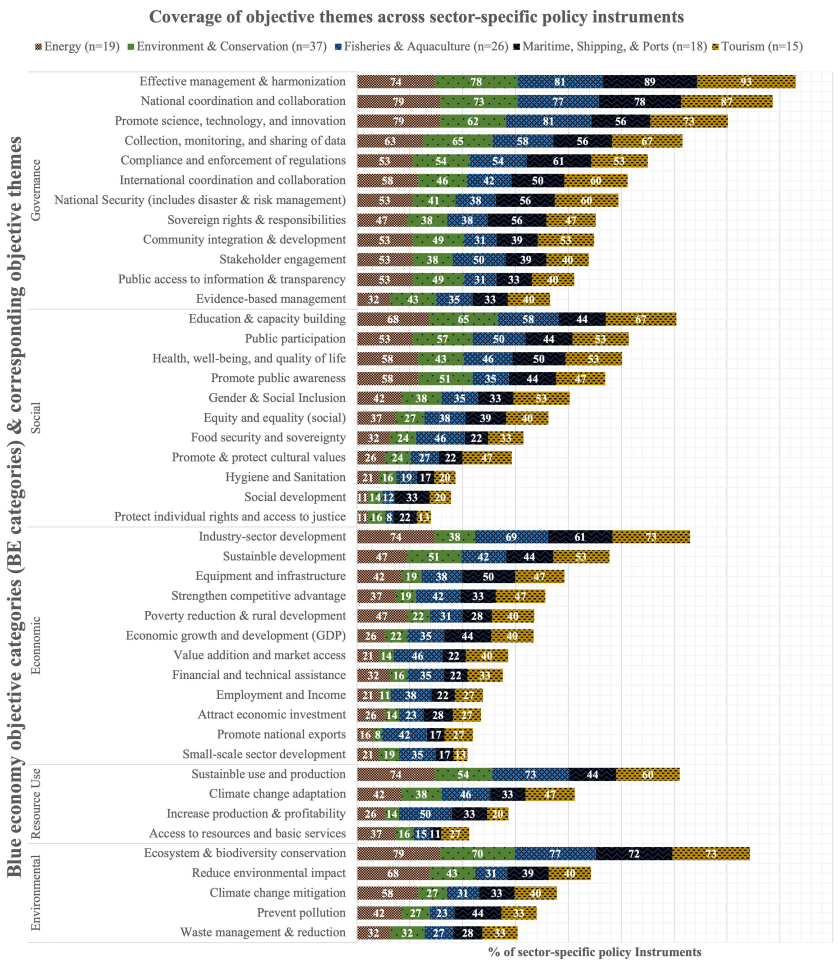

FIGURE 5
Coverage of objective themes across sector-specific policy instruments respective to each broader BE category. *Note.* The number (n) of policy instruments respective to each sector includes cross-sectoral instruments. Bars indicate the percentages of sector-specific policy instruments citing each *objective theme* (i.e., 79% of 'energy' policy instruments cite the 'ecosystem and biodiversity conservation' *objective theme* within the 'environmental' *BE category*).

fewer instruments within this sector shared additional *objective themes* within our broader 'economic' *BE category*.

4.4.2 Environment and conservation sector

Objective themes within all five broader *BE categories* were relatively inconsistent across 'environment and conservation' policy instruments. The percentages of relevant instruments sharing *objective themes* were among the lowest in our *corpus*. Five of the 11 *objective themes* within our broader 'governance' *BE category* were consistent across 50% or more of 'environment and conservation' instruments. However, these values were still the fourth lowest of all sectors in our analysis. Aside from the 'ecosystem and biodiversity conservation' *objective theme*, consistent across 70% of policy instruments, 43% or fewer instruments shared other *objective themes* within our broader 'environmental' *BE category*. Compared to other sectors in our analysis, *objective themes* within our broader 'social' *BE category* were relatively consistent across 'environment and conservation' policy instruments. However, only three of the 11 broader 'social' *objective themes* were consistent across 50% or more instruments. The percentages of instruments sharing *objective themes* within our broader' resource use' and 'economic' *BE categories* were second to lowest and lowest in our *corpus*. Other than 54% of relevant policy instruments citing 'sustainable use and production,' 38% or fewer instruments shared 'resource use' *objective themes*. Lastly, the percentages of instruments citing 'economic' *objective themes* were the lowest in our *corpus*. Aside from 'sustainable development', cited by 51% of relevant policy instruments, no other *objective theme* within our broader 'economic' *BE category* was consistent across more than 38% of this sector's respective instruments.

4.4.3 Fisheries and aquaculture sector

Policy instruments relevant to the 'fisheries and aquaculture' sector focused almost exclusively on *objective themes* within our broader 'economic' and 'resource use' *BE categories*. The percentages of policy instruments sharing *objectives themes* within these two *BE categories* were the highest in our *corpus*. The most consistent *objective theme* within our broader 'resource use' *BE category* was 'sustainable use and production,' shared by 73% of instruments. Within our broader 'economic' *BE category*, the most consistent *objective theme* was 'industry-sector development,' shared by 69% of instruments. In contrast, percentages of 'fisheries and aquaculture' instruments sharing *objective themes* within our broader 'environmental, 'social,' and 'governance' *BE categories* were lower for this sector than other sectors in our analysis. In fact, percentages of instruments sharing *objective themes* within our broader 'environmental' and 'governance' *BE categories* were the lowest in our *corpus*. Aside from 'ecosystem and biodiversity conservation', shared by 77% of relevant policy instruments, 31% or fewer instruments cited other *objective themes* within our broader 'environmental' *BE category*, and only five out of 12 *objective themes* within our broader 'governance' *BE category* were consistent across more than 50% of instruments. While the percentages of 'fisheries and aquaculture' instruments sharing *objective themes* within our broader 'social' *BE category* were not the lowest in our *corpus*, they were comparatively low. Other than 'education and capacity building,' shared by 58% of relevant instruments, 50% or fewer instruments shared *objective themes* within our 'social' *BE category*.

4.4.4 Maritime, shipping, and ports sector

The percentages of instruments respective to the 'maritime, shipping, and ports' sector that shared *objective themes* within our broader 'governance' *BE category* were the highest in our *corpus*. Eight out of 12 *objective themes* within our 'governance' *BE category* were consistent across 50% or more instruments, and 30% or more instruments shared the remaining four. While the percentages of this sector's respective instruments sharing *objective themes* within our 'environmental' *BE category* were the third highest in our *corpus*, they were relatively low. Aside from 'ecosystem and biodiversity conservation', shared by 72% of instruments, 44% or fewer instruments shared other *objective themes* within our 'environmental' *BE category*. The levels of consistency relevant to *objective themes* within our broader 'economic' *BE category* exhibited a similar pattern. While 61% of relevant policy instruments cited 'industry-sector development' objectives, 50% or fewer instruments cited other *objective themes* within our 'economic' *BE category*. Lastly, the percentages of instruments sharing *objective themes* within our broader' resource use' and 'social' *BE categories* were among the lowest in our *corpus*, with 50% or fewer instruments sharing *objective themes* within either *BE category*. Lastly, this sector exhibited the lowest levels of consistency respective to *objective themes* within our 'social' *BE category*.

4.4.5 Tourism sector

Policy instruments respective to the 'tourism' sector exhibited high consistency of *objective themes* within all our broader *BE categories*. The percentages of 'tourism' policy instruments citing *objective themes* across all *BE categories* were among the highest in our *corpus*. *Objective themes* within our broader 'social' and 'governance' *BE categories* were more consistent across 'tourism' policy instruments than other sectors in our analysis. Similarly, *objective themes* within our broader 'environmental' and 'economic' *BE categories* were the second highest in our *corpus*. Finally, *objective themes* within our broader' resource use' *BE category* were the least consistent across 'tourism' instruments, with 60% of instruments citing 'sustainable use and production' objectives and 50% or fewer instruments citing other 'resource use' *objective themes*. Nonetheless, these values were still high compared to other sectors in our analysis and the third highest in our *corpus*.

5 Discussion

The results of our policy coherence analysis highlight several key findings relevant to developing and implementing a blue economy approach to ocean governance in Panama. We found that existing ocean policies in Panama clearly describe what the country envisions for its blue economy, the sectors included under

the approach, and the objectives it seeks through its implementation. Our results also indicate that the objectives expressed in Panama's existing ocean governance policies are largely compatible with the broader goals of a blue economy. These findings suggest that Panama is in a promising position to successfully integrate a blue economy approach into its existing policy framework for ocean governance. However, we found that some broader blue economy goals (such as those within our 'governance' *BE category*) are noticeably more consistent across the country's current ocean policies compared to other goals. For example, 'resource use' and 'environmental' objectives were the least consistently stated—i.e., clearly expressed and shared—across Panama's existing ocean policies. Additionally, while social objectives were not the least consistently stated *collectively*, the three least consistently represented *individual* objectives were all social. This apparent lack of consistency revealed through our analysis may foretell challenges for meeting these environmental, resource use, and social objectives when implementing a blue economy in Panama. All these findings, however, are important to place in the context of other research and documented policy outcomes. As we discuss in the following, the textual representation of objectives within and across policies does not guarantee the attainment of those outcomes in practice, regardless of assessed consistency, compatibility, and overall coherence. With this in mind, the following discussion also highlights some of the practical limitations of our analysis and potential avenues for future research.

In 2022, Panama's National Ocean's Policy (NOP) introduced the blue economy as an integral component of the country's new approach to ocean policy and governance. While we suggest that the NOP can be regarded as Panama's official blue economy approach, its intended purpose is to serve as a general framework for ocean governance in the country and extends beyond solely addressing the blue economy. It is important to note that the NOP offers general guidelines, rather than directly executable provisions. Additionally, it does not supersede or eliminate existing ocean policies in Panama predating 2022, but rather complements, builds upon, and relies on those existing policies as integral components of Panama's ocean governance framework. Nonetheless, the NOP provides a clear description of what the country envisions for its blue economy, including the sectors included under the approach and the objectives it seeks through its implementation. This contribution of the NOP to Panama's policy framework for ocean governance is of notable importance, as explicit deliberation on what a blue economy can and should achieve within a given context, including the sectors and activities it comprises, is an essential precondition that increases the likelihood of its success (Voyer et al., 2020a, b).

Furthermore, we found that the overarching objectives expressed in Panama's existing policy framework for ocean governance are generally compatible with broader blue economy goals. All higher-level outcomes sought by a blue economy, represented here by our five broader *BE categories* ('environmental,' 'resource use,' 'economic,' 'social,' and 'governance'), are generally represented across policy instruments that govern Panama's identified blue economy sectors. Previous studies suggest that a lack of compatibility between the broader goals of a blue economy approach and the aims and priorities of the existing ocean governance framework within a specific setting can lead to implementation problems, conflicts between ocean actors, and the failure to achieve blue economy objectives (Bond, 2019; Childs and Hicks, 2019). Thus, the compatibility we identified through our analysis indicates that Panama is positioned to better integrate a blue economy approach with existing policies and potentially experience fewer negative consequences upon its implementation.

While all broader blue economy goals were generally represented in Panama's existing ocean governance framework, our assessment revealed that specific objectives within the 'governance' *BE category* were the most consistently shared across the country's ocean policies (Figure 4). Theoretically, a higher consistency of stated objectives across a country's policies indicates a greater likelihood of achieving those objectives (Howlett and Rayner, 2007; OECD, 2009; Howlett, 2014a, b; Koff et al., 2020). This apparent emphasis on governance objectives and the greater likelihood of their attainment suggests that resources could be prioritized to address issues in other ocean policy areas in Panama that we found to exhibit a much lower consistency of objectives across ocean policies and with broader blue economy goals (i.e., 'resource use', 'environmental', and 'social' objectives), as we discuss in the following paragraphs.

Contrary to our findings regarding the 'governance' *BE category* of objectives, 'resource use' and 'environmental' objectives were the least consistently stated across Panama's existing ocean policies (Figure 4). Following the logic outlined in our previous paragraph, this indicates that objectives within these two categories are less likely to be realized. While the low representation of 'resource use' and 'environmental' objectives can represent a gap or weakness of the existing ocean policy framework in Panama, it also reveals a need and an opportunity for policymakers in the country to amend existing or introduce new policy provisions that better position the country to attain 'environmental' and 'resource use' goals integral to a blue economy.

Although 'social' objectives were not the least consistently stated *collectively*, the three least consistently represented *individual* objectives were all 'social' (i.e., 'protect individual rights and access to justice,' 'social development,' and 'hygiene and sanitation'). Several other individual 'social' objectives, such as 'social equity and equality,' were also among the least consistently represented across existing ocean policies. Given that scholarship highlights that a greater focus on social objectives – especially social equity and justice – is what can truly differentiate a blue economy from more traditional approaches to ocean governance (Cisneros-Montemayor, 2019; Cisneros-Montemayor et al., 2019, 2021), our findings suggest that Panama's existing policies may be lacking in a particularly important policy area. This finding is also supported by other studies, which have documented weaknesses in social outcomes and high social inequities in Panama. For example, Panama has been found to be lagging in numerous areas of social policy and human development when compared to other countries in Latin America with similar economic performance, including education, health, gender equality, and social inclusion (Herrera M. et al., 2018; IMF, 2020; Baird, 2023).

As for our sector-specific policy coherence assessment, our results indicate that two of Panama's identified blue economy sectors, 'tourism' and 'energy,' are better aligned with the overarching goals of a blue economy approach, as policy objectives within all five broader *BE categories* were considerably more consistent across policies specific to these sectors than other sectors included in our analysis (Figure 5). These findings suggest that Panama could prioritize resources towards increasing coherence across policies relevant to its other identified blue economy sectors and elevating their consistency with the broader aims of its blue economy approach. A coherent governance framework can benefit from increased consistency across different policy areas (sectors) so that they strengthen and reinforce each other (OECD, 2021). Furthermore, a successful blue economy approach is one in which objectives are consistently shared within and across policies relevant to all identified blue economy sectors, and that these specific objectives are consistent with the overarching goals of a blue economy (Bennett et al., 2019; Cisneros-Montemayor et al., 2019; Voyer et al., 2020a, b; Cisneros-Montemayor et al., 2021).

Interpreting our findings in the context of other literature on marine and coastal policy and associated outcomes in Panama suggests that the textual representation of objectives within and across policies does not guarantee the attainment of those outcomes in practice. For instance, previous studies have characterized Panama's marine and coastal management as uncoordinated and, in some instances, ineffective (Spalding et al., 2015; Seemann et al., 2023). This stands in contradiction to our analysis, which revealed that 'effective management and harmonization' is the most consistently stated objective across existing ocean policies in Panama. Another example is our finding that 'sustainable use and production' and 'ecosystem and biodiversity conservation' had the highest levels of consistency within the 'resource use' and 'environmental' categories. However, Panama has consistently faced criticism and the threat of market-based sanctions due to the alleged mismanagement of its fisheries and non-cooperation in the fight against Illegal, Unreported, and Unregulated (IUU) fishing (European Commission, 2019; Molina Alarco, 2022). This suggests that, despite our finding that 'sustainable use and production' objectives were found in 61% of ocean policies analyzed for this study, and within 73% of 'fisheries and aquaculture' sector-specific policies, Panama is far from achieving the objective in practice. Similarly, while 'ecosystem and biodiversity conservation' objectives were shared by 74% of policies considered in our study, and across 70% of 'environment and conservation' sector-specific policies, Panama has repeatedly failed to meet UN standards for the management of ecologically important protected areas to the point of facing threats of losing World Heritage Site status for one of the country's most emblematic marine protected areas (UNESCO, 2023). These examples collectively demonstrate that, while conducting a policy coherence assessment and modifying or drafting new provisions to accommodate a blue economy is an important step, it is just the first of many necessary to ultimately adopt an improved approach to ocean governance.

Evaluating the impact of policies is another critical step. Although this paper sets out to assess policy coherence, not policy effectiveness, future research on Panama could build on this study by doing so. There is a notable dearth of literature on marine and coastal policy and governance in Panama post-2015, extending to the period following the approval of the National Oceans Policy (NOP) and its accompanying blue economy strategy in 2022. This scarcity compelled us to rely on academic literature largely predating the NOP, constraining our ability to discuss the NOP's impact on actual ocean policy objectives, outcomes, and governance effectiveness beyond the aforementioned European Commission and UN actions.

While our analysis yielded valuable information concerning Panama's existing policy framework for ocean governance and the development of a blue economy in the country, we also acknowledge the limitations of our study. While our *corpus* included policies relevant to all sectors identified as integral to Panama's blue economy, it does not represent the entire suite of instruments that govern sectors relevant to marine and coastal policy in the country. Furthermore, we only accounted for higher-level policy instruments, assuming that their overarching nature and objectives permeate throughout lower-tiered instruments stemming from those higher-tiered codified statutes and ordinances. Our *corpus* was also limited due to practicality. Given that all coding for this study was done manually, our sample size had to be maintained at manageable levels. Thus, it is inherently possible that our results only reflect objectives as stated by the categories of policy instruments considered in our analysis and not those of the ocean governance system as a whole. However, these limitations open several lines of inquiry that we consider potentially important directions for future research that can more comprehensively explore policy frameworks and the relationship between different categories of policy instruments within a specific policy area.

We also recognize that our study examined the consistency of objectives across policies without delving into the reasons why some objectives are more consistent than others. The percentage (%) values presented in our results solely represent the extent to which specific objectives are shared across our sample of policy instruments and their alignment with broader blue economy goals. However, we acknowledge that the overall aims and objectives stated within the individual policies of a broader governance framework do not necessarily translate into practice, as we demonstrated in preceding paragraphs of this discussion through several examples from our case study. Beyond our Panama-specific examples, numerous studies have shown how efforts to design and implement holistic and integrative governance approaches, including efforts focusing on policy coherence, have failed to meet their stated objectives and, in some cases, yielded unintended and undesirable consequences (Khalilian et al., 2010; Allwood, 2013; Kelly et al., 2018; Vince, 2018; Browne et al., 2023). Therefore, focusing on the stated objectives of policy instruments might not reflect the reality of what actually takes place on the ground. In addition, the provided examples also help highlight the limits of policy coherence and our analysis, as securing policy outcomes is not just a matter of synergistic, holistic, integrative, or coherent policies but also a product of capacity, resources, and political will (OECD, 2021; Shawoo et al., 2023). Additionally, while

it is generally agreed that consistency leads to coherence, and coherence leads to a higher likelihood that objectives will be achieved, there is no clarity or consensus on how much coherence is "good" or "sufficient" enough to guarantee a particular outcome (OECD, 2021; Browne et al., 2023). In other words, the interpretation of our results is largely based on the relative assessment of coherence (higher or lower, as opposed to sufficiently coherent to guarantee policy outcomes or not) and the theoretical assumption that higher coherence leads to an increased likelihood that an objective will be achieved. As a result, we cannot indicate the threshold for coherence at which an objective is likely to be achieved nor the reasons why some objectives are more consistent than others in Panama or elsewhere, though determining such a threshold and the underlying reasons for variations in consistency could be a direction for future research.

It is also important to acknowledge the role that external actors like the UN have played in driving Panama's ocean governance policies. Panama's NOP was funded by and jointly conceived and drafted with the UN, which was also directly involved in oversight duties of the process that culminated in the approval of the national policy and also maintains copyright over the document (MIRE, 2022). Given the role of the UN in the processes that led to the NOP, their continued engagement may be critical not just for the design but also for the ultimate implementation and oversight of the country's blue economy. However, continued UN funding and involvement in Panama's NOP and blue economy are, while possible, not assured. These considerations raise a series of questions, such as how the UN influenced Panama's blue economy vision and whose vision is reflected within national policies. They also raise questions about whether Panama's NOP, and its proposed blue economy strategy, is another example of policy change as a direct result of external influence rather than the country's initiative. These questions could also be relevant in other countries and regions where the UN, or other international bodies, may have or are currently influencing ocean policy design and implementation. As the move towards multilateral and multi-stakeholder models of ocean policy and governance continues (Spalding and de Ycaza, 2020), addressing these questions becomes important. While there are numerous advantages to multilateral and multi-stakeholder decision-making processes, including those relevant to the blue economy, there are inherent risks for those actors with less capacity and resources to participate and have their voices heard (Benjaminsen and Bryceson, 2012; Barbesgaard, 2017; Bennett, 2018; Brent et al., 2018; Mallin and Barbesgaard, 2020). These lines of inquiry and their implication for Panama's (and other countries') blue economy (and broader ocean governance) are important potential avenues for future research, as answering these questions escapes the purview of our analysis.

6 Conclusion

Our assessment of policy coherence across a range of existing ocean policies in Panama yielded valuable insights into the design and implementation of the country's blue economy approach. It confirms the value of situating a broadly defined concept like the blue economy within a specific context and carefully assessing the extent to which its overarching goals align or misalign with the objectives of existing ocean governance frameworks. By identifying potential limitations of the existing ocean policy framework and areas of potential inconsistencies with blue economy aims, it is possible to identify where attention and resources may be directed to design and implement a blue economy that can help address those identified issues and improve ocean governance as a whole.

Other countries seeking to implement a blue economy could use Panama's current policy framework for ocean governance, or specific elements of it, as a reference point for designing and implementing their national approaches. For instance, countries that intend to implement a blue economy but have yet to define their approach could do so through a NOP that captures their national vision. Additionally, countries or regions where implementing a blue economy has been identified as an opportunity for growth (Phang et al., 2023) could find value in using a policy coherence assessment to examine the extent to which the approach is compatible with their existing ocean governance frameworks. Where incompatibilities are apparent, countries can introduce provisions that can help address those matters and consequently increase the potential success of policy integration and subsequent implementation. Following Panama's example, designing and implementing integrative ocean policies such as a NOP may prove helpful towards plugging in compatibility gaps, which could also be accomplished by designing a blue economy approach that acknowledges and addresses identified areas of policy incompatibility. While complete policy compatibility between proposed blue economy approaches and existing ocean governance frameworks may not be absolutely necessary or possible, increasing compatibility could increase the potential for its success (Garland et al., 2019; Voyer et al., 2020a, b). While we recognize the limitations of our assessment and broader assumptions of policy coherence theory, we acknowledge policy coherence assessments as potentially useful, practical tools for examining the extent to which a blue economy is compatible with and can add value to a country's existing ocean governance framework and regard it as a valuable first step to designing and implementing a blue economy approach.

Finally, our findings also address broader discussions relevant to blue economy design and implementation. Panama's blue economy definition and ocean governance objectives seemingly grasp the conception of win-win approaches surrounding global blue economy narratives in that the approach reconciles economic growth aspirations with social and environmental goals (Barbesgaard, 2017; Brent et al., 2018; Cisneros-Montemayor, 2019; Cisneros-Montemayor et al., 2019; Ertör and Hadjimichael, 2020; Cisneros-Montemayor et al., 2021). However, the under-representation of specific objectives within Panama's ocean policy framework for ocean governance that have been identified as relevant to and essential for a blue economy aligns with current concerns that the blue economy is merely a new name for legitimizing traditional ocean governance practices (Brent et al., 2018; Cisneros-Montemayor et al., 2019). Especially significant is

the lack of alignment with and consistency of social objectives, an issue which has also been revealed by similar studies within other countries and regions developing their own blue economy approaches (Voyer et al., 2020a, b). This lack of consideration and under-representation of social objectives within the blue economy has already been recognized as an area of critical concern (Barbesgaard, 2017; Cohen et al., 2017; Brent et al., 2018; Cisneros-Montemayor et al., 2019; Cohen et al., 2019; Issifu et al., 2023). Therefore, as the blue economy continues to gain global traction, it is essential to direct attention towards addressing the issues already evident within existing examples of blue economy policy and practice. An increased focus on social objectives, particularly social equity, justice, diversity, and inclusion, is what can truly distinguish the blue economy from business-as-usual approaches to ocean governance (Barbesgaard, 2017; Cohen et al., 2017; Brent et al., 2018; Bennett et al., 2019; Cisneros-Montemayor et al., 2019; Cohen et al., 2019; Cisneros-Montemayor et al., 2021; Issifu et al., 2023).

Data availability statement

The original contributions presented in the study are included in the article/Supplementary Material. Further inquiries can be directed to the corresponding author.

Author contributions

RY: Conceptualization, Data curation, Formal analysis, Funding acquisition, Investigation, Methodology, Project administration, Resources, Supervision, Validation, Visualization, Writing – original draft, Writing – review & editing. AS: Conceptualization, Funding acquisition, Supervision, Validation, Writing – review & editing. AC-M: Conceptualization, Funding acquisition, Validation, Writing – review & editing.

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Conflict of interest

The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

Publisher's note

Supplementary material

The Supplementary Material for this article can be found online at: https://www.frontiersin.org/articles/10.3389/fmars.2024.1336030/full#supplementary-material

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