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Analysis of Legal Protection for Wildlife Affected by Forest and Land Fires under Law No. 5 of 1990 as Amended by Law No. 32 of 2024

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Abstract

This study examines the legal protection of wildlife affected by forest and land fires in Indonesia under Law No. 5 of 1990 as amended by Law No. 32 of 2024. It addresses the fragmentation between species protection, habitat conservation, emergency rescue, environmental liability, and community participation. Normative legal research was conducted using statutory and conceptual approaches, with primary legal materials comprising conservation legislation, environmental protection legislation, and wildlife rescue regulations, supported by scholarly literature. The materials were examined through descriptive qualitative legal analysis, focusing on preventive and repressive safeguards, institutional competence, and the relationship between animal rehabilitation and ecological restoration. The analysis finds that Indonesian law provides legal bases for species preservation, protection of conservation areas, wildlife assessment and rescue, environmental recovery, and investigation of suspected violations. Nevertheless, legal mechanisms remain insufficiently integrated when fires harm animals indirectly by destroying habitats, and species-specific prohibitions do not address every form of wildlife vulnerability. Community reporting, environmental remedies, and indigenous participation can support protection but cannot replace authorized institutional action or statutory requirements for liability. The study proposes an integrated legal interpretation connecting fire prevention, authorized wildlife rescue, post-fire habitat restoration, enforcement, and community participation to strengthen conservation governance and wildlife survival.

Keywords: *Community Participation, Conservation Law, Forest And Land Fires, Habitat Protection, Wildlife Protection.*

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INTRODUCTION

Forest and land fires in Indonesia constitute a multidimensional conservation problem because their consequences extend beyond vegetation destruction to encompass wildlife displacement, habitat fragmentation, biodiversity decline, and the deterioration of essential ecological functions. Historical ecological research in West Kalimantan demonstrates that fire has influenced tropical rainforest dynamics over extended periods, highlighting the importance of understanding disturbance patterns when developing contemporary conservation policies (Hendricks et al., 2024). Research on tropical peat-swamp forests further indicates that fire affects tree-species diversity and vegetation characteristics, potentially altering the ecological resources and structural conditions required for the survival of forest-dependent wildlife (Volkova et al., 2023). Longitudinal investigations of Indonesian peat forests have also demonstrated that fire-related ecological disturbances may persist for years, with substantial reductions in vegetation structure and uneven recovery among biological communities (Harrison et al., 2024). Wildlife vulnerability extends beyond direct exposure to flames because wildfire smoke has been associated with changes in vocal behavior among wild Bornean orangutans, indicating that fire-related disturbances can influence animal responses even outside directly burned areas (Erb et al., 2023). These interconnected ecological consequences reveal the limitations of conservation approaches that primarily measure forest-fire damage through burned land areas, vegetation losses, or immediate economic consequences without adequately considering the biological requirements of affected animals. The protection of wildlife consequently requires a legal framework capable of integrating fire prevention, habitat conservation, emergency animal rescue, ecological rehabilitation, and enforceable responsibilities for environmental damage.

Contemporary scholarship concerning forest and land fires has developed through two interconnected but analytically distinct approaches, namely ecological investigations of fire-induced environmental degradation and legal examinations of regulatory accountability, enforcement mechanisms, and environmental restoration. Ecological investigations emphasize that forest-fire consequences cannot be understood exclusively through immediate physical destruction because biodiversity responses and ecological recovery involve complex interactions among vegetation, species composition, and habitat conditions (Harrison et al., 2024). Legal scholarship, meanwhile, has examined environmental accountability through forest-fire litigation, particularly the relationship between unlawful environmental conduct, judicial remedies, and the enforcement of responsibilities arising from ecological destruction (Purwanto et al., 2024). Research addressing strict liability in forest and land fire cases has expanded this discussion by evaluating the legal foundations for imposing environmental responsibility and the difficulties associated with establishing accountability for extensive ecological damage (Martono & Suriani, 2025). Broader examinations of Indonesian environmental law similarly demonstrate that effective responses to forest fires depend on the relationship between regulatory policy, institutional implementation, and consistent law enforcement (Wijayanto et al., 2022). These scholarly developments indicate that ecological damage, institutional responsibility, and legal accountability are closely connected, although the relationships among them have generally been investigated through different disciplinary perspectives and legal objects. The resulting body of knowledge provides an essential foundation for understanding forest-fire governance but leaves room for a more integrated examination of whether existing legal instruments specifically accommodate the protection, rescue, and ecological recovery of wildlife affected by such disasters.

The principal research gap emerges from the limited integration of wildlife-specific protection obligations with the broader legal framework governing forest and land fires, particularly where environmental destruction creates simultaneous threats to individual animals and the ecological conditions necessary for their survival. Research on wildlife crime prevention in Indonesia emphasizes the strengthening of legal frameworks against unlawful exploitation and poaching, whereas the protection of animals threatened by extensive habitat destruction presents a different combination of preventive and remedial legal questions (Saxti & Rosnawati, 2025). Recent scholarship concerning conservation-law enforcement following the 2024 legislative amendment highlights the role of civil servant investigators in addressing wildlife-related offenses, although investigative authority constitutes only one component of the broader legal protection process required after forest fires (Kartika et al., 2026). Studies of forest-fire governance among the Dayak Ngaju have introduced customary justice and legal pluralism into discussions of environmental responsibility, demonstrating the relevance of community-based governance while opening further questions concerning its relationship with formal wildlife conservation obligations (Putra & Santoso, 2026). The enactment of Law No. 32 of 2024, amending Law No. 5 of 1990 concerning the Conservation of Living Natural Resources and Their Ecosystems, establishes an updated legislative basis for evaluating species preservation, ecosystem protection, and conservation-related legal responsibilities in Indonesia (Republik Indonesia, 2024). The unresolved issue concerns how these legal dimensions can be interpreted as a coherent framework for preventing wildlife harm, protecting animals during fire emergencies, determining institutional responsibilities, and securing ecological recovery after habitat destruction.

The urgency of examining this legal fragmentation arises from the possibility that emergency responses to injured or displaced wildlife may remain disconnected from the longer-term obligations necessary to restore safe and ecologically functional habitats. Evidence of prolonged ecological disturbance and uneven biodiversity recovery in burned tropical peat forests indicates that extinguishing fires does not necessarily signify the restoration of environmental conditions suitable for wildlife survival (Harrison et al., 2024). Legal examinations of forest-fire litigation further demonstrate the importance of establishing environmental accountability, although the relationship between judicial remedies and specific wildlife rehabilitation obligations requires more explicit normative consideration (Purwanto et al., 2024). Research concerning the application of strict liability to forest and land fire cases similarly provides a foundation for examining responsibility for environmental damage and the legal implications of ecosystem restoration obligations (Martono & Suriani, 2025). The practical difficulty arises when the protection of affected animals requires coordinated intervention by conservation agencies, environmental law enforcement authorities, landholders, and surrounding communities whose responsibilities may operate under different regulatory instruments. Uncertainty

regarding the relationships among wildlife rescue, enforcement measures, habitat rehabilitation, and environmental accountability may produce fragmented administrative responses that fail to address the continuing vulnerability of animals after the immediate emergency has ended. A comprehensive legal assessment is consequently necessary to clarify the institutional and regulatory connections required to protect wildlife throughout the stages of fire prevention, emergency response, and post-fire ecological recovery.

This research positions wildlife affected by forest and land fires as the principal object of legal protection, extending the analytical focus beyond conventional examinations of environmental destruction and forest-fire accountability toward the relationship between animal survival, habitat integrity, and enforceable conservation responsibilities. Previous analyses of Indonesian forest-fire policy and law enforcement have established the importance of regulatory effectiveness in addressing environmental degradation, but their broader environmental orientation provides an opportunity for further examination of the particular legal interests associated with wildlife protection (Wijayanto et al., 2022). Scholarship concerning wildlife crime prevention offers a complementary foundation for understanding species-oriented legal safeguards, although protection against illegal exploitation does not fully represent the legal problems arising when animals are injured, displaced, or deprived of suitable habitats by forest fires (Saxti & Rosnawati, 2025). Investigations into the enforcement of conservation legislation following the 2024 amendment contribute an institutional dimension by emphasizing investigative authority, which can be connected more systematically with preventive conservation obligations, emergency rescue procedures, and post-fire accountability (Kartika et al., 2026). Research on customary environmental governance among the Dayak Ngaju further supports consideration of community participation and legal pluralism as relevant dimensions of forest-fire management, particularly where conservation responsibilities intersect with local ecological practices (Putra & Santoso, 2026). The novelty of the present study lies in developing an integrated normative interpretation of legal protection that connects preventive safeguards, emergency wildlife protection, institutional enforcement, and habitat restoration under the amended Indonesian conservation framework. This approach seeks to distinguish the legal duties arising before, during, and after forest-fire incidents while identifying how conservation authorities, regulated actors, and participating communities may contribute to a coherent system of wildlife-centered environmental protection.

This study aims to analyze the scope, structure, and adequacy of legal protection for wildlife affected by forest and land fires under Law No. 5 of 1990 as amended by Law No. 32 of 2024 concerning the Conservation of Living Natural Resources and Their Ecosystems. The analysis specifically examines the legal provisions governing species and habitat protection, the responsibilities associated with preventing wildlife harm, and the regulatory mechanisms relevant to emergency animal rescue and post-fire ecological recovery. The study also evaluates the relationship between conservation obligations, environmental accountability, institutional enforcement authority, and community participation in protecting wildlife exposed to forest-fire consequences. Particular attention is directed toward identifying normative limitations and potential inconsistencies that may obstruct the effective coordination of preventive protection, emergency intervention, and remedial responsibilities. The anticipated scientific contribution consists of an integrated legal interpretation that places wildlife survival and habitat integrity at the center of conservation-law analysis while distinguishing the obligations applicable at different stages of forest-fire incidents. The practical contribution is expected to provide an analytical foundation for improving regulatory coordination, clarifying institutional responsibilities, strengthening wildlife-oriented legal enforcement, and supporting more effective protection of animals and their habitats in Indonesia.

RESEARCH METHODS

This study employed normative legal research using statutory and conceptual approaches to examine the legal protection of wildlife affected by forest and land fires and the legal measures available to communities residing near affected areas. The statutory approach focused on Law No. 5 of 1990 as amended by Law No. 32 of 2024, Law No. 32 of 2009 concerning Environmental Protection and Management, and Minister of Environment and Forestry Regulation No. 17 of 2024 concerning Wildlife Rescue. The units of legal analysis encompassed provisions governing species preservation, habitat protection, wildlife rescue, environmental accountability, institutional authority, and community participation in conservation activities. Primary legal materials comprised the relevant legislation and

implementing regulations, secondary materials included academic books, scientific journal articles, and related research, while tertiary materials consisted of legal dictionaries and encyclopedias. The conceptual approach incorporated the distinction between preventive and repressive legal protection as an analytical framework for examining regulatory obligations and enforcement mechanisms, while recognizing its original orientation toward legal relationships between individuals and public authorities (Hadjon, 1987). The analysis also incorporated habitat-based wildlife protection, which considers animal survival inseparable from the availability of essential ecological resources, including food, water, shelter, and environmental conditions supporting species conservation (Mustari et al., 2022).

Legal materials were collected through library research involving the identification, classification, and examination of relevant statutory provisions, implementing regulations, and scholarly publications addressing wildlife conservation and forest-fire governance. Descriptive qualitative legal analysis was employed to assess the relationships among conservation legislation, environmental protection regulations, wildlife rescue provisions, and legal mechanisms available to communities affected by forest and land fires. The analytical process examined preventive conservation obligations, emergency wildlife protection, post-fire habitat rehabilitation, and environmental accountability to determine how these legal instruments collectively regulate the protection of affected animals and their habitats. Institutional enforcement was examined with reference to the legal authority of civil servant investigators under the amended conservation framework, particularly regarding the relationship between investigative responsibilities and wildlife protection obligations (Kartika et al., 2026). Environmental accountability was assessed by considering the legal dimensions of forest-fire litigation and the enforcement of responsibilities arising from ecological destruction, providing a basis for examining the relationship between environmental remedies and wildlife protection (Purwanto et al., 2024). The legal interpretation distinguished binding statutory requirements from scholarly arguments and assessed the consistency of regulatory provisions concerning wildlife protection, habitat preservation, rescue measures, and community participation to identify normative limitations and potential areas requiring greater regulatory integration.

RESULTS AND DISCUSSION

Legal Protection of Wildlife and Habitat Integrity under Indonesia's Conservation Law

The constitutional foundation of wildlife protection in Indonesia reflects a legal relationship between environmental conservation, state control over natural resources, and the fulfillment of human welfare rather than an explicit recognition of animals as independent constitutional rights holders. Article 33 paragraph (3) of the 1945 Constitution establishes state control over land, water, and natural resources for the greatest prosperity of the people, while Article 33 paragraph (4) incorporates sustainability and environmental considerations into national economic governance. Article 28H paragraph (1) further guarantees the right of every person to a good and healthy environment, establishing a constitutional foundation for ecological protection primarily through the protection of human interests. This constitutional construction provides substantial authority for regulating biodiversity conservation but does not expressly formulate the intrinsic interests of wildlife as autonomous constitutional entitlements. Legal scholarship concerning Indonesian conservation policy identifies the continuing influence of anthropocentric considerations, particularly where ecological preservation must compete with economic development and natural resource utilization (Prabaningrum et al., 2025). The constitutional emphasis on human prosperity nevertheless cannot reasonably be interpreted as permitting unrestricted ecological exploitation because environmental sustainability constitutes an integral component of the constitutional economic order. The principal juridical question concerns whether this constitutional framework provides sufficient normative grounds for interpreting wildlife protection as a continuing state obligation encompassing animal survival, habitat integrity, and the prevention of ecological destruction rather than merely the regulation of natural resources for human benefit.

Law No. 5 of 1990, as amended by Law No. 32 of 2024, establishes the principal statutory framework for biodiversity conservation by regulating the preservation of living natural resources, species protection, ecosystem management, and the sustainable utilization of biological resources. Article 1 points 9 and 13 define animals as biological natural resources and habitats as environments where plants or animals can live and develop naturally, demonstrating that the legal construction recognizes the ecological relationship between organisms and their surrounding environment. Article

20 paragraph (1) distinguishes protected and unprotected species, while Article 21 paragraph (2) prohibits specified activities involving protected animals, including hunting, capturing, injuring, killing, possessing, transporting, and trading them under the circumstances established by the statute. Article 13 paragraphs (1)–(3) simultaneously regulates species preservation inside and outside natural habitats, indicating that conservation obligations are not conceptually confined to direct prohibitions against unlawful treatment of individual protected animals. Article 5A paragraph (1) extends the spatial implementation of conservation activities across nature reserve areas, nature conservation areas, designated aquatic and coastal conservation areas, and preservation areas, thereby broadening the territorial framework within which ecological protection may operate. The relationship between species-specific prohibitions and ecosystem-oriented conservation provisions requires systematic interpretation because the existence of multiple protective instruments does not automatically establish equivalent legal safeguards for every animal affected by habitat destruction (Prabaningrum et al., 2025).

The statutory differentiation between protected and unprotected species creates a significant conceptual issue when the legal interests of wildlife are examined through the capacity of animals to experience suffering and the ecological consequences of forest and land fires. Animal welfare scholarship recognizes sentience as the capacity to experience subjective positive and negative states, including suffering resulting from harmful environmental conditions, thereby providing an ethical foundation for evaluating legal protections beyond the economic usefulness of animals (Mellor & Uldahl, 2025). Forest fires may expose animals to burns, respiratory difficulties, dehydration, nutritional deprivation, psychological stress, and forced displacement regardless of whether particular species are formally classified as protected under conservation legislation. The differentiated prohibitions established by Article 21 paragraph (2) consequently raise questions regarding the adequacy of species-oriented criminal safeguards when ecological disasters threaten both protected and unprotected wildlife. This limitation does not mean that unprotected animals fall entirely outside Indonesian conservation law because broader provisions concerning habitat preservation, ecosystem protection, and environmental damage may apply independently of species classification. The distinction nevertheless reveals that the biological vulnerability of wildlife and the scope of particular criminal prohibitions do not necessarily correspond, requiring separate examination of the normative relationship between animal welfare and habitat-based conservation. Contemporary developments in animal welfare governance support closer integration between ethical recognition of animal interests and legally enforceable obligations, although such integration must remain consistent with the specific categories and responsibilities established under positive law (Mellor & Uldahl, 2025).

The practical relevance of these normative limitations became evident during forest and land fires in West Kalimantan in 2026, when wildlife rescue operations demonstrated the consequences of habitat disturbance for animals unable to remain safely within their natural environments. Between August 1 and September 10, 2026, the West Kalimantan Natural Resources Conservation Agency rescued 24 wild animals from 18 locations across three regencies, comprising 15 orangutans, six pangolins, one proboscis monkey, one slow loris, and one Malay civet (Ayuningtyas, 2026). A separate account from Kayong Utara documented the evacuation of six orangutans from community plantations in Pemangkat Village on September 4 and 8, 2026, following fires that disrupted their access to forest habitat (Redaksi, 2026). Reports concerning fire-affected wildlife in Ketapang further indicate that burning vegetation and deteriorating forest conditions can threaten animals that depend on the continued availability of natural habitat for their survival (Sofia, 2026). These incidents demonstrate that immediate animal rescue addresses only one dimension of legal protection because displacement may continue to threaten wildlife when food sources, vegetation cover, and suitable release locations remain compromised. The reported rescue figures must nevertheless be interpreted as records of documented interventions rather than comprehensive measurements of wildlife mortality or conclusive evidence establishing criminal responsibility for the fires, which requires separate investigation under the applicable legal provisions.

The ecological relationship between wildlife survival and habitat integrity establishes a substantive basis for interpreting conservation obligations beyond the immediate protection of individual animals. Longitudinal research on Indonesian tropical peat forests demonstrates that fire can produce persistent changes in vegetation structure, biodiversity, and ecological recovery trajectories, indicating that habitat degradation may continue long after the immediate disturbance has ended (Harrison et al., 2024). Historical ecological research in West Kalimantan further demonstrates the

complex relationship between fire occurrence and rainforest development, supporting the need to distinguish natural disturbance histories from contemporary ecological pressures associated with changing landscape conditions (Hendricks et al., 2024). Investigations of tropical peat-swamp forests also identify relationships between fire and tree-species diversity, reinforcing the significance of vegetation composition in maintaining ecological conditions required by forest-dependent wildlife (Volkova et al., 2023). Habitat-based wildlife ecology recognizes that food availability, water resources, vegetation cover, nesting opportunities, and environmental suitability constitute interconnected conditions supporting the continued existence and reproduction of wild animal populations (Mustari et al., 2022). Evidence concerning wildfire smoke exposure among Bornean orangutans additionally demonstrates changes in vocal behavior and acoustic characteristics during and after smoke exposure, indicating that fire-related disturbances can affect animal health-related indicators without necessarily causing immediate physical displacement (Erb et al., 2023). These ecological findings support a juridical interpretation in which habitat preservation and environmental recovery constitute indispensable components of wildlife protection, although establishing legal responsibility for particular ecological consequences remains dependent on the applicable statutory elements and supporting evidence.

The philosophical justification for expanding the interpretation of wildlife protection requires distinguishing anthropocentrism, biocentrism, and ecocentrism without treating these ethical orientations as identical to legally recognized rights under Indonesian legislation. Anthropocentrism evaluates environmental protection primarily through human interests, whereas biocentrism recognizes moral significance in living organisms independently of their instrumental usefulness to human society. Contemporary animal welfare scholarship demonstrates that biocentric and animal-centered ethical approaches can inform the development of legal obligations intended to minimize suffering and improve the treatment of animals (Mellor & Uldahl, 2025). Ecocentrism develops a broader ethical understanding by locating ecological value within the relationships among organisms, habitats, and environmental processes rather than exclusively within individual biological entities. Valera (2018), through an examination of Arne Næss's ecosophy, provides a philosophical foundation for understanding ecological relationships and the interdependence between individual existence and the broader natural environment. These perspectives supply critical interpretive standards for evaluating whether conservation law adequately protects wildlife and habitat integrity, but their application does not establish that Indonesian positive law has already recognized animals or ecosystems as independent legal persons possessing directly enforceable constitutional rights.

The distinction between preventive and repressive legal protection provides a further analytical framework for evaluating whether Indonesian conservation legislation adequately responds to the risks created by forest and land fires. Hadjon (1987) conceptualizes legal protection through preventive mechanisms intended to avert unlawful or detrimental administrative consequences and repressive mechanisms concerned with addressing disputes or violations after they occur, although the theory originally addresses relationships between individuals and public authorities. Its application to wildlife conservation is necessarily analogical because animal protection under Indonesian law principally operates through obligations imposed on government institutions, individuals, and corporations rather than through independent procedural rights exercised by animals themselves. Preventive protection can be identified in Article 19 paragraph (2) letter c and Article 33 paragraph (2) letter c of the amended conservation law, which expressly identify burning within nature reserve areas and nature conservation areas as prohibited activities affecting the integrity of those areas. Article 9 paragraphs (1), (4), and (5) additionally establishes conservation-related obligations for land-right holders and business-permit holders within preservation areas, including requirements concerning the maintenance of protective functions and adjustment of permitted land management. Repressive protection operates through the applicable criminal and administrative enforcement mechanisms, although the prohibition of particular activities against protected animals under Article 21 paragraph (2) must be distinguished from prohibitions concerning the destruction of protected conservation areas. The adequacy of this framework consequently depends on whether preventive obligations can be implemented before habitat destruction occurs and whether subsequent enforcement can address the legally established consequences of environmental harm without improperly extending criminal liability beyond the elements specified in the relevant provisions.

A systematic interpretation of Law No. 5 of 1990 as amended by Law No. 32 of 2024 demonstrates that wildlife protection already possesses a broader statutory foundation than the regulation of hunting, possession, transportation, and trade involving protected species. Article 13 establishes the preservation of plant and animal species inside and outside natural habitats, while Article 8 paragraph (4) recognizes preservation areas that may include ecological corridors, high-conservation-value areas, community-managed conservation areas, and areas associated with local ecological knowledge. Articles 19 and 33 further protect the integrity of nature reserve areas and nature conservation areas through prohibitions against activities capable of impairing their functions, including burning within those legally designated areas. The precautionary orientation of environmental protection strengthens the rationale for addressing foreseeable ecological risks before irreversible damage occurs, particularly where habitat destruction threatens biodiversity and the survival of wildlife populations (Baan et al., 2026). The principal limitation is therefore not the complete absence of conservation provisions governing habitats but the need to determine how species protection, spatial conservation obligations, forest-fire prevention, and environmental recovery responsibilities operate together when wildlife suffers indirect harm from ecosystem destruction. A legally coherent approach requires interpreting these instruments according to their respective scope, institutional authority, and enforceable obligations while recognizing that effective wildlife protection depends on maintaining the ecological conditions necessary for animal survival rather than relying exclusively on intervention after individual animals have been injured or displaced.

Wildlife Rescue, Environmental Liability, and Institutional Enforcement Following Forest and Land Fires

The legal protection of wildlife affected by forest and land fires requires a coordinated regulatory framework that connects species conservation, emergency rescue procedures, environmental restoration, and the enforcement of responsibilities arising from ecological destruction. Law No. 5 of 1990, as amended by Law No. 32 of 2024, establishes the substantive legal foundation for protecting living natural resources and their ecosystems, while Minister of Environment and Forestry Regulation No. 17 of 2024 provides technical provisions governing the rescue of wildlife threatened by natural disasters or human activities. Article 2 paragraphs (1)–(3) of the ministerial regulation distinguishes wildlife rescue within natural habitats (*in situ*) from rescue outside natural habitats (*ex situ*), recognizing that intervention may be necessary when habitats become restricted, isolated, or damaged. This distinction has significant juridical implications because the obligation to protect wildlife cannot be interpreted exclusively as the physical removal of animals from hazardous locations without considering the ecological conditions determining their subsequent survival. Ecological research concerning Indonesian peat-swamp forests demonstrates that fire-related disturbances can produce persistent changes in habitat structure and biodiversity, requiring conservation responses that extend beyond immediate disaster management (Harrison et al., 2024). The regulatory relationship between conservation legislation and technical rescue procedures consequently requires systematic interpretation to determine the scope of institutional authority, the standards governing animal treatment, and the continuity of protection after emergency evacuation. The central legal difficulty concerns whether these instruments establish sufficiently connected responsibilities for animal rescue and habitat rehabilitation or whether their implementation remains divided between species-oriented intervention and environmental management mechanisms.

The distinction between *in situ* and *ex situ* rescue reflects different legal and ecological responses to wildlife vulnerability arising from fire-related habitat destruction, although both mechanisms pursue the preservation of animal populations and their capacity to survive. Article 11 of Minister of Environment and Forestry Regulation No. 17 of 2024 identifies rescue measures applicable within and outside natural habitats, while Articles 12–15 elaborate intervention mechanisms involving animal management, medical treatment, care, and relocation in the relevant circumstances. In-situ intervention is particularly relevant when animals remain within damaged or isolated forest areas but require veterinary assistance, temporary protection, or relocation to prevent further exposure to environmental hazards. Ex-situ intervention becomes relevant when the condition of an animal or its habitat necessitates management outside the natural environment, provided that the intervention follows the applicable conservation procedures and professional assessments. Research on orangutan activity patterns at release and feeding sites in the Lamandau Wildlife Sanctuary demonstrates the significance

of behavioral and ecological conditions when evaluating wildlife management and post-release adaptation (Amalia et al., 2023). The legal distinction between these mechanisms must consequently be understood as a framework for selecting appropriate conservation interventions rather than as an automatic justification for relocating animals whenever forest fires occur.

The technical legality of wildlife rescue depends on compliance with assessment, classification, rehabilitation, release, and monitoring requirements established under Minister of Environment and Forestry Regulation No. 17 of 2024. Articles 3–10 regulate initial classification and the evaluation of medical and behavioral conditions, including identification of the animal's species, protection status, age, sex, origin, and suitability for subsequent conservation intervention. Article 8 paragraph (1) requires veterinary involvement in medical and behavioral assessment, while the resulting classification determines whether an animal may undergo treatment, rehabilitation, release, controlled breeding, or placement in an appropriate facility. Articles 29–35 regulate rehabilitation measures intended to restore the health and natural behavior of animals, whereas Articles 18–27 establish requirements for release, including administrative preparation, habitat suitability, and technical implementation. The ecological relevance of these provisions is supported by wildlife ecology scholarship emphasizing that successful survival depends on access to food, water, shelter, and environmental conditions consistent with the biological requirements of each species (Mustari et al., 2022). Articles 40 and 41 further require monitoring of rescue activities, including direct and indirect monitoring procedures conducted at least twice annually, thereby providing a formal mechanism for evaluating the implementation of authorized conservation interventions. These provisions establish a structured technical framework, although their effectiveness in forest-fire incidents remains dependent on the relationship between individual animal recovery, the ecological suitability of release locations, and the institutional capacity to perform the prescribed responsibilities.

The procedural structure established by Minister of Environment and Forestry Regulation No. 17 of 2024 demonstrates that wildlife rescue constitutes a sequence of legally differentiated activities rather than a single emergency operation completed when an affected animal is evacuated. Article 39 requires the Head of the relevant Conservation Agency to report rescue activities to the Director General, while Article 42 establishes the state budget and other lawful, nonbinding sources as potential funding mechanisms for implementing authorized activities. The differentiation between initial assessment, medical intervention, rehabilitation, release, and monitoring is relevant to legal accountability because each stage involves specific requirements that cannot be presumed satisfied merely from the successful physical transfer of an animal. Animal welfare scholarship emphasizes the importance of translating ethical protection principles into operational practices supported by clear responsibilities and enforceable standards, providing a conceptual basis for evaluating the adequacy of these technical procedures (Mellor & Uldahl, 2025). Table 1 presents the stages of wildlife rescue and their corresponding regulatory foundations, preserving the distinctions established in the original normative mapping. The classification provides a basis for examining whether legally prescribed rescue procedures adequately address immediate threats to animals while maintaining continuity between emergency intervention and their eventual return to suitable natural habitats.

Table 1. Stages and Legal Bases of Wildlife Rescue under Minister of Environment and Forestry Regulation No. 17 of 2024

Stages	Legal Basis (Articles)	Principal Provisions
Assessment and classification	Articles 3–10	Initial assessment (species, status, age, sex, origin), assessment of medical and behavioral conditions, and technical recommendations; quick assessment if the animal is ready to be released into the wild.
In-situ rescue	Articles 11–15	Breeding, medical treatment, care, and relocation (evacuation or translocation).
Ex-situ rescue	Articles 11, 17, and 36–37	Relocation, release, rehabilitation, handover, or placement in Conservation Institutions, and euthanasia.

Rehabilitation	Articles 29–35	Quarantine, isolation, and recovery of natural behaviors under veterinary supervision; periodic medical and behavioral records.
Release	Articles 18–27	Requirements, planning, administrative completeness, habituation, implementation, and habitat suitability assessment.
Monitoring	Articles 28 and 40–41	Direct and indirect monitoring of released animals; monitoring of recovery success at least twice a year.
Reporting	Article 39	The Head of the Balai reports activity results to the Director General with a copy to the Director.
Funding	Article 42	the state budget (APBN) and/or other legal and non-binding sources.

Source: Compiled from Minister of Environment and Forestry Regulation No. 17 of 2024.

The regulatory mapping in Table 1 demonstrates that Indonesian wildlife rescue legislation provides identifiable procedural obligations covering the principal stages of animal protection, although the existence of these provisions does not independently establish comprehensive responsibility for restoring ecosystems damaged by forest and land fires. Requirements concerning assessment, veterinary treatment, rehabilitation, and release principally address the biological condition and management of affected animals, whereas the restoration of damaged forest vegetation, peatland hydrology, ecological connectivity, and habitat functions involves broader environmental management obligations. Article 23 paragraph (3) of Minister of Environment and Forestry Regulation No. 17 of 2024 requires technical release planning to include an assessment of release-site suitability, establishing a direct procedural relationship between animal recovery and the ecological conditions of the receiving habitat. Research concerning fire and tree-species diversity in tropical peat-swamp forests demonstrates that vegetation composition may change following fire disturbances, emphasizing the need to consider ecological suitability before returning animals to previously affected areas (Volkova et al., 2023). Long-term ecological investigations further indicate that biological recovery following major forest fires can vary considerably among species and environmental components, making physical vegetation regeneration an insufficient indicator of whether all wildlife populations can safely reoccupy a damaged habitat (Harrison et al., 2024). The legal distinction between wildlife rehabilitation and ecosystem restoration consequently raises a substantive question regarding the division of responsibilities between conservation authorities responsible for animal treatment and institutions possessing environmental restoration and enforcement mandates. Effective legal protection requires these responsibilities to operate through complementary regulatory mechanisms, particularly where the original habitat remains unsuitable for release or where recurring fires create continuing threats to rescued wildlife.

Environmental liability provides an additional legal foundation for addressing the consequences of forest and land fires because the rescue of individual animals cannot substitute for the legal responsibility to remedy environmental destruction. Article 54 paragraph (1) of Law No. 32 of 2009 concerning Environmental Protection and Management requires persons responsible for environmental pollution or destruction to restore environmental functions, while paragraph (2) identifies remediation, rehabilitation, restoration, and other legally recognized measures as components of environmental recovery. Article 87 paragraph (1) further establishes liability for compensation and/or specified remedial actions where the statutory requirements concerning unlawful environmental conduct and resulting losses are fulfilled, enabling environmental damage to be examined through civil accountability mechanisms. Research concerning strict liability in forest and land fire litigation highlights the importance of distinguishing the applicable grounds of environmental responsibility from ordinary fault-based liability, particularly where ecological damage involves complex causal relationships (Martono & Suriani, 2025). Article 40C paragraph (3) letters b, c, and d of the conservation law as amended by Law No. 32 of 2024 additionally provides for corporate criminal penalties involving ecosystem restoration costs, wildlife rehabilitation, translocation, release, and maintenance under the conditions prescribed by the statute. The relationship between these provisions establishes a legal basis for connecting environmental recovery and wildlife protection, although each form of liability must be applied according to its own elements, evidentiary requirements, responsible legal subjects, and authorized remedies.

Institutional enforcement represents a distinct dimension of wildlife protection because the effectiveness of statutory obligations depends on the authority and capacity of public institutions to prevent violations, investigate suspected offenses, coordinate emergency responses, and implement legally required restoration measures. Article 39 of the amended conservation law establishes investigative authority for designated civil servant investigators, while Article 39A provides a legal framework for obtaining sufficient preliminary evidence through reports and information relevant to suspected conservation offenses. Scholarship examining wildlife-law enforcement after the 2024 legislative amendment emphasizes the significance of civil servant investigators in strengthening conservation enforcement, particularly regarding the practical implementation of institutional powers established by statutory provisions (Kartika et al., 2026). The relationship between conservation investigations and forest-fire enforcement requires attention to the geographical location of the alleged conduct, the legal designation of the affected area, the conduct attributable to particular persons or corporations, and the specific statutory prohibition potentially violated. Research on forest-fire litigation in Indonesia indicates that environmental accountability involves legal and evidentiary difficulties, supporting the need to distinguish proof of ecological damage from proof of the legal responsibility of a particular actor (Purwanto et al., 2024). Reports concerning extensive fire-response operations in Kalimantan illustrate the administrative emphasis placed on emergency suppression, while the preventive significance of land-use monitoring and ecological risk management remains an important consideration for evaluating institutional performance (Tisna, 2026). The legal effectiveness of wildlife protection must consequently be assessed through the capacity of authorized institutions to connect conservation monitoring, investigation, evidence collection, emergency rescue, and implementation of environmental recovery duties without assuming that every recorded hotspot or instance of wildlife displacement establishes a conservation-related criminal offense.

The relationship between statutory provisions and their implementation can be evaluated through Lawrence M. Friedman's legal-system framework, which distinguishes legal substance, legal structure, and legal culture as interacting dimensions of legal operation (Friedman, 1975). Legal substance encompasses the conservation prohibitions, wildlife rescue procedures, environmental recovery requirements, and liability provisions established under the relevant legislation, whereas legal structure concerns institutional authority, operational coordination, investigative capacity, and the implementation of authorized conservation measures. Legal culture concerns the attitudes and practices influencing regulatory compliance, including the willingness of institutions, business actors, and communities to prevent environmental destruction, report suspected violations, and support ecological rehabilitation. The concept of responsive law further provides an evaluative standard for determining whether legal institutions address substantive social and environmental needs rather than confining their operation to formal procedural compliance (Nonet & Selznick, 2020). Research on forest and peatland fire prevention also reinforces the importance of combining prevention, management, and response measures when addressing recurring ecological threats, indicating that enforcement effectiveness cannot be assessed exclusively through activities undertaken after fires have occurred (Qamariyanti et al., 2023). The normative analysis identifies the central requirement for effective wildlife protection as the coordination of animal rescue, habitat recovery, institutional enforcement, and environmental accountability, with legal responsibilities differentiated according to the applicable statutory provisions and implemented through complementary conservation and environmental protection mechanisms.

Community Participation, Legal Remedies, and the Development of Ecocentric Wildlife Protection

Communities residing around forests and conservation areas occupy a significant position in wildlife protection because their proximity to vulnerable ecosystems enables the identification of environmental disturbances, changes in animal movement, and potential threats arising from forest and land fires. Habitat destruction frequently creates ecological interactions between wildlife and human settlements, particularly when the loss of vegetation, natural food sources, and shelter forces animals to enter agricultural landscapes or other areas occupied by surrounding communities. Research concerning indigenous wildlife conservation emphasizes that local ecological knowledge, customary practices, and community-based environmental values can contribute to protecting endemic species and maintaining relationships between communities and their natural surroundings (Imlabla & Sahusilawane, 2025). Studies of forest-fire governance among the Dayak Ngaju further demonstrate the relevance of

indigenous justice and legal pluralism in examining environmental responsibilities beyond conventional state-centered regulatory arrangements (Putra & Santoso, 2026). These scholarly developments provide a basis for recognizing community participation as a substantive element of conservation governance rather than merely an auxiliary activity conducted after environmental damage has occurred. Legal scholarship concerning communities affected by environmental harm also emphasizes the importance of accessible legal protection and enforceable environmental responsibilities, particularly where ecological destruction threatens interests that depend on environmental quality (Kusyana et al., 2026). The juridical significance of community participation consequently concerns the relationship between public involvement, institutional conservation authority, and the legal mechanisms capable of translating information about damaged habitats and endangered wildlife into preventive intervention, authorized rescue, and enforceable environmental protection.

The legal foundation of community participation in wildlife conservation is established through Article 4 of Law No. 5 of 1990 as amended by Law No. 32 of 2024, which places responsibility for conserving living natural resources and their ecosystems upon the Central Government, Regional Governments, and communities according to their respective roles and legal obligations. Article 37 further regulates community participation through conservation activities encouraged and directed by competent government institutions, including education, public awareness initiatives, and the involvement of indigenous communities in preserving biological resources and their ecosystems. A systematic interpretation of these provisions indicates that public participation constitutes a recognized component of conservation implementation, although the exercise of technical and administrative authority remains subject to the institutional allocation established under the applicable legislation. Research on Indonesian conservation-law reform identifies continuing tensions between centralized regulatory arrangements, ecological interests, and the participation of communities whose livelihoods and customary relationships are closely associated with conservation areas (Prabaningrum et al., 2025). Community participation must therefore be distinguished from unrestricted authority to capture, relocate, rehabilitate, or release wildlife because such technical interventions require compliance with the procedures and institutional responsibilities established under Minister of Environment and Forestry Regulation No. 17 of 2024. The legal significance of Articles 4 and 37 lies in their capacity to support structured collaboration between public authorities and communities while preserving the accountability of competent conservation institutions for decisions affecting protected species, habitat integrity, and the ecological consequences of forest and land fires.

Community reports concerning forest and land fires acquire a specific legal significance when the reported circumstances indicate possible violations of conservation legislation or reveal conditions requiring immediate wildlife protection. Article 39 paragraph (5) of the amended conservation law authorizes designated civil servant investigators to receive reports or information concerning suspected conservation offenses and examine the circumstances relevant to determining whether an investigation is warranted. Article 39A paragraph (1) further recognizes information originating from communities or relevant institutions as a potential basis for obtaining sufficient preliminary evidence, subject to the applicable procedural requirements and the competence of authorized investigators. Scholarship examining wildlife crime enforcement following the 2024 conservation-law amendment emphasizes the importance of investigative authority and institutional capacity in translating statutory prohibitions into enforceable legal accountability (Kartika et al., 2026). Reports concerning trapped animals, damaged vegetation, suspected burning activities, or the movement of displaced wildlife should nevertheless be differentiated according to their immediate purpose because requests for emergency animal rescue do not necessarily establish the occurrence of a criminal offense. Information supplied by residents may assist institutional verification through the identification of locations, observable environmental conditions, potentially affected species, and suspected activities, but the determination of legal responsibility requires evidence satisfying the elements of the applicable offense. Hadjon's distinction between preventive and repressive legal protection provides an analytical basis for understanding community reporting as a mechanism capable of supporting early administrative intervention and subsequent legal enforcement, while its application to wildlife remains analogical because animals do not independently exercise the procedural rights originally contemplated by the theory (Hadjon, 1987).

The legal remedies available to communities affected by forest and land fires extend beyond conservation-specific reporting mechanisms because environmental law provides a separate framework

for protecting environmental interests and seeking remedies for legally established ecological harm. Article 65 paragraph (1) of Law No. 32 of 2009 concerning Environmental Protection and Management guarantees the right to a good and healthy environment, while the broader provisions of Article 65 regulate access to environmental information, participation, justice, and other rights relevant to environmental governance. Article 87 paragraph (1) provides a legal basis for claims involving compensation and/or specified remedial measures against parties whose conduct satisfies the statutory requirements for environmental liability, whereas Article 91 recognizes representative actions where the legal conditions governing group claims are fulfilled. Environmental litigation scholarship demonstrates that responsibility for forest and land fires requires careful assessment of unlawful conduct, causation, applicable liability principles, and the evidentiary relationship between particular activities and resulting environmental damage (Martono & Suriani, 2025). The legal analysis of environmental civil remedies also emphasizes that compensation and restoration obligations serve different protective functions, particularly where environmental destruction generates consequences that cannot be adequately addressed through monetary remedies alone (Fatahillah & Novianti, 2025). Although wildlife does not ordinarily possess independent standing to initiate litigation under these provisions, legally authorized claims seeking environmental restoration may contribute indirectly to animal protection by addressing habitat degradation and ecological conditions associated with continuing wildlife vulnerability.

Table 2. Legal Framework for Community Participation and Environmental Remedies in Wildlife Protection

Legal Instrument	Community Participation or Legal Remedy	Implications for Wildlife Protection
Law No. 32 of 2024, Articles 4 and 37	Participation in conservation activities under the applicable institutional framework	Community involvement in protecting species and habitats
Law No. 32 of 2024, Articles 39 and 39A	Submission of information or reports concerning suspected conservation offenses	Support for verification, investigation, and enforcement
Law No. 32 of 2009, Article 65	Exercise of environmental rights and participation within the statutory framework	Public involvement in preventing ecological degradation
Law No. 32 of 2009, Articles 87 and 91	Environmental civil claims and representative actions, subject to legal requirements	Potential remedies supporting restoration of damaged habitats
Minister of Environment and Forestry Regulation No. 17 of 2024	Coordination with competent authorities concerning affected wildlife	Support for authorized rescue, rehabilitation, and release procedures

The normative relationships presented in Table 2 demonstrate that community participation operates through several legally differentiated mechanisms, including conservation cooperation, the submission of reports, environmental rights, civil remedies, and coordination with competent wildlife rescue authorities. These instruments establish opportunities for public involvement, but their practical significance depends on whether conservation institutions and law enforcement authorities provide appropriate responses to information concerning wildlife displacement, suspected environmental offenses, and damaged habitats. Legal protection scholarship concerning communities affected by environmental violations indicates that formal recognition of rights must be accompanied by institutional accessibility and enforceable mechanisms capable of addressing the consequences of ecological harm (Kusyana et al., 2026). The precautionary principle recognized under Article 2 letter f of Law No. 32 of 2009 provides a further normative foundation for responding to serious environmental risks before scientific uncertainty becomes a justification for postponing necessary preventive measures (Baan et al., 2026). Community reports identifying recurring fires, potentially hazardous land-management activities, or wildlife displacement may support preventive assessment, although such information must be verified before administrative sanctions, investigative conclusions, or civil liability

can lawfully be established. Environmental civil-law scholarship also recognizes the importance of community access to legal mechanisms and public oversight in strengthening accountability, especially where environmental interests may be adversely affected by powerful institutional or commercial actors (Fatahillah & Novianti, 2025). The effectiveness of public participation consequently depends not merely on the existence of statutory rights but on the legal clarity of reporting procedures, the responsiveness of authorized institutions, the availability of admissible evidence, and the continuity of habitat protection measures following the identification of environmental threats.

The constitutional position of community participation in conservation governance has also been examined through judicial review proceedings concerning the legislative amendment introduced by Law No. 32 of 2024. Constitutional Court Decision No. 132/PUU-XXII/2024, delivered on July 17, 2025, rejected a formal judicial review petition challenging the legislative process associated with the amendment, leaving the contested statute legally operative rather than invalidating it on the procedural grounds advanced by the petitioners. The decision must be distinguished from a substantive determination that every provision of the amended conservation law necessarily satisfies all constitutional requirements concerning indigenous rights, community involvement, or the governance of preservation areas. Subsequent constitutional proceedings registered as Case No. 262/PUU-XXIV/2026 brought additional attention to the legal implications of preservation areas, particularly the relationship between conservation governance and the interests of indigenous communities associated with affected landscapes. Scholarship concerning indigenous justice and forest-fire governance demonstrates that community relationships with forests involve normative arrangements extending beyond formal state regulation, providing a conceptual basis for examining possible tensions between conservation authority and customary environmental governance (Putra & Santoso, 2026). The juridical implications of these proceedings require separating the binding effect of an existing Constitutional Court decision from arguments advanced in subsequent litigation, which cannot be treated as settled constitutional interpretations without an applicable final judgment.

Comparative environmental law provides an additional analytical foundation for evaluating whether wildlife protection should remain exclusively dependent on human-centered legal interests or develop stronger recognition of ecosystem integrity as an independent objective of conservation governance. Article 71 of the Constitution of the Republic of Ecuador recognizes nature as possessing rights associated with the maintenance and regeneration of its existence, life cycles, structures, functions, and evolutionary processes, thereby establishing a constitutional approach that differs substantially from conventional resource-oriented environmental regulation. The Ecuadorian framework further recognizes ecological restoration as a distinct concern, demonstrating that legal protection of nature can extend beyond the compensation of individuals suffering environmental losses. New Zealand adopted a different institutional approach through Section 12 of the Te Awa Tupua (Whanganui River Claims Settlement) Act 2017, which recognizes Te Awa Tupua as a legal person and establishes a legal framework through which its interests may be represented. Philosophical scholarship concerning Arne Næss's ecosophy provides a conceptual foundation for understanding ecological relationships as integral to ethical self-realization and the recognition of values extending beyond exclusively human-centered environmental interests (Valera, 2018). These comparative arrangements demonstrate that legal systems can formulate ecosystem-oriented protection through different mechanisms, including constitutional recognition of nature's rights and statutory recognition of legal personality, although their juridical structures cannot be assumed to operate identically. Their significance for Indonesian conservation law lies in offering comparative criteria for evaluating whether existing statutory obligations sufficiently protect ecological continuity, habitat functions, and wildlife interests without incorrectly suggesting that Indonesia has already adopted equivalent constitutional or statutory recognition of independent legal personality for nature.

The integration of community participation, environmental remedies, and ecosystem-oriented legal interpretation provides a basis for developing a more coherent framework for protecting wildlife affected by forest and land fires under Indonesian positive law. Preventive protection should be assessed through conservation duties, monitoring of fire-prone habitats, public reporting mechanisms, and compliance with land-management obligations, while emergency intervention must remain connected to authorized wildlife assessment, rescue, rehabilitation, and release procedures. Repressive mechanisms require legally grounded investigations, the establishment of responsibility according to the relevant statutory elements, and the implementation of applicable remedies addressing both

environmental destruction and wildlife-related consequences. Research concerning Indonesian forest-fire policy and enforcement demonstrates the continuing relevance of regulatory coordination and institutional effectiveness in addressing environmental damage, supporting closer integration between conservation enforcement and broader environmental accountability mechanisms (Wijayanto et al., 2022). Responsive-law theory further suggests that the adequacy of legal protection should be evaluated through its substantive capacity to address the interests affected by regulation rather than through formal compliance with legal procedures alone (Nonet & Selznick, 2020). The resulting normative contribution is an integrated wildlife-protection framework that connects community participation, prevention of habitat destruction, authorized animal rescue, environmental liability, and ecological restoration while preserving the distinction between binding statutory requirements, comparative legal principles, and proposed improvements to conservation governance.

CONCLUSION

Legal protection for wildlife affected by forest and land fires in Indonesia is established through Law No. 5 of 1990 as amended by Law No. 32 of 2024, supported by Law No. 32 of 2009 concerning Environmental Protection and Management and Minister of Environment and Forestry Regulation No. 17 of 2024 concerning Wildlife Rescue. The analysis demonstrates that these instruments provide normative foundations for species preservation, habitat protection, emergency rescue, rehabilitation, environmental liability, and ecological restoration, although their existence does not automatically ensure effective implementation. The principal legal limitation lies in the insufficient integration of species-oriented protection with preventive habitat management and post-fire ecological recovery, particularly when wildlife suffers indirect harm from habitat destruction rather than direct unlawful treatment. The distinction between protected and unprotected species further raises concerns regarding the adequacy of animal-centered legal safeguards, while existing ecosystem protection provisions provide a broader basis for addressing ecological vulnerability. Effective conservation consequently requires coordinated preventive and repressive mechanisms that connect forest-fire risk management, authorized wildlife rescue, institutional enforcement, and legally enforceable restoration obligations. The study contributes an integrated normative interpretation of wildlife protection that recognizes habitat integrity as an essential component of animal survival without attributing independent legal personality to wildlife under existing Indonesian law.

Community participation constitutes an essential supporting mechanism for wildlife protection through environmental monitoring, reporting suspected conservation violations, identifying affected animals, and pursuing legally available environmental remedies. Law No. 32 of 2024 recognizes community involvement in conservation and provides investigative mechanisms through which relevant information may support the examination of suspected offenses, while Law No. 32 of 2009 establishes environmental rights and civil remedies subject to applicable legal requirements. Indigenous communities and local ecological knowledge can strengthen preventive conservation efforts, although technical wildlife intervention, criminal investigations, and the determination of legal responsibility remain subject to the authority of competent institutions. Comparative approaches recognizing the rights or legal personality of nature demonstrate alternative possibilities for strengthening ecosystem-oriented protection, but their relevance to Indonesia remains interpretive rather than constituting existing domestic legal recognition. The findings indicate that effective protection depends on clearer coordination among conservation agencies, environmental authorities, law enforcement institutions, and communities, supported by consistent habitat monitoring and accountability for legally established environmental damage. Strengthening these institutional relationships and integrating wildlife rehabilitation with ecological restoration represents the principal practical implication for improving conservation governance under Indonesia's amended legal framework.

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