

The East Java KSDA's Role in Addressing Protected Plant and Wildlife Trade at Juanda International Airport

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ABSTRACT

Indonesia possesses high biodiversity with numerous protected plant and wildlife species facing extinction threats. This research examines the legal authority and operational effectiveness of the East Java Natural Resources Conservation Agency (BBKSDA) in monitoring protected plant and wildlife circulation at Juanda International Airport. The study employs a juridical empirical legal approach through statutory analysis, case studies, comparative analysis, and conceptual approaches to evaluate the implementation of Law Number 32 of 2024 concerning Conservation of Natural Biological Resources and Their Ecosystems. Research findings indicate that although BBKSDA holds a strategic role in conservation law enforcement, significant obstacles exist in the form of limited investigation authority requiring case transfers to civil servant investigators or police, insufficient human resources, inadequate facilities, and suboptimal inter-agency coordination. Law Number 32 of 2024 brings important reforms through strengthened criminal sanctions, corporate accountability, and expanded investigative authority compared to Law Number 5 of 1990. However, increasingly sophisticated smuggling methods require institutional strengthening, improved human resource capacity, utilization of modern detection technology, development of integrated standard operating procedures among agencies, and legal education for the public to enhance monitoring effectiveness and sustainable conservation in air transport routes.

Keywords: *BBKSDA, Conservation, Illegal Trading, Juanda International Airport, Law Enforcement, Protected species*

Peran Balai Besar KSDA Jawa Timur Dalam Penanganan Peredaran Tumbuhan Dan Satwa Liar Dilindungi Undang-Undang Di Bandara Internasional Juanda

ABSTRAK

Indonesia memiliki keanekaragaman hayati yang tinggi dengan banyak spesies tumbuhan dan satwa liar dilindungi yang terancam punah. Penelitian ini mengkaji kewenangan hukum dan efektivitas operasional Balai Besar Konservasi Sumber Daya Alam (BBKSDA) Jawa Timur dalam mengawasi peredaran tumbuhan dan satwa liar dilindungi di Bandara Internasional Juanda. Penelitian menggunakan pendekatan hukum empiris yuridis melalui analisis perundang-undangan, studi kasus, perbandingan, dan pendekatan konseptual untuk mengevaluasi penerapan Undang-Undang Nomor 32 Tahun 2024 tentang Konservasi Sumber Daya Alam Hayati dan Ekosistemnya. Hasil penelitian menunjukkan bahwa meskipun BBKSDA memiliki peran strategis dalam penegakan hukum konservasi, terdapat kendala signifikan berupa keterbatasan kewenangan penyidikan yang mengharuskan pelimpahan kasus ke PPNS atau kepolisian, keterbatasan sumber daya manusia, fasilitas yang belum memadai, serta koordinasi antarinstansi yang belum optimal. Undang-Undang Nomor 32 Tahun 2024 membawa reformasi penting melalui penguatan sanksi pidana, pertanggungjawaban korporasi, dan perluasan kewenangan penyidik dibandingkan Undang-Undang Nomor 5 Tahun 1990. Namun demikian, modus penyelundupan yang semakin canggih memerlukan penguatan kelembagaan, peningkatan kapasitas sumber daya manusia, pemanfaatan teknologi deteksi modern, penyusunan standar operasional prosedur terpadu antarinstansi, serta edukasi hukum kepada masyarakat untuk meningkatkan efektivitas pengawasan dan konservasi berkelanjutan di jalur udara.

Kata Kunci: *Bandara Internasional Juanda, BBKSDA, Konservasi, Penegakan Hukum, Perdagangan Ilegal, Satwa Liar*

INTRODUCTION

Indonesia possesses high biodiversity, including various species of protected wildlife whose status is threatened with extinction.¹ The protection of plants and wildlife constitutes a state responsibility under the constitution to guarantee public rights to a healthy living environment. To carry out this mandate, the government has enacted Law Number 32 of 2024 concerning Conservation of Natural Biological Resources and Their Ecosystems, which prohibits the capture, maintenance, trade, transportation, or storage of protected Plants and Wildlife (TSL) without authorization.² Violations of these provisions may be subject to criminal sanctions, both administrative and repressive legal measures.³

BBKSDA East Java, as a technical implementing unit under the Directorate General of Natural Resources and Ecosystem Conservation (KSDA) and the Ministry of Environment and Forestry (KLHK), holds the authority to supervise, monitor, and take action against suspected conservation violations within its jurisdiction, including at Juanda International Airport. The airport represents a strategic location vulnerable to illegal TSL circulation due to its function as an entry and exit point for goods and people on both national and international scales. One of the largest cases of illegal TSL trade occurred in the Sidoarjo region, East Java, where 45 Blue-crowned Hanging Parrots, 110 Java Sparrows, 596 Yellow-vented Bulbuls, and 125 Hill Mynas/Golden Mynas were confiscated.⁴

BBKSDA faces a discrepancy between its administrative authority and the need for strict law enforcement. Because it lacks full investigative authority, criminal violation cases must be transferred to other government agencies. This situation causes delays in law enforcement and may reduce the deterrent effect on violators.⁵

¹ Agus Setiawan, “Keanekaragaman Hayati Indonesia: Masalah Dan Upaya Konservasinya,” *Indonesian Journal of Conservation* 11, no. 1 (2022): 13–21, <https://doi.org/10.15294/ijc.v11i1.34532>.

² Pemerintah Pusat Indonesia, “Undang-Undang (UU) Nomor 32 Tahun 2024 Tentang Perubahan Atas Undang-Undang Nomor 5 Tahun 1990 Tentang Konservasi Sumber Daya Alam Hayati Dan Ekosistemnya” (Jakarta, 2024), <https://peraturan.bpk.go.id/Details/295135/uu-no-32-tahun-2024>.

³ In *Ibid.*, Pasal 56 dan Pasal 57.

⁴ Atalya Puspa, Pradipta Pandu, and Tiferina Prisca, *Satu Dekade: Mentransformasi Penegakan Hukum Lingkungan Hidup Dan Kehutanan* (Kementerian Lingkungan Hidup dan Kehutanan, 2024), <https://gakkum.kehutan.go.id/file/pengumuman/20250908142902.pdf>.

⁵ Hadyan Hindami and Nelvitia Purba, “Efektivitas Penegakan Hukum Oleh Penyidik Pegawai Negeri Sipil Kehutanan Terhadap Perdagangan Satwa Liar Yang Dilindungi (Studi Kasus Pada Seksi Wilayah I Balai Pengamanan Dan Penegakan Hukum Lingkungan Hidup Dan Kehutanan Wilayah Sumatera),”

BBKSDA East Java encounters various challenges such as limited personnel, inadequate facilities, and increasingly complex modes of legal violations, including the use of fraudulent documents and disguised shipments in handling illegal TSL trade. To address these issues, legal strengthening, institutional capacity enhancement, and effective cross-sector collaboration are necessary. Therefore, an in-depth juridical study is required to assess the strategic role of BBKSDA in handling illegal TSL trade circulation at Juanda International Airport and to formulate innovative legal solutions for effective oversight and sustainable conservation.

The increasing smuggling of plants and wildlife through air routes has made the role of BBKSDA more complex and challenging. This crime is categorized as an extraordinary crime because it involves international criminal networks, money laundering, and corruption. Consequently, an institutional response is needed that is not only administrative but also intelligence-based and involves cross-border cooperation. Juanda International Airport serves as a strategic point requiring strict and continuous supervision to effectively prevent illegal TSL trade circulation.

Although BBKSDA holds a strategic role in natural resource conservation, limited operational regulations and firm legal authority hinder the effectiveness of TSL oversight. Without adequate investigative authority, BBKSDA can only perform administrative and initial actions, resulting in weak law enforcement. This situation is ironic, considering that BBKSDA is the party closest to the facts of conservation violations in the field.

This research is important both academically and practically for evaluating the effectiveness of conservation law policies in Indonesia, particularly in operational implementation in the field. The research results are expected to become a normative foundation and policy recommendations that strengthen BBKSDA's institutional capacity and clarify its authority in handling legal violations.

RESEARCH METHODOLOGY

This research employs an empirical legal approach that examines social facts and the implementation of law in real life (law in action), not merely written regulations. This method was selected to investigate the role of BBKSDA East Java in monitoring illegal TSL trade circulation at Juanda International Airport and the challenges of legal implementation in practice.⁶

This study constitutes juridical empirical legal research that combines legal regulation analysis with field data, focusing on the application of Law No. 32 of 2024

Federalisme : Jurnal Kajian Hukum Dan Ilmu Komunikasi 2, no. 2 (2025): 37–53, <https://doi.org/https://doi.org/10.62383/federalisme.v2i2.582>.

⁶ Soerjono Soekanto, *Sosiologi Suatu Pengantar* (RajaGrafindo Persada, 2017).

in addressing illegal TSL trade circulation at Juanda International Airport. The objective is to evaluate the implementation of regulations by BBKSDA East Java, identify problems in policy and law enforcement, and examine measures to combat illegal trade in protected species.

This research utilizes a juridical empirical legal method that integrates legal regulation analysis and field data to examine the application of Law No. 32 of 2024 in addressing illegal TSL trade circulation at Juanda International Airport. The focus is to evaluate the implementation of regulations by BBKSDA East Java, identify policy and law enforcement problems, and examine measures to combat illegal trade in protected species.

In legal research, the problem approach functions to understand legal issues from various perspectives, so that the information obtained is complete and contextually appropriate, enabling accurate analysis to find solutions or conclusions. The statutory approach is conducted by studying relevant regulations and laws, such as Law No. 32 of 2024 concerning Conservation of Natural Biological Resources and Their Ecosystems, along with other regulations governing the protection of plants and wildlife.⁷ The case approach is conducted by examining actual cases of illegal plant and wildlife trade, particularly those handled by BBKSDA East Java at Juanda International Airport, to observe the application of legal regulations in practice.⁸ The comparative approach is conducted by comparing regulations, policies, and law enforcement in Indonesia with other countries or regions to identify strengths and weaknesses in plant and wildlife protection.⁹ The conceptual approach employs legal theories and fundamental concepts of environmental law and state administration to understand the role and operational mechanisms of BBKSDA in protecting natural resources.

RESULT AND DISCUSSION

Legal Basis for the Authority of the East Java Natural Resources Conservation Agency (KSDA)

The East Java BBKSDA is a technical implementing unit under the Directorate General of KSDAE, Ministry of Forestry, tasked with managing the conservation of natural biological resources in East Java. Its authority and duties are based on several important regulations. The first is Law No. 32 of 2024, which updates version of Law No. 5 of 1990, expands the scope of conservation, strengthens community participation (including indigenous communities although their recognition remains

⁷ Soerjono Soekanto, *Penelitian Hukum Normatif: Suatu Tinjauan Singkat* (Jakarta: Rajawali, 2003)

⁸ Philipus M. Hadjon, *Pengantar Hukum Administrasi Indonesia* (Gadjah Mada University Press, 1999),

⁹ Satjipto Rahardjo, *Hukum Dan Masyarakat* (Angkasa, 1980).

weak), and clarifies the authority of civil servant investigators (PPNS) and legal sanctions for conservation violations, including those committed by corporations. Then, the Ministry of Environment and Forestry Regulation No. 18 of 2024, which regulates the sustainable utilization of TSL (Plants and Wildlife), including breeding, maintenance, and trade, and replaces previous regulations considered no longer relevant.

In addition, the management of ports and airports involves cross-sectoral cooperation through regulations and inter-agency agreements, such as Ministry of Transportation Regulation No. 15 of 2015 and the 2022 Cooperation Agreement between the Ministry of Health, Ministry of Transportation, Customs, and Immigration.¹⁰ This cooperation is regulated in standard operating procedures (SOP) to strengthen supervision, services, and maritime environmental protection.

The Role of BBKSDA in Handling Protected Plants and Wildlife at Juanda International Airport

BBKSDA East Java plays an important role in monitoring illegal TSL trade circulation at Juanda International Airport, both entering and leaving the area. As a technical institution, BBKSDA is responsible for supervising, securing, and rescuing illegal TSL or those without official permits, working together with airport authorities, the Police, Customs, and Quarantine in accordance with applicable conservation law provisions. East Java is a region vulnerable to illegal TSL smuggling, with achievements greater than other regional areas that are not burdened with targets.¹¹

BBKSDA East Java actively conducts joint operations and patrols at Juanda International Airport, especially before major religious holidays when the risk of smuggling increases. They also handle the rehabilitation and release of confiscated animals, such as Bali starlings and yellow-crested cockatoos, at wildlife rescue centers. In addition, BBKSDA conducts education and socialization programs to increase awareness among airport staff and the public about the importance of biodiversity protection, making BBKSDA not only a supervisor but also an active conservation facilitator.

Active Role of the East Java Natural Resources Conservation Agency

¹⁰ M. Adil Syah et al., "Implementasi Inapotnet Terhadap Pelayanan Penerbitan Surat Persetujuan Berlayar Di Kantor Kesyahbandaran Dan Otoritas Pelabuhan Kelas IV Selatpanjang," *JURNAL SAINS DAN TEKNOLOGI MARITIM* 26, no. 1 (2025): 58–65, <https://doi.org/https://doi.org/10.33556/jstm.v26i1.447>.

¹¹ Tim Kerja Evaluasi dan Pelaporan, *Laporan Kinerja Direktorat Jenderal Konservasi Sumber Daya Alam Dan Ekosistem Tahun 2023*, ed. Tim Kerja Evaluasi dan Pelaporan (Direktorat Jenderal Konservasi Sumber Daya Alam dan Ekosistem Kementerian Lingkungan Hidup dan Kehutanan, 2023), <https://ksdae.kehutan.go.id/storages/72b995aae0694b87bc48efddac3381bd.pdf>.

BBKSDA East Java has a strategic role in biodiversity conservation through supervision and action against illegal TSL trade circulation in markets, ports, and airports. In addition to rescuing and rehabilitating animals that are victims of illegal trade, BBKSDA also manages conservation areas through patrols, monitoring, and controlling community activities. This institution is actively involved in education and cooperates with other agencies such as the police, quarantine, and Customs, especially in TSL supervision at Juanda International Airport.

One of the important tasks of BBKSDA is to examine documents and physical specimens of plants and wildlife (TSL) to ensure legality and conformity with documents such as SATS-DN or SATS-LN.¹² This examination is particularly important at strategic routes like Juanda International Airport to prevent smuggling. These activities are carried out together with Quarantine, Customs, and the Police as part of a cross-agency coordination team in conservation law enforcement.

BBKSDA East Java coordinates with Quarantine, Customs, and Aviation security (Avsec) at Juanda International Airport to monitor illegal TSL trade circulation. With Quarantine, the focus is on document inspection and animal health; with Customs, on enforcement against illegal cargo and customs violations; and with Avsec, on surveillance of airport security areas. This cooperation is formalized through SOP and regular coordination meetings that are effective in preventing wildlife smuggling.

BBKSDA East Java has the authority to seize TSL and illegal documents if violations of Law No. 32 of 2024 are suspected. Cases are then reported to PPNS KLHK, which has further authority such as arrest, search, account blocking, and requests for financial data and communication records of suspects to comprehensively prosecute conservation crime perpetrators.

BBKSDA Tasks and Functions Based on Legislation

The implementation of BBKSDA tasks has been regulated in Law No. 32 of 2024 and Ministry of Environment and Forestry Regulation No. 17 of 2022, which covers conservation, supervision, protection, and enforcement actions against protected TSL.¹³ BBKSDA also has the authority to conduct seizures and report violations to investigators. However, in the field, the implementation of these tasks still faces

¹² Kementerian Lingkungan Hidup dan Kehutanan, *Monitoring Dan Identifikasi Peredaran Secara Online Satwa Liar Dilindungi*, ed. Agus Wiyanto, Gamin, and Sri Harteti (Jakarta: Kementerian Lingkungan Hidup dan Kehutanan, 2024), https://pusdiklat.bp2sdm.kehutan.go.id/assets/images/buku/377589_monitoring-dan-identifikasi-peredaran-secara-online-satwa-liar-dilindungi_20241008111618.pdf.

¹³ Pemerintah Pusat Indonesia, “Peraturan Menteri Lingkungan Hidup Dan Kehutanan Nomor 17 Tahun 2022 Tentang Organisasi Dan Tata Kerja Unit Pelaksana Teknis Direktorat Jenderal Konservasi Sumber Daya Alam Dan Ekosistem” (Jakarta, 2022), <https://peraturan.bpk.go.id/Details/268411/permen-lhk-no-17-tahun-2022>.

obstacles such as limited human resources, inadequate facilities, and lack of inter-agency coordination. Cases of TSL smuggling at Juanda International Airport still occur despite cross-sectoral cooperation. Digitalization efforts through the TSL Supervision application have begun but are not yet optimal due to technical constraints. Institutional strengthening and capacity enhancement as well as policy support are needed so that the role of BBKSDA can be carried out effectively.

Juridical Analysis of the Effectiveness of BBKSDA Authority in the Context of Conservation Law Enforcement

Conservation law enforcement of biological natural resources in Indonesia involves the Balai Besar Konservasi Sumber Daya Alam (BBKSDA) as a technical unit under the Directorate General of KSDAE KLHK, which has the authority to supervise and take action against violations related to protected plants and wildlife (TSL).¹⁴ This authority is regulated in Law No. 32 of 2024 and also Minister of Environment and Forestry Regulation No. 17 of 2022.¹⁵¹⁶ However, in practice, BBKSDA faces obstacles such as limited investigative authority which requires the transfer of cases to PPNS or other apparatus, limited resources, facilities, and cross-agency coordination that is not yet optimal, especially in strategic locations such as Juanda International Airport. To improve effectiveness, strengthening of regulations, improvement of human resource capacity, supporting facilities, and SOP that bind between agencies are needed so that the implementation of BBKSDA duties runs professionally and has a significant impact on biodiversity protection.

BBKSDA plays an important role in the enforcement of TSL conservation law under KSDAE KLHK, in accordance with Law No. 32 of 2024 and Permen LHK No. 17 of 2022. However, limitations in authority, resources, and inter-agency coordination hamper its effectiveness. Strengthening of regulations, human resources, facilities, and cross-institutional SOP are needed to improve BBKSDA performance in biodiversity protection.

Law No. 5 of 1990 regulates the protection of biological natural resources and ecosystems with criminal threats of a maximum of 10 years imprisonment and fines up to Rp200 million. However, the sanctions in this law are considered too light and do not provide a deterrent effect. This law also does not regulate criminal penalties for corporations, making it difficult to prosecute legal entities in cases of environmental

¹⁴ BBKSDA Jawa Timur, "Materi Sosialisasi Konservasi Seri-Peredaran Dan Penangkaran Tumbuhan Dan Satwa Liar," 2018, <https://bbksdajatim.org/wp-content/uploads/2018/05/Seri-Peredaran-TSL.pdf>.

¹⁵ Indonesia, "Undang-Undang (UU) Nomor 32 Tahun 2024 Tentang Perubahan Atas Undang-Undang Nomor 5 Tahun 1990 Tentang Konservasi Sumber Daya Alam Hayati Dan Ekosistemnya."

¹⁶ Indonesia, "Peraturan Menteri Lingkungan Hidup Dan Kehutanan Nomor 17 Tahun 2022 Tentang Organisasi Dan Tata Kerja Unit Pelaksana Teknis Direktorat Jenderal Konservasi Sumber Daya Alam Dan Ekosistem."

destruction. In addition, this law does not require perpetrators to pay compensation or carry out environmental restoration, so that protection of biodiversity becomes less effective.

Law No. 32 of 2024 brings major reform in legal protection against environmental crimes compared to Law No. 5 of 1990. Criminal threats are aggravated, from previously a maximum of 10 years imprisonment and a fine of Rp200 million, to 20 years imprisonment and fines up to Rp200 billion, especially for serious violations that damage conservation areas.

This new law also expands the scope of legal subjects by explicitly regulating corporate criminal penalties. In addition to individuals, legal entities can now be prosecuted, with sanctions ranging from freezing to dissolution of companies. Additional sanctions such as compensation, environmental restoration, wildlife translocation, and revocation of business licenses are also introduced, which were not previously regulated in the old law.

The authority of Civil Servant Investigators (PPNS) is strengthened so that they can directly investigate conservation violations, different from the limitations in Law No. 5 of 1990.¹⁷ In addition, the law enforcement approach that originally only focused on species protection is now developed into a comprehensive ecosystem approach, including the involvement of indigenous peoples and collaborative management.

Overall, Law No. 32 of 2024 is considered more comprehensive, responsive, and progressive in answering the challenges of conservation of biological natural resources in Indonesia in a sustainable manner. Law No. 32 of 2024 strengthens criminal sanctions against conservation violations, including for corporations.¹⁸ Additional sanctions now include obligations to pay compensation, ecosystem restoration costs, and wildlife rehabilitation, in order to provide a deterrent effect and ensure the ecological responsibility of perpetrators.

As a complement, Presidential Regulation (Permen) LHK No. 18 of 2024 replaces the Decree of the Minister of Forestry No. 447/Kpts-II/2003.¹⁹ This regulation emphasizes the principles of sustainability, precaution, and scientific basis in the utilization of wild plants and animals. This regulation regulates in detail the activities of captive breeding, keeping for pleasure, trade, and exhibition, with strict provisions

¹⁷ In *Ibid*, Pasal 78

¹⁸ Feibe Youla Lengkong, Josepus J. Pinori, and Herlyanti Y. Bawole, "Efektivitas Aspek Pidana Dalam Upaya Konservasi Lingkungan Hidup Nasional Dalam Menanggulangi Degradasi Lingkungan," *Innovative: Journal Of Social Science Research* 5, no. 4 (2025): 4813–32, <https://doi.org/https://doi.org/10.31004/innovative.v5i4.20800>.

¹⁹ Pemerintah Pusat Indonesia, "Peraturan Menteri Lingkungan Hidup Dan Kehutanan Nomor 18 Tahun 2024 Tentang Pemanfaatan Jenis Tumbuhan Dan Satwa Liar Dalam Bentuk Penangkaran, Pemeliharaan Untuk Kesenangan, Perdagangan, Dan Peragaan" (Jakarta, 2024), <https://peraturan.bpk.go.id/Details/309468/permen-lhk-no-18-tahun-2024>.

to prevent illegal practices. The aim is to ensure that utilization is in harmony with ecosystem conservation and supports more effective supervision and law enforcement by BBKSDA and related agencies.

Indonesia has ratified CITES (*Convention on International Trade in Endangered Species of Wild Fauna and Flora*) through Presidential Decree No. 43 of 1978. CITES aims to prevent international trade that endangers the survival of wild plant and animal species.²⁰ This convention classifies species into three categories:

1. Appendix I: Highly endangered species, trade is prohibited except for non-commercial purposes with strict permits (examples: Orangutans, Sumatran Tigers).
2. Appendix II: Species that are not yet threatened, but vulnerable if trade is not controlled; export permits are mandatory (examples: Komodo, Wild Orchids).
3. Appendix III: Species protected by certain countries that request support from other countries in supervision.

CITES implementation in Indonesia is realized through regulations such as Permen LHK No. 106/2018 and Permen LHK No. 18/2024, as well as strengthening the authority of institutions such as BBKSDA. BBKSDA duties include supervision of legality documents (SATS-DN and SATS-LN), inspection of goods and permits, and preventing illegal trade in wild plants and animals.

In addition, coordination of surveillance at exit-entry points such as ports and airports are very important to prevent smuggling. Technology support and inter-agency synergy are needed for surveillance effectiveness.

Law No. 32 of 2024 strengthens the legal basis for conservation by giving confiscation authority over protected animals and plants without permits. Article 21 strictly prohibits all forms of illegal ownership and trade. PPNS investigators now have stronger authority, including handling corporations involved in violations, with additional sanctions in the form of compensation, ecosystem restoration, and release of animals.

For serious violations, the legal process is carried out by the Directorate General of Environmental and Forestry Law Enforcement (GAKKUM KLHK) investigators, who are authorized to investigate, seize evidence, determine suspects, and hand over cases to the prosecutor's office.²¹ Coordination with BBKSDA, police, and conservation institutions becomes the key to the effectiveness of law enforcement and the success of ecological restoration.

²⁰ "The CITES Appendices," CITES, n.d., <https://cites.org/eng/app/index.php>.

²¹ Puspa, Pandu, and Prisca, *Satu Dekade: Mentransformasi Penegakan Hukum Lingkungan Hidup Dan Kehutanan*.

Kendala dalam Pengawasan dan Penegakan Hukum oleh BBKSDA Jawa Timur di Bandara Internasional Juanda

BBKSDA East Java faces a number of challenges in supervising the circulation of illegal trade of protected TSL at Juanda International Airports. The first is the Human resource limitations, with an inadequate number of personnel to supervise the high traffic of goods and passengers. The second, minimum detection facilities and technology, such as DNA-based species identification tools and smart X-ray systems, which hinder fast and accurate detection. The third is, an unstable inter-agency coordination, causing slow handling and lack of synchronization between agencies such as Customs, Police, and Airport Authority. The fourth, increasingly sophisticated smuggling methods, including the use of fake documents and courier services, make the early identification process difficult.²² Last, a low legal-awareness of the community, where many perpetrators still do not understand that carrying or trading TSL is a criminal act.²³

To overcome these obstacles, institutional reform, improvement of human resource capacity, utilization of advanced conservation technology, and establishment of integrated coordination mechanisms between agencies in air routes are needed.

Legal Solutions to Supervision and Law Enforcement Obstacles

To overcome various obstacles in the supervision of wild plants and animals at Juanda International Airport, strategic legal and institutional approaches are needed. The government should strengthen the implementation of Law No. 32 of 2024, with a firm enforcement of criminal and administrative sanctions against smuggling perpetrators in order to create a deterrent effect. The preparation of integrated SOP between agencies has to be done thoroughly considered, the agencies involved in this case are the BBKSDA, customs, police, and airport authority to clarify authority and accelerate field response. Improvement of human resource capacity, both in terms of quantity and technical competence, to be able to face the complexity of smuggling methods. Provision the utilization of modern surveillance technology, such as AI-based X-ray and real-time data exchange systems between agencies, to increase detection and response efficiency. Last, to the community, legal education is needed to be carried out. Whether through media, education, or conservation communities, so that the community understands the legal risks of trading protected TSL.

²² Navin Singh Khadka, "Kadal Dikirim via Pos, Katak Disembunyikan Dalam Kotak Rol Film - Bagaimana Perubahan Taktik Penyelundup Memicu Perdagangan Satwa Liar," BBC Indonesia, 2024, <https://www.bbc.com/indonesia/articles/cy79ex4nqgzo>.

²³ Irfan Maulana, "DPR Abai Regulasi Saat Proses Pengesahan UU Konservasi?," Mongabay Indonesia, 2025, <https://mongabay.co.id/2025/05/07/dpr-abai-regulasi-saat-proses-pengesahan-uu-konservasi/>.

With the integrated implementation of these solutions, the conservation law supervision and enforcement system in air routes is expected to become more effective, responsive, and sustainable.

Law No. 32 of 2024 is an update to Law No. 5 of 1990 which aims to respond to the complexity of crimes against wild plants and animals (TSL) that have experienced various kinds of challenges, especially technology. Although it brings several important advances in conservation law, this law is still considered to have weaknesses, especially in the effectiveness of criminal threats and action against conservation crime perpetrators.

Several provisions are considered not sufficient to provide a deterrent effect and still leave legal loopholes, particularly in dealing with organized and technology-based wildlife smuggling. Therefore, further updates are needed that not only strengthen sanctions, but also adjust regulations to the development of global environmental crimes and protection of increasingly threatened species. These things include institutional strengthening, cross-sector coordination, increasing the role of the community in supervision and reporting so that the implementation of Law No. 32 of 2024 can be more effective and sustainable in dealing with illegal trade of TSL.

1. Improvement of BBKSDA human resource competence, additional recruitment of field officers is needed to adjust to the volume of work and traffic at Juanda International Airport. Regular and continuous training to improve species identification abilities, understanding of regulations, and use of the latest detection technology. Training must adapt to increasingly complex smuggling methods (fake documents, animal disguise, expedition delivery with fictitious identity). The result is expected that supervision and law enforcement will become more optimal and adaptive.
2. Optimization of detection technology and equipment to detect living creatures automatically with high sensitivity. Utilization of DNA detection tools to identify species, especially animal body parts that are difficult to recognize visually. Development of an integrated digital system between BBKSDA, Customs, Airport Authority, and Police for real-time data exchange and to support digital evidence in law enforcement. This technology increases the effectiveness of supervision and shows the state's commitment to the preservation of biodiversity.
3. Strengthening Inter-Agency Cooperation and Coordination Preparation of integrated Standard Operating Procedures (SOP) to regulate the cooperation of BBKSDA, Customs, Police, and Airport Authority. This SOP includes the process of identification, handling of findings, investigation, and transfer of cases in detail. Implementation of joint patrols periodically in airport areas as a preventive step. Development of an integrated information system enables early

detection and quick action. A coordination system like this is the foundation of responsive and preventive institutional synergy.

4. Socialization and Legal Education to the Community Increasing public campaigns through social media, print media, posters, infographics, and information boards in strategic locations such as Juanda International Airport. Legal and environmental education needs to be expanded to formal and informal domains: schools, youth communities, and communities around conservation areas. The purpose of education is to instil conservation values and a sense of ownership of biodiversity. This education is important to create active community participation in supervision and reporting of suspicious actions.²⁴

CONCLUSION

Indonesia has very high biodiversity, including many plant and wildlife species (TSL) that are protected and threatened with extinction. The government through BBKSDA East Java and regulations such as Law No. 32 of 2024 is responsible for supervising and protecting these TSL, particularly at strategic locations such as Juanda International Airport which is vulnerable to smuggling.

Although BBKSDA has a strategic role in conservation, the effectiveness of supervision and law enforcement is still limited due to obstacles such as limited investigative authority, human resources, facilities, and inter-agency coordination. TSL smuggling is increasingly complex with sophisticated methods, requiring a more modern and integrated approach.

Law No. 32 of 2024 brings important reforms by strengthening criminal sanctions, clarifying investigative authority, and adding sanctions for corporate perpetrators, so that it is expected to provide a better deterrent effect compared to the old law. However, for optimal implementation, institutional strengthening of BBKSDA, human resource capacity enhancement, utilization of advanced detection technology, and effective cross-sectoral coordination are needed.

Law enforcement efforts based on intelligence, international cooperation, and public education are also very important considering that TSL smuggling crimes are categorized as extraordinary crimes with organized criminal networks. Thus, regulatory strengthening and implementation of integrated SOP at Juanda International Airport as well as institutional improvements will increase the effectiveness of supervision and sustainable conservation of Indonesia's natural biological resources.

²⁴ Trinirmalaningrum, Nurdiyansah Dalidjo, and Jojo Rahardjo, *Potret Perdagangan Ilegal Satwa Liar Di Indonesia* (Yayasan Skala Indonesia, 2016), <https://skalaindonesia.org/wp-content/uploads/2022/06/Buku-Potret-Perdagangan-Ilegal-Satwa-Liar-di-Indonesia-Ebook.pdf>.

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