REVISTA UNIVERSIDAD DE GUAYAQUIL Vol. 140 No. 2 - 2026 (Julio-Diciembre)
ISSN: 2477-913X **e-ISSN:** 2806-5751

Viabilidad ambiental en las áreas protegidas del Ecuador: análisis del Acuerdo Ministerial Nro. MAATE-2022-079

Environmental Viability in Ecuador's Protected Areas: Analysis of Ministerial Agreement No. MAATE-2022-079

Walter Esteban Pisco Maldonado
Karola Estefanía Sánchez Cumbal
Josselyn Andrea Vera Bravo

Fecha de recepción: 23 de marzo de 2026
Fecha de aceptación: 04 de junio de 2026

REVISTA UNIVERSIDAD DE GUAYAQUIL Vol. 140 No. 2 - 2026 (Julio-Diciembre)
ISSN: 2477-913X **e-ISSN:** 2806-5751

Viabilidad ambiental en las áreas protegidas del Ecuador: análisis del Acuerdo Ministerial Nro. MAATE-2022-079

Environmental Viability in Ecuador's Protected Areas: Analysis of Ministerial Agreement No. MAATE-2022-079

Walter Esteban Pisco Maldonado [1], Karola Estefanía Sánchez Cumbal [2], Josselyn Andrea Vera Bravo [3]

Como citar: Pisco Maldonado W., Sánchez Cumbal K., Vera Bravo J.(2026). Viabilidad ambiental en las áreas protegidas del Ecuador: análisis del Acuerdo Ministerial Nro. MAATE-2022-079. *Revista Universidad de Guayaquil*. *140 (2)*, pp.: 114-133. DOI: https://doi.org/10.53591/revug.v140i2.3211

RESUMEN

El Acuerdo Ministerial Nro. MAATE-2022-079 constituye un instrumento de alta utilidad en el proceso de regularización ambiental, referente a la viabilidad ambiental de proyectos, obras o actividades que se desarrollan o intersecan con el Sistema Nacional de Áreas Protegidas (SNAP) del Ecuador. Este sistema cuenta actualmente con 81 áreas protegidas distribuidas en las regiones Costa, Sierra, Amazonía y Galápagos, protegiendo ecosistemas estratégicos, especies endémicas y una amplia diversidad biológica, elementos fundamentales para la conservación del patrimonio natural del país. El análisis considera el alcance técnico, operativo y jurídico del Acuerdo Ministerial y resalta su rol como instrumento normativo que dirige las intervenciones antrópicas dentro de áreas protegidas, en concordancia con los principios constitucionales de prevención, sostenibilidad, protección y remediación de la biodiversidad.

El trabajo se sustenta en un enfoque cualitativo centrado en el análisis jurídico y la interpretación del contenido normativo, mediante un diseño documental de carácter jurídico. Incluye la revisión de normativa ambiental, el análisis del contenido técnico del instrumento y la evaluación de su consistencia normativa, su alineación con el marco jurídico vigente y su pertinencia en la gestión ambiental. El Acuerdo Ministerial establece procedimientos administrativos y criterios técnicos que fortalecen la gestión preventiva de impactos ambientales; se identifican vacíos operativos en la delimitación de roles institucionales, la integración de los planes de manejo, la diferenciación según categorías de manejo y la ausencia de mecanismos claros de seguimiento y control. Se evidencia, además, una limitada participación de actores locales y comunidades en los procesos asociados a la viabilidad ambiental.

En la práctica, su aplicación muestra avances en la regularización ambiental del SNAP, aunque su efectividad depende del fortalecimiento de la articulación interinstitucional, la clarificación de responsabilidades y la implementación de mecanismos operativos que garanticen la protección del patrimonio natural en el Ecuador.

PALABRAS CLAVE: viabilidad ambiental; áreas protegidas; prevención de impactos; gestión ambiental; conservación.

[1]Ing. Magister en Gerencia Ambiental, Ministerio de Ambiente y Energía, Ecuador. Email: estebanpisco@gmail.com. ORCID. https://orcid.org/0000-0003-4482-5066
[2]Abogada. Especialista en Derecho Procesal, Ministerio de Ambiente y Energía, Ecuador. Email: karolaestefaniasc@gmail.com ORCID. https://orcid.org/0009-0005-5830-7202
[3]Ing. Magister en Gestión Ambiental. Ministerio de Ambiente y Energía, Ecuador. Email: andreavera0501@outlook.com ORCID. https://orcid.org/0009-0000-1966-9941

Esta obra está bajo licencia Creative Commons Reconocimiento-NoComercial-SinObraDerivada 4.0 Internacional. Para ver una copia de esta licencia, visite https://creativecommons.org/licenses/by-nc-nd/4.0/.

REVISTA UNIVERSIDAD DE GUAYAQUIL Vol. 140 No. 2 - 2026 (Julio-Diciembre)
ISSN: 2477-913X **e-ISSN:** 2806-5751

Viabilidad ambiental en las áreas protegidas del Ecuador: análisis del Acuerdo Ministerial Nro. MAATE-2022-079

Environmental Viability in Ecuador's Protected Areas: Analysis of Ministerial Agreement No. MAATE-2022-079

ABSTRACT

Ministerial Agreement No. MAATE-2022-079 constitutes a highly useful instrument in the process of environmental regulation, particularly regarding the environmental viability of projects, works, or activities carried out within or intersecting the National System of Protected Areas (SNAP) of Ecuador. This system currently comprises 81 protected areas distributed across the Coastal, Andean, Amazon, and Galápagos regions, safeguarding strategic ecosystems, endemic species, and a wide range of biological diversity, which are fundamental for the conservation of the country's natural heritage. The analysis considers the technical, operational, and legal scope of the Ministerial Agreement and highlights its role as a regulatory instrument that guides human interventions within protected areas, in accordance with constitutional principles of prevention, sustainability, and biodiversity protection and restoration.

The study is based on a qualitative approach focused on legal analysis and the interpretation of regulatory content, using a documentary design of a legal nature. It includes the review of environmental regulations, the analysis of the instrument's technical content, and the evaluation of its normative consistency, its alignment with the current legal framework, and its relevance to environmental management. The Agreement establishes administrative procedures and technical criteria that strengthen the preventive management of environmental impacts; however, operational gaps are identified in the definition of institutional roles, the integration of management plans, the differentiation of criteria according to management categories, and the absence of clear monitoring and control mechanisms. In addition, limited participation of local actors and communities is observed in processes related to environmental viability.

In practice, its application shows progress in the environmental regulation of the SNAP; however, its effectiveness depends on stronger inter-institutional coordination, clearer assignment of responsibilities, and the implementation of operational mechanisms that ensure the protection of Ecuador's natural heritage.

KEYWORDS: Environmental viability; protected areas; impact prevention; environmental management; conservation.

Esta obra está bajo licencia Creative Commons Reconocimiento-NoComercial-SinObraDerivada 4.0 Internacional. Para ver una copia de esta licencia, visite https://creativecommons.org/licenses/by-nc-nd/4.0/.

ISSN: 2477-913X e-ISSN: 2806-5751

INTRODUCTION

Ecuador's environmental institutional framework has undergone a progressive process of transformation aimed at strengthening the protection of natural heritage and the sustainable management of natural resources. The creation of the Ministry of the Environment through Executive Decree No. 195-A, published in Official Register No. 40 on October 4, 1996, constituted a milestone in the consolidation of a specialized state structure for biodiversity conservation and environmental regulation. Subsequently, the incorporation of competencies related to forest management, protected areas, and water resources strengthened the institutional capacity of the environmental sector. This process culminated with the creation of the Ministry of Environment, Water and Ecological Transition through Executive Decree No. 709 of 2019 and, more recently, with the institutional reorganization that gave rise to the current Ministry of Environment and Energy through Executive Decree No. 94 of 2025. Although these reforms respond to administrative efficiency criteria, they also generate challenges related to the articulation between biodiversity conservation and the use of strategic resources.

Ecuador's constitutional framework grants particular relevance to environmental protection by recognizing nature as a subject of rights and establishing the National System of Protected Areas (SNAP) as an essential component of public conservation policy. The Constitution of the Republic of Ecuador establishes that nature has the right to full respect for its existence and to the maintenance of its life cycles (art. 71), while imposing on the State the obligation to promote an environmentally sustainable development model (art. 395). Therefore, protected areas represent strategic spaces for the conservation of ecosystems, biodiversity, and ecosystem services fundamental to human well-being, which demands regulatory mechanisms that adequately regulate activities carried out within them.

Within contemporary environmental law, the preventive principle constitutes one of the essential foundations of environmental management, by promoting the adoption of anticipatory measures aimed at avoiding or minimizing the occurrence of damage before it materializes. Ballesteros (2000) notes that this principle guides both public and private action toward early interventions, prioritizing preventive actions over subsequent corrective measures. Along the same lines, prevention represents one of the pillars of modern environmental law, shifting the emphasis from damage remediation to risk anticipation and management.

For its part, the precautionary principle extends the scope of environmental protection by establishing that the absence of absolute scientific certainty should not be used as justification for postponing measures intended to prevent serious or irreversible damage. Cozar Escalante (2005) highlights that this principle requires action in scenarios of scientific uncertainty when there are potentially significant risks to the environment. Likewise, Raffensperger and Tickner (1999) argue that precaution implies adopting protective measures against potentially significant threats to the environment, even when the available scientific evidence does not allow for establishing absolute causal relationships. This approach has been internationally recognized through Principle 15 of the Rio Declaration on Environment and Development (UN, 1992), consolidating environmental management oriented both toward damage prevention and precautionary action in the face of uncertain risks. The joint application of both principles has significantly influenced the design of environmental assessment and control instruments, especially in protected areas, where high ecological sensitivity and the complexity of ecosystem interactions demand decisions based on rigorous technical criteria and oriented toward minimizing potential risks to biodiversity and ecosystem services (Kiss & Shelton, 2007).

Environmental governance is understood as the set of processes, institutions, and mechanisms through which various actors participate in decision-making related to the sustainable management

of natural resources. This approach recognizes that environmental protection transcends exclusive State action and depends on the interaction between public bodies, private actors, local communities, and other sectors involved in planning, regulation, and environmental control. Lemos and Agrawal (2006) argue that environmental governance represents a transition from traditional hierarchical models toward more participatory and polycentric schemes, where multiple actors share responsibilities in decision-making. For their part, Lockwood (2010) notes that effective governance is based on principles such as legitimacy, transparency, accountability, inclusion, equity, and institutional capacity.

In the specific field of protected areas, Graham, Amos, and Plumptre (2003) define governance as the interactions between structures, processes, and traditions that determine how power is exercised, how decisions are made, and how different actors involved in public management participate. Complementarily, Borrini-Feyerabend et al. (2013) point out that protected area governance comprises the processes through which authority, responsibility, and accountability over these spaces are exercised, highlighting that the diversity of actors and effective coordination among them can strengthen the achievement of conservation objectives. From this perspective, the legitimacy and effectiveness of conservation policies depend both on the State's regulatory capacity and on the quality of institutional relationships and the incorporation of multiple perspectives in decision-making processes.

Environmental management instruments constitute essential tools within environmental governance systems, providing technical criteria that support the decision-making of competent authorities. Their implementation favors the reduction of administrative discretion, strengthens the objectivity of evaluations, and promotes greater coherence in decisions related to conservation and sustainable land use. Glasson, Therivel, and Chadwick (2012) point out that these instruments facilitate the integration of environmental considerations into planning and development processes, contributing to the prevention of negative impacts on ecosystems. Likewise, Sadler (1996) defines environmental impact assessment as a systematic process aimed at identifying, predicting, and evaluating the potential effects of proposed actions prior to decision-making, while Morgan (2012) highlights that its effectiveness depends not only on its methodological design but also on its adequate integration into decision-making and environmental monitoring processes. This function acquires special importance in protected areas, where it is necessary to assess the compatibility of projects, works, or activities with the conservation objectives defined for each space.

Furthermore, adaptive management has been consolidated as a fundamental approach for the administration of complex socio-ecological systems. This model recognizes the uncertainty inherent in environmental processes and promotes continuous learning processes based on monitoring, evaluation of results, and progressive adjustment of management strategies (Holling, 1978; Walters, 1986). Adaptive governance strengthens institutional response capacity in the face of environmental changes through collaboration mechanisms, social learning, and coordination among the various actors involved in natural resource management (Folke et al., 2005). In the field of protected areas, Williams, Szaro, and Shapiro (2009) point out that this approach is particularly useful, since management strategies must be continuously adjusted based on new scientific evidence and changes in ecological and social conditions, in order to guarantee the effective fulfillment of conservation objectives.

The effectiveness of environmental regulatory instruments does not depend exclusively on their formal existence within the legal system, but also on their capacity to achieve the objectives for which they were designed. Howlett and Ramesh (2003) argue that the evaluation of public policy instruments must consider both the coherence of their design and their performance during implementation. Complementarily, Vedung (1998) proposes that effectiveness evaluation requires analyzing the relationship between the results obtained and the originally intended objectives, while Young (2013) points out that factors such as normative clarity, institutional capacity, monitoring

mechanisms, and the degree of acceptance by involved actors directly influence the performance of environmental regulatory instruments.

Ministerial Agreement No. MAATE-2022-079 establishes technical and administrative guidelines for the issuance of environmental viability rulings regarding projects, works, or activities that intersect with the National System of Protected Areas. Its content is articulated with the provisions of the Organic Environmental Code, particularly with those related to the prevention, mitigation, and remediation of environmental impacts derived from anthropogenic activities. From an environmental governance perspective, this instrument constitutes a regulatory mechanism aimed at strengthening decision-making based on technical and preventive criteria, promoting compatibility between the development of activities and the conservation objectives of the SNAP.

Under these considerations, this article analyzes Ministerial Agreement No. MAATE-2022-079 as a regulatory instrument for the issuance of environmental viability rulings within the National System of Protected Areas. Through a documentary approach based on content analysis, it examines its legal consistency, its correspondence with the current environmental regulatory framework, and its contribution to the application of the principles of prevention and precaution, to environmental governance and adaptive management approaches, and to the effectiveness of Ministerial Agreement No. MAATE-2022-079 as a regulatory instrument oriented toward biodiversity conservation and decision-making within the National System of Protected Areas, with the purpose of identifying its scope, limitations, and challenges for strengthening its effective application in the management and protection of Ecuador's natural heritage.

MATERIALS AND METHODS

2.1 Methodology

The study adopts a qualitative approach focused on the legal examination of Ministerial Agreement No. MAATE-2022-079 within Ecuador's National System of Protected Areas (SNAP). The analysis is supported by documentary sources and reviews the content of the regulation in terms of its structure, scope, and relationship with the current environmental legal framework. It also incorporates its application in protected area management, a key aspect for understanding its operability. Content analysis facilitates the organization and interpretation of the Agreement's text (Abela, 2002), allowing for the identification of provisions, principles, and environmental management criteria.

The material is not approached as an isolated set of provisions; rather, its meaning within the context in which it was produced and applied is of interest. This technique allows for organizing the text and analyzing its content through the identification of significant units, without losing its relationship with the environment in which it is applied. Furthermore, it facilitates the recognition of patterns and internal relationships in the analyzed content (Mayring, 2014). Its use in recent studies on environmental regulation supports this approach and allows for linking normative analysis with the conditions in which the regulation is applied, sustaining a coherent interpretation and consistent results (Martínez-Corona & Palacios-Almón, 2023).

2.2 Delimitation of the documentary corpus

The documentary corpus was defined through an intentional selection of legal and institutional sources related to the regulation of environmental viability in Ecuador's National System of Protected Areas (SNAP). The selection focused on official documents with direct relevance to the subject of study, considering criteria of normative hierarchy, binding force, validity, and relevance with respect to the object analyzed, with the purpose of guaranteeing the consistency, traceability, and replicability of the research process.

Instruments of different levels within the Ecuadorian legal system were included. The Constitution of the Republic of Ecuador (2008) was incorporated as a reference standard, as it establishes the fundamental principles of the environmental regime and the constitutional basis of the National

System of Protected Areas. Likewise, the Organic Environmental Code and its General Regulations were considered for developing said principles in the field of environmental management and defining the procedures applicable to the conservation and sustainable use of natural heritage.

The analysis focused on Ministerial Agreement No. MAATE-2022-079, which regulates the issuance of environmental viability rulings for projects, works, or activities carried out within or intersecting with the SNAP (Ministry of Environment, Water and Ecological Transition, 2022). Additionally, institutional technical documents linked to the process of issuing this instrument were reviewed, including Memorandum No. MAATE-SPN-2022-0969-M, containing Technical Report No. MAATE-SPN-DAPOFC-2022-096, as well as Memorandum No. MAATE-CGAJ-2022-1231-M, issued by the General Coordination of Legal Advisory. These documents allowed for identifying the technical and legal foundations that supported the issuance of the ministerial agreement.

The analysis was complemented with the review of the current management plans of the Isla Corazón and Fragata Wildlife Refuge, Cayambe Coca National Park, and Llanganates National Park (Ministry of the Environment, 2014; Ministry of Environment and Water, 2020; Ministry of Environment, Water and Ecological Transition, 2025). These protected areas were intentionally selected for representing the Coastal, Andean, and Amazon regions of the country, which allowed for incorporating a comparative territorial perspective. Management plans constitute fundamental instruments for protected area management, establishing technical guidelines, zoning, conservation objectives, and sustainable use mechanisms adapted to the ecological and social particularities of each territory, providing relevant criteria for the analysis of environmental viability processes.

Complementary regulatory instruments were incorporated, such as the General Regulations of the Organic Environmental Code and Executive Decree No. 1007, related to the integration of the National Water Secretariat into the Ministry of the Environment (FAOLEX, 2020), in order to contextualize the analysis within the institutional framework that guides environmental management in Ecuador. The selection of sources responded to criteria of regulatory relevance, validity, official status, and verifiability, contributing to maintaining the traceability of the analysis and favoring the replicability of the study.

2.3 Unit of analysis and unit of record

The unit of analysis was defined based on the regulatory provisions contained in the articles, subsections, and numerals of Ministerial Agreement No. MAATE-2022-079, as they concentrate the substantive elements of the regulation on environmental viability in protected areas. The unit of record focused on specific textual fragments containing technical evaluation criteria, administrative procedures, assignment of competencies, monitoring mechanisms, and references to environmental principles.

Each unit of record was identified and coded using a numbering scheme that links the findings with the corresponding regulatory provision (e.g., AM-Art.4-Par.2). This system facilitates the tracking of the analysis, maintains its internal coherence, and allows for verifying the relationship between the examined content and the interpretations made.

The coding process was developed through a deductive approach, based on analytical categories previously defined according to the research objectives and the study's conceptual framework. Each unit of record was assigned to categories such as objectives and scope, procedures and requirements for environmental viability, normative coherence, responsibility and institutional structure, impact on protected area management, and implementation and operational effectiveness. Simultaneously, emerging findings related to regulatory gaps, procedural ambiguities, and operational limitations identified during the analysis were recorded. The information obtained was organized in methodological traceability matrices that linked the code of the analyzed provision, the corresponding category, the evaluated indicators, and the interpretive findings, strengthening the transparency and verifiability of the analytical process.

ISSN: 2477-913X e-ISSN: 2806-5751

2.4 Content analysis procedure

Table 1. Variables, indicators, and guiding questions for the qualitative analysis of Ministerial Agreement No. MAATE-2022-079

Methodological phase	Variable/Category	Indicators	Guiding questions
Documentary review	Regulatory framework	Type of regulation (Constitution of the Republic of Ecuador, Organic Environmental Code, Ministerial Agreements); normative hierarchy; coherence with higher-level regulations	How is Ministerial Agreement No. MAATE-2022-079 articulated with other regulatory instruments in Ecuador?
Content analysis of the Agreement	Objectives and scope	Clarity of objectives; geographic coverage; institutional and sectoral scope	Are the Agreement's objectives clearly defined and applicable to the context of protected areas?
	Procedures and requirements for environmental viability	Administrative steps; required documentation; technical evaluation criteria; established timeframes	What mechanisms and criteria does the Agreement establish to guarantee the environmental viability of projects?
Critical evaluation	Normative coherence and consistency	Internal congruence between articles; consistency with other regulations; alignment with constitutional and sustainability principles	Is the Agreement consistent and effective in promoting conservation and environmental sustainability?
	Impact on protected area management	Possible effects on conservation; compatibility with protected area	How does the Agreement influence the practical management and

Methodological phase	Variable/Category	Indicators	Guiding questions
		management; identified strengths and weaknesses	environmental protection of the SNAP?
Institutional and social contextualization	Responsibility and institutional structure	Distribution of competencies; functions of each entity; coordination mechanisms	How are institutional responsibilities assigned and what is the execution capacity of each actor?
Analysis of implementation potential and operational effectiveness	Socio-environmental contextualization	Inclusion of local actors and communities; interaction with governmental and non-governmental sectors; adaptation to social and ecological context	Does the Agreement consider the social and environmental dimensions in its implementation?
	Implementation potential and operational effectiveness	Monitoring mechanisms; institutional capacity; articulation with management plans; norm-practice gaps	Is the Agreement operationally applicable and does it have effective monitoring and control mechanisms?

The variables, their indicators, and the guiding questions that oriented the analysis are presented in Table 1, used as the methodological matrix of the study. This structure organized the analytical work by integrating documentary review, normative examination, and content evaluation, incorporating the institutional and socio-environmental context in which the Ministerial Agreement is applied, along with the review of its implementation and functioning in practice.

This matrix links each phase of the analysis with defined review criteria, facilitating the coding of regulatory provisions and the identification of patterns and gaps in the design and application of the instrument. At the same time, it maintains the relationship between the analytical categories, the indicators used, and the regulatory fragments reviewed, which sustains the consistency of the study. Together, it is used as a tool to examine the legal coherence of the Agreement, its operational application, and the institutional and social conditions in which it is implemented within Ecuador's National System of Protected Areas.

2.5 Methodological traceability matrix

A methodological traceability matrix was developed with fields such as code, article, category, indicator, finding, and textual evidence, oriented toward tracking the analysis. In this way, each result is linked to the corresponding regulatory provision, avoiding unsupported interpretations and maintaining coherence between the methodological process and the results. Its use provides clarity to the development of the study and facilitates the review of the analysis conducted.

2.6 Validity criteria of the analysis

The qualitative study was conducted with criteria aimed at guaranteeing the validity of the analysis, combining the review of the Constitution, the Organic Environmental Code, and the Ministerial Agreement to contrast the findings from different legal sources. The coding process was recorded in an orderly manner and supported by analytical matrices, ensuring traceability and consistency (Díaz, 2019), while the delimitation of the documentary corpus follows the same logic, facilitating the review of the procedure and supporting the interpretation of the results. This approach is consistent with common practices in social and legal research, especially in interpretative and documentary studies (Hernández Sampieri et al., 2014; Hernández-Sampieri & Mendoza, 2020).

2.7 Structured critical evaluation

The critical evaluation of Ministerial Agreement No. MAATE-2022-079 was organized through a matrix that considered three analytical axes: internal coherence, vertical coherence, and operational coherence (Díaz, 2019). Internal coherence examined the consistency between the articles and provisions of the Agreement; vertical coherence evaluated its relationship with higher-level regulations, especially the Constitution and the Organic Environmental Code; and operational coherence analyzed its practical application within the SNAP. Each axis was addressed with guiding questions and verifiable indicators, which allowed for focusing the analysis and avoiding superficial descriptions.

2.8 Regulatory application and operability

To evaluate how the regulation is applied in practice, criteria related to the clarity of procedures, institutional capacity, and monitoring mechanisms were analyzed. The steps, timeframes, and responsibilities, the availability of technical resources to implement the Agreement, and the control and feedback processes were reviewed. By contrasting this information with the management plans and other institutional documents, regulatory gaps that could affect the operational effectiveness of the instrument were identified.

2.9 Analysis methodology

The methodological design allowed for breaking down the regulatory text into verifiable units, organizing analytical categories, and generating findings supported by textual evidence. The approach is based on the principles of content analysis as a social research technique, which involves systematically segmenting the text and coding the units of analysis to identify relevant patterns, ensuring the consistency and verifiability of the study (Piñeiro Naval, 2020). This methodology goes beyond a descriptive reading of the instrument, establishing a clear, traceable, and reliable procedure that reinforces the robustness and coherence of the analysis.

RESULTS AND DISCUSSION

The results of the documentary and regulatory study of Ministerial Agreement No. MAATE-2022-079 are presented and analyzed here. The analysis is structured according to the variables and categories defined in the methodology, incorporating a critical reading of the regulatory content and its articulation with the institutional and social framework of the National System of Protected Areas (SNAP). This approach allows for identifying the main elements of the instrument and assessing its implications for environmental management and system governance, also considering the limitations associated with the scarce evidence on its practical application.

The comparative analysis shows that environmental assessment systems in protected areas in neighboring countries present convergent elements, especially in the incorporation of zoning as a planning tool and in the definition of territorial use compatibilities. In Colombia, the National System of Protected Areas (SINAP) articulates protected area management through management categories that guide territorial use based on its ecological importance and conservation objectives (Ministry of Environment and Sustainable Development of Colombia, 2015). Similarly, in Peru, the National Service of State-Protected Natural Areas (SERNANP) applies activity compatibility assessments based on the internal zoning of each natural protected area, prioritizing ecological integrity as the central decision-making criterion (SERNANP, 2019). These approaches share a territorial management logic oriented toward conservation, while the Ecuadorian case is distinguished by incorporating a quantitative assessment scheme through weightings in the environmental viability report, which introduces a standardization component that strengthens objectivity in decision-making.

Table 2 presents the systematization of said process, showing examples of coding and the main findings derived from the analysis of Ministerial Agreement No. MAATE-2022-079.

Table 2. Examples of the coding process and findings derived from the content analysis of Ministerial Agreement No. MAATE-2022-079

Code	Analyzed unit of record	Analytical category	Interpretive finding
AM-Art.1	Defines the objective of establishing criteria and guidelines for issuing environmental viability rulings on projects intersecting the SNAP.	Objectives and scope of the Agreement	The instrument operationalizes constitutional and legal provisions through technical criteria oriented toward preventive environmental protection.
AM-Art.3	Establishes the mandatory nature of the environmental viability report issued by the Protected Area Administration and the subsequent ruling by the Directorate of Protected Areas and Other Forms of Conservation.	Responsibility and institutional structure	A defined institutional structure for the issuance of rulings is identified; however, functional delimitation between bodies could generate different interpretations during its application.
AM-Art.7	Determines evaluation criteria related to zoning, habitat and species, connectivity, ecosystem services, and social benefits of the project.	Procedures and requirements for the issuance of environmental viability	The Agreement incorporates comprehensive technical criteria that strengthen the preventive approach and the consideration of ecological and social

Code	Analyzed unit of record	Analytical category	Interpretive finding
			variables in decision-making.
AM-Art.9	Provides for the consideration of management instruments such as the SNAP Strategic Plan and the management plans of protected areas.	Normative coherence and impact on management	Articulation with existing planning tools is evident; however, the instrument does not specify mechanisms to guarantee its homogeneous application.
AM-Art.13-15	Regulates the request for complementary information and the timeframes for issuing the environmental viability report.	Implementation and operational effectiveness	The administrative procedures establish defined timeframes that favor legal certainty; however, the effectiveness of the process depends on the available technical and institutional capacities.
Annex 2	Establishes a valuation methodology based on weighted criteria and determines that scores equal to or greater than 11 generate a favorable ruling.	Emerging findings	A quantitative mechanism that contributes objectivity to the analysis is identified; however, no specific guidelines for subsequent monitoring of the decisions adopted are contemplated.

Note: The table presents representative examples of the deductive coding process applied during the content analysis of Ministerial Agreement No. MAATE-2022-079. The units of record were classified according to the analytical categories defined in the methodology, allowing for the identification of the main interpretive findings of the study.

3.1 Articulation of the Ministerial Agreement with the environmental regulatory framework

Ministerial Agreement No. MAATE-2022-079 falls within the current environmental legal framework, especially the Constitution of the Republic of Ecuador (2008) and the Organic Environmental Code. Its function is to operationalize higher-level legal provisions for the management of the National System of Protected Areas (SNAP), transforming general principles into concrete criteria for the issuance of environmental viability rulings. Among these principles, the prevention of damage, the precautionary approach, and biodiversity conservation stand out, ensuring that administrative decisions integrate environmental protection criteria. The orientation of the Agreement reflects the operational function of general-scope administrative acts within the legal system (Guastini, 2008). It is also connected to the paradigm of nature's rights, developed in Latin America as a normative and ethical response to contemporary socio-environmental challenges

(Gudynas, 2021).

Operational gaps that could limit the effectiveness of the Agreement are evident. There is no precise definition of roles and responsibilities among the technical bodies of the governing entity, and the hierarchy and binding nature of the rulings issued by the Directorate of Protected Areas and Other Forms of Conservation and the Directorate of Environmental Regulation are not clear. Management criteria according to the categories of protected areas are also not consistently differentiated. Specific guidelines for monitoring and control after the issuance of rulings are lacking. These conditions may lead to diverse interpretations and uneven application of the Agreement, especially in contexts with dissimilar technical and administrative capacities.

When evaluating the Agreement against the Constitution of the Republic of Ecuador, the Organic Environmental Code, and current environmental regulations, it is observed that, although it incorporates principles of prevention and biodiversity protection, there are areas where it could be reinforced. Some strategic ecosystems are not explicitly prioritized, and certain administrative procedures are not fully aligned with the conservation objectives established by the regulations. The effectiveness of legal instruments such as this depends on clear implementation, coordination, and monitoring mechanisms that ensure their uniform and predictable application across all SNAP territories (Aguilar-Villanueva, 2023). Adequate monitoring and evaluation systems are fundamental to guaranteeing consistency and predictability in the application of the regulatory framework (Fontaine, 2007).

3.2 Objectives and scope of the Agreement

The Agreement establishes technical and administrative guidelines for the issuance of environmental viability rulings, adapted according to the magnitude of the project, the level of intervention, and the identified environmental risks. The relevance of instruments such as certificates, registries, or environmental licenses, which function as preventive management mechanisms, is recognized.

Its application covers the entire national territory and extends to SNAP areas, generating a homogeneous framework for institutional action. However, the analysis shows that the Agreement does not sufficiently incorporate the ecological, social, and administrative diversity inherent to each protected area, which may limit its effectiveness and generate tensions between the regulatory guidelines and the actual management capacity in the different territories. In this sense, the literature highlights that the adaptation of regulations to local contexts constitutes a key element to guarantee their operability and effective application (Martínez-Corona & Palacios-Almón, 2023).

3.3 Procedures and requirements for the issuance of environmental viability rulings

The Agreement organizes the procedures for issuing environmental viability rulings, contemplating the presentation of technical documentation, verification of formal requirements, evaluation of environmental and territorial criteria, and issuance of the ruling by the competent authority. The option to request complementary information allows for more precise decisions, reduces uncertainty, and strengthens the review of projects in areas of high ecological fragility and significant conservation values. (UNEP, 2023) points out that these mechanisms strengthen preventive management, while Glasson et al. (2019) highlight the importance of preventive environmental impact assessment in management systems, especially in zones of high ecological sensitivity.

The procedure is based on the principle of preventive environmental impact assessment. Each project is analyzed according to the magnitude of the intervention, the associated risks, and the conditions of the territory. The consideration of ecosystem values, land-use zoning, connectivity, cumulative impacts, social benefits, among others, guides decision-making toward the conservation of natural heritage.

Some administrative processes present complexity, which may limit the implementation of the Agreement, especially in areas with personnel or technical resource constraints. The lack of

information on its actual application makes it difficult to accurately assess its operational performance and its concrete contribution to protected area management. Cházaro-Arellano (2024) emphasizes the need for concrete data to evaluate the instrument's effectiveness and make adjustments that improve its functioning. Although the procedures are clearly structured, they must reflect the environmental, social, and administrative complexity of each protected area. Incorporating these differences strengthens the consistency of environmental viability assessments, ensures more coherent responses to different scenarios, and optimizes coordination among the responsible technical bodies. The procedural elements described directly affect the normative coherence of the instrument, insofar as they condition the way in which its provisions are applied in practice.

3.3.1 Analysis of technical criteria for the environmental viability ruling

The criteria established in Article 7 of Ministerial Agreement No. MAATE-2022-079 constitute the technical axis of the regulatory instrument, guiding the evaluation of the compatibility of projects, works, or activities with the conservation objectives of the National System of Protected Areas. In this framework, the zoning of the protected area is incorporated as a key element of the analysis, considering the management categories defined in the management plans, which constitute the main technical reference instrument as they contain comprehensive and updated information on each protected area, including its ecological conditions, conservation objectives, and use guidelines. This allows for contrasting interventions with the specific conservation objectives of each zone. This instrument organizes the territory according to its ecological characteristics, fragility, conservation status, and permitted uses, reducing conflicts between conservation and compatible activities.

From a territorial management perspective, zoning allows for differentiating areas of strict protection, ecological recovery, sustainable use, public use and tourism, as well as community management, guiding decisions under adaptive management criteria. Its application in environmental viability assessment reinforces the principle of prevention by facilitating the identification of activities incompatible with conservation objectives. At the ecological level, it contributes to system integrity by reducing habitat fragmentation, avoiding pressures on priority ecosystems, and directing interventions toward areas of lower vulnerability. Its effectiveness depends on the updating of technical and cartographic information, a condition that directly affects the consistency of environmental viability rulings.

The consideration of sites associated with international agreements such as Ramsar and Biosphere Reserves introduces a dimension of global articulation in environmental assessment, by integrating international conservation standards that strengthen the protection of high ecological value ecosystems.

The analysis of habitat and species, along with ecological connectivity, broadens the scope of the evaluation by including threatened, endemic, and migratory species, their critical habitats, and the ecological processes that sustain ecosystem functionality at different scales. This approach goes beyond evaluation limited to the project's direct area of influence. Along the same lines, the consideration of ecosystem services incorporates benefits such as water regulation, carbon capture and storage, soil protection, and the provision of natural resources, consolidating an integral vision aligned with the precautionary principle and contemporary environmental management approaches.

The evaluation elements constitute a comprehensive assessment that incorporates ecological, territorial, and social components, including social and community benefits as a socio-environmental dimension aimed at recognizing the potential contributions of projects to populations linked to the territory; however, the absence of standardized parameters and detailed guidelines for their weighting can generate variability in their application and affect the uniformity of evaluations across technical bodies.

Each element allows for quantifying the environmental assessment of the project in an objective and verifiable manner. The sum of these values determines the final result of the environmental viability;

when the score is greater than or equal to eleven (≥ 11), the ruling is favorable. This result is obtained during the on-site inspection carried out in the territory, which fulfills a fundamental role of verification of the information presented by the proponent for obtaining environmental viability. Therefore, the inspection allows for contrasting the actual conditions of the intervention area with the established technical criteria, which are subsequently developed and analyzed in the environmental viability report. Based on this comprehensive assessment, the governing entity issues the environmental viability ruling, favorable or unfavorable, defining the feasibility or not of project execution within the protected area.

3.4 Normative coherence and impact on protected area management

The Agreement maintains coherence with the principles of conservation, environmental sustainability, and damage prevention, in line with international standards on protected area governance. Dudley (2008) highlights the importance of these principles for guaranteeing the effective protection of ecosystems, while Borrini-Feyerabend et al. (2013) emphasize the need for participatory and technical approaches that strengthen management and preventive decision-making.

Gaps are identified in the incorporation of management plans within the administrative procedures. This situation can generate diverse interpretations among the responsible technical bodies and affect SNAP governance. Duarte-Sánchez (2024) evidences these limitations, and Guerrero-Barreto (2024) underlines that the lack of empirical evidence on the Agreement's application makes it difficult to confirm to what extent these guidelines translate into consistent and coherent administrative practices.

3.5 Institutional and socio-environmental dimension

The Agreement is implemented in a complex institutional context, marked by the concurrence of multiple actors and heterogeneous territorial realities. In this scenario, inter-institutional articulation and the precise definition of roles are determining factors for guaranteeing the instrument's effectiveness (Aguilar-Villanueva, 2023). Studies on the institutionalization of environmental public policies in Ecuador show that limitations in inter-institutional coordination and technical capacities directly affect regulatory effectiveness (Hernández et al., 2024). In this context, environmental management is structured through planning instruments that guide the action of the governing entity, establishing objectives, lines of action, and priorities focused on conservation, sustainable use of natural resources, and strengthening environmental governance. These elements constitute a basis for the implementation of public policies and the execution of actions within the National System of Protected Areas.

The analysis also evidences restricted participation of local actors and communities, which may compromise the social legitimacy and sustainability of administrative decisions adopted within the SNAP framework. García-Frapolli et al. (2018) and Farinós Dasí (2016) highlight that the exclusion of local communities generates socio-environmental tensions and reduces the effectiveness of regulatory instruments. Although the Agreement presents technical robustness and normative coherence, its real impact on SNAP management requires analysis of actual implementation. This would allow for determining the practical application of the procedures, the level of compliance achieved, and the effects on conservation and sustainable use of protected areas.

The study shows that the effective contribution of the Ministerial Agreement to the environmental management of the SNAP is conditioned by:

- Absence of clear operational mechanisms for monitoring, control, and oversight.
- Lack of concrete information on real implementation and operational performance.
- Limited consideration of territorial heterogeneity and community participation.

The available information on the implementation of the Agreement is limited, especially regarding

its field application, specific cases of execution, and performance measurement. This deficiency makes it difficult to precisely understand the practical impact of the instrument and its effectiveness in biodiversity conservation in Ecuador.

CONCLUSION

The analysis indicated that Ministerial Agreement No. MAATE-2022-079 constituted a significant regulatory advancement for the regularization of environmental viability of projects, works, or activities within or intersecting with the National System of Protected Areas (SNAP). The results showed that the instrument strengthened the preventive legal framework for environmental control by establishing a formal basis consistent with the constitutional principles of conservation, sustainability, and prevention of environmental damage. In this way, the Agreement contributed to consolidating a management approach oriented toward reconciling anthropogenic activities with the conservation of areas of high ecological sensitivity.

The effectiveness of the Agreement in environmental management depended more on its administrative operability than on its formal legal coherence. The procedural analysis evidenced the intention to order technical decision-making through the definition of requirements, criteria, and administrative stages; however, several of these elements lacked sufficient development to guarantee a uniform, clear, and predictable application in the territory. This limitation directly impacted the instrument's capacity to fulfill its preventive function, especially in contexts characterized by institutional and technical heterogeneity.

Structural gaps were identified that reduced the effectiveness of the Agreement in strengthening environmental management. These related to the lack of differentiated criteria according to management categories, the scarce incorporation of information contained in management plans and protected area zoning in the procedures, as well as the absence of clear guidelines for subsequent monitoring and control. These limitations affected the consistency of technical decisions and generated different interpretations among responsible bodies, leading to non-uniform administrative practices and weakening the coherence of environmental control in the territory.

The functioning of the Agreement in the regulatory sphere was conditioned by its weak articulation with the institutional and socio-environmental context. The scarce inclusion of clear provisions on the participation of local actors and communities affected the social legitimacy of the rulings and the sustainability of authorized activities. This situation evidenced the need to recognize the social, cultural, and functional dynamics specific to the territories where protected areas are located.

The study, of a critical normative nature, was limited by the lack of information on the real implementation, operational functioning, and concrete impacts of the Agreement, which restricted the evaluation of environmental outcomes. Nevertheless, this limitation allowed for more clearly delimiting the structural challenges and the necessary conditions for the instrument to fulfill its purpose within SNAP management.

The analysis allowed for determining that the effective implementation of the Agreement required strengthening inter-institutional coordination, specifying technical and administrative roles, and integrating territorial planning instruments with protected area management. The need to incorporate clear operational mechanisms for monitoring, control, and oversight was also identified, in order to reduce discretion in decision-making and reinforce the preventive character of the instrument.

The analysis evidenced that this environmental assessment instrument presents similarities with other instruments in the region, particularly in the application of zoning criteria. However, it is distinguished by incorporating a quantitative assessment scheme based on weightings in the environmental viability report, which contributes to standardizing the evaluation process and strengthening objectivity in determining project viability.

The study evidenced the need to update the Agreement through periodic analysis and review

processes that would respond to the dynamics inherent to environmental management and the institutional context in which it was applied. The review of its technical and procedural provisions would have contributed to improving its application in the territory. In general terms, the analysis showed that biodiversity protection in protected areas did not depend solely on legal coherence, but also on institutional capacity, the existence of clear operational mechanisms, and management approaches that recognized the territorial and social complexity of the SNAP.

REFERENCES

Abela, J. A. (2002). Las técnicas de análisis de contenido: una revisión actualizada. https://perio.unlp.edu.ar/tif/wp-content/uploads/2021/04/S200103-Las-tecnicas-de-Analisis-de-Contenido-Una-revision-actualizada.pdf

Aguilar Villanueva, L. F. (2023). La nueva gobernanza pública: un panorama conceptual. https://perfilesla.flacso.edu.mx/index.php/perfilesla/article/view/1595

Andaluz Westreicher, C. (2002). Derecho ambiental: El principio precautorio. Foro Jurídico, (01), 143–147. https://revistas.pucp.edu.pe/index.php/forojuridico/article/view/18274

Asamblea Constituyente del Ecuador. (2008). Constitución de la República del Ecuador (versión actualizada). Registro Oficial N.º 449, 20 de octubre de 2008. https://biblioteca.defensoria.gob.ec/bitstream/37000/4083/1/Constituci%C3%B3n%20de%20la%20Rep%C3%BAblica%20del%20Ecuador.%20Actualizada.pdf

Asamblea Nacional del Ecuador. (2017). Código Orgánico del Ambiente. Registro Oficial Suplemento N.º 983, 12 de abril de 2017. https://www.asambleanacional.gob.ec/es/multimedios-legislativos/38792-codigo-organico-del-ambiente-t192421

Ballesteros, B. (2000). Manual de derecho ambiental mexicano. https://www.sidalc.net/search/Record/KOHA-OAI-ECOSUR:50936/Description?lng=fr&print=1

Borrini-Feyerabend, G., N. Dudley, T. Jaeger, B. Lassen, N. Pathak Broome, A. Phillips y T. Sandwith (2014). Gobernanza de áreas protegidas: de la comprensión a la acción. No. 20 de la Serie Directrices para buenas prácticas en áreas protegidas, Gland, Suiza: UICN. https://portals.iucn.org/library/sites/library/files/documents/PAG-020-Es.pdf

Cházaro-Arellano, E. H. (2024). Análisis de datos en las investigaciones cualitativas: El reto frente al investigador. Revista Arbitrada Interdisciplinaria Koinonía, 9(17), 168–171. https://doi.org/10.35381/r.k.v8i17.3163

Cózar Escalante, J. M. D. (2005). Principio de precaución y medio ambiente. Revista española de salud pública, 79, 133-144. https://www.scielosp.org/pdf/resp/2005.v79n2/133-144/es

Dasí, J. F. (2016). Planificación territorial y desarrollo local, y su relación con las nuevas formas de gobernanza territorial asociadas. Un renovado espacio de aplicación profesional. La visión territorial y sostenible del desarrollo local: una perspectiva multidisciplinar, 67. https://dialnet.unirioja.es/servlet/articulo?codigo=5632007

Diaz-Bazo, C. (2019). Las estrategias para asegurar la calidad de la investigación cualitativa. El caso de los artículos publicados en revistas de educación. Revista Lusófona De Educação, 44(44). https://doi.org/10.24140/issn.1645-7250.rle44.02

Duarte-Sánchez, D. D., & Guerrero-Barreto, R. (2024). Métodos y técnicas en investigación cualitativa: una revisión integral en ciencias sociales. Revista de la Sociedad Científica del Paraguay. https://doi.org/10.32480/rscp.2024.29.2.90102

Dudley, N. (Ed.). (2008). Directrices para la aplicación de las categorías de gestión de áreas protegidas. UICN. https://portals.iucn.org/library/efiles/documents/PAPS-016-Es.pdf

Ecuador. (1996, 4 de octubre). Decreto Ejecutivo No. 195. Suplemento del Registro Oficial No. 40. https://esilecstorage.s3.amazonaws.com/biblioteca_silec/REGOFPDF/1996/E85D050AA0A715C027268AC8B0D3E6B895F16E10.pdf

Folke, C., Hahn, T., Olsson, P., & Norberg, J. (2005). Adaptive governance of social-ecological systems. Annual Review of Environment and Resources, 30, 441–473. https://doi.org/10.1146/annurev.energy.30.050504.144511

Fontaine, G., Van Vliet, G., & Pasquis, R. (2007). Políticas ambientales y gobernabilidad en América Latina. Flacso-Sede Ecuador. https://repositorio.flacsoandes.edu.ec/items/1a23ce7a-ad04-4870-84bc-ed0eaad58088

García-Frapolli, E., Ayala-Orozco, B., Oliva, M., & Smith, R. (2018). Gobernanza ambiental y áreas protegidas en América Latina. Gestión y Política Pública, 27(2), 341–373. https://www.scielo.org.mx/scielo.php?script=sci_arttext&pid=S1405-10792018000200341

Glasson, J., & Therivel, R. (2013). Introduction to environmental impact assessment. Routledge. https://doi.org/10.4324/9781315881218

Glasson, J., Therivel, R., & Chadwick, A. (2012). Introduction to environmental impact assessment (4th ed.). https://www.researchgate.net/publication/335467191_Introduction_To_Environmental_Impact_Assessment

Graham, J., Amos, B., & Plumptre, T. (2003). Governance principles for protected areas in the 21st century. Institute on Governance, Parks Canada, and Canadian International Development Agency. https://www.ecolex.org/details/literature/governance-principles-for-protected-areas-in-the-21th-century-a-discussion-paper-phase-2-mon-071468/

Guastini, R. (2008). Teoría e ideología de la interpretación constitucional. Editorial Trotta. https://server.clea.edu.mx/biblioteca/items/show/167

Gudynas, E. (2021). Derechos de la naturaleza y políticas ambientales en América Latina. CLACSO. https://gudynas.com/wp-content/uploads/GudynasDerechosNaturalezaLima14r.pdf

Hernández Sampieri, R., Fernández Collado, C., & Baptista Lucio, P. (2014). Metodología de la investigación (6.ª ed.). McGraw-Hill Education. https://apiperiodico.jalisco.gob.mx/api/sites/periodicooficial.jalisco.gob.mx/files/metodologia_de_la_investigacion_-_roberto_hernandez_sampieri.pdf

Hernández-García, V. A., Riera-Pozo, Ángeles D., López-Chávez, J. A., & Iglesias-Quintana, J. X. (2024). Políticas publica para la preservación ambiental en Ecuador [Public policies for environmental preservation in Ecuador]. Verdad Y Derecho. Revista Arbitrada De Ciencias Jurídicas Y Sociales, 3(especial), 103-112. https://doi.org/10.62574/20ad2c62

Hernández-Sampieri, R., & Mendoza, C. (2020). Metodología de la investigación: las rutas cuantitativa, cualitativa y mixta. McGraw-Hill. https://anyflip.com/rxal/azku/basic

Holling, C. S. (1978). Adaptive environmental assessment and management. John Wiley & Sons. https://pure.iiasa.ac.at/id/eprint/823/1/XB-78-103.pdf

Kiss, A., & Shelton, D. (2007). Guide to international environmental law. Brill. https://scholarship.law.gwu.edu/cgi/viewcontent.cgi?article=2047&context=faculty_publications

Lemos, M. C., & Agrawal, A. (2006). Environmental governance. Annual Review of Environment and Resources, 31, 297–325. https://doi.org/10.1146/annurev.energy.31.042605.135621

Lockwood, M. (2010). Good governance for terrestrial protected areas: A framework, principles and performance outcomes. Journal of Environmental Management, 91(3), 754–766. https://doi.org/10.1016/j.jenvman.2009.10.005

Loor, A., Sánchez, M., & Rodríguez, J. (2021). Políticas públicas educativas desde el marco constitucional: análisis de la implementación en el contexto ecuatoriano. Revista Latinoamericana de Política Educativa, 13(2), 45–60. https://dialnet.unirioja.es/descarga/articulo/8330792.pdf

Martínez-Corona, J. I., Palacios-Almón, G. E., & Oliva-Garza, D. B. (2023). Guía para la revisión y el análisis documental: propuesta desde el enfoque investigativo. Ra Ximhai, 19(1). https://www.researchgate.net/profile/Jose-Isaias-Martinez-Corona-/publication/369385707_Guia_para_la_revision_y_el_analisis_documental_propuesta_desde_el_enfoque_investigativo/links/6419d1a866f8522c38c211b7/Guia-para-la-revision-y-el-analisis-documental-propuesta-desde-el-enfoque-investigativo.pdf

Mayring, P. (2014). Análisis de contenido cualitativo: fundamentos teóricos, procedimientos básicos y solución de software. Klagenfurt, Austria: SSOAR. https://www.scribd.com/document/427078430

Ministerio de Ambiente y Desarrollo Sostenible de Colombia. (2015). Sistema Nacional de Áreas Protegidas – SINAP: Lineamientos de gestión. Bogotá. https://www.minambiente.gov.co/direccion-de-bosques-biodiversidad-y-servicios-ecosistemicos/guia-para-la-planificacion-del-manejo-en-las-areas-del-sistema-nacional-de-areas-protegidas-de-colombia/

Ministerio del Ambiente, Agua y Transición Ecológica del Ecuador. (2022). Acuerdo MAATE-2022-079: Expídese la norma técnica para emitir el pronunciamiento de viabilidad ambiental de un proyecto, obra o actividad dentro del Sistema Nacional de Áreas Protegidas. https://vlex.ec/vid/maate-2022-079-expidese-910097362

Ministerio del Ambiente, Agua y Transición Ecológica. (2020). Plan de manejo del Parque Nacional Cayambe Coca 2020–2030. Quito, Ecuador. https://condesan.org/wp-content/uploads/2021/06/Plan_de_manejo_Cayambe_Coca.pdf

Ministerio del Ambiente, Agua y Transición Ecológica. (2025, 29 de abril). Acuerdo Nro. MAATE-MAATE-2025-0020-A. Ambiente y Energía. https://www.ambienteyenergia.gob.ec/ambiente/wp-content/uploads/downloads/2025/03/ACUERDO-Nro.-MAATE-MAATE-2025-0020-A.pdf

Morgan, R. K. (2012). Environmental impact assessment: The state of the art. Impact Assessment and Project Appraisal, 30(1), 5–14. https://doi.org/10.1080/14615517.2012.661557

Novick, S. (2014). Cómo trabajar con textos jurídicos en ciencias sociales. https://ri.conicet.gov.ar/handle/11336/186743

Organización de las Naciones Unidas. (1992). Declaración de Río sobre el Medio Ambiente y el Desarrollo. Conferencia de las Naciones Unidas sobre el Medio Ambiente y el Desarrollo. https://www.un.org/spanish/esa/sustdev/agenda21/riodeclaration.htm

Piñeiro Naval, V. (2020). La metodología de análisis de contenido. Usos y aplicaciones en la investigación comunicativa del ámbito hispánico. Communication & Society, 33(3), 1-16.. Communication & Society, 33(3), 1–16. https://dadun.unav.edu/server/api/core/bitstreams/607d6eba-d687-4b24-b3fa-7989d5f6dc65/content

Raffensperger, C., & Tickner, J. A. (Eds.). (1999). Protecting public health and the environment: Implementing the precautionary principle. https://www.redalyc.org/pdf/170/17079205.pdf

República del Ecuador. (2023). Decreto Ejecutivo No. 709 28 de marzo del 2019. Presidencia de la República del Ecuador https://esacc.corteconstitucional.gob.ec/storage/api/v1/10_DWL_FL/eyJjYXJwZXRhIjoicm8iLCJ1dWlkIjoiYWNlZmQxOTUtOTYzYi00ZjZlLTg3MWYtOGJjMjA2YTJhNTgyLnBkZiJ9

SERNANP. (2019). Lineamientos para la evaluación de compatibilidad de actividades en áreas naturales protegidas. Servicio Nacional de Áreas Naturales Protegidas por el Estado, Perú. https://www.gob.pe/institucion/sernanp/buscador?contenido=todos&institucion=sernanp&sheet=1&sort_by=none&term=compatibilidad%20areas%20naturales

United Nations Environment Programme. (2023). Environmental impact assessment and strategic environmental assessment: Towards stronger environmental governance. United Nations. https://www.unep.org/resources/report/environmental-impact-assessment-and-strategic-environmental-assessment-towards

Vedung, E. (1998). Policy instruments: Typologies and theories. En M.-L. Bemelmans-Videc, R. C. Rist y E. Vedung (Eds.), Carrots, sticks and sermons: Policy instruments and their evaluation (pp. 21–58). Transaction Publishers https://www.researchgate.net/publication/392180848_Carrots_Sticks_and_Sermons_-_the_Triad_and_the_Book

Walters, C. J. (1986). Adaptive management of renewable resources. Macmillan. https://waterboards.ca.gov/waterrights/water_issues/programs/bay_delta/docs/cmnt081712/dfg/cdfgwalters1986.pdf

Williams, B. K., Szaro, R. C., & Shapiro, C. D. (2009). Adaptive management: The U.S. Department of the Interior technical guide. U.S. Department of the Interior, Adaptive Management Working Group. https://ui.adsabs.harvard.edu/abs/2009usgs.rept...62W/abstract

Young, O. R. (2013). On environmental governance: Sustainability, efficiency, and equity. https://doi.org/10.4324/9781315633176

ISSN: 2477-913X **e-ISSN:** 2806-5751

CONFLICT OF INTEREST

The authors report no conflicts of interest.